1959-60

electronic engineers master

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CATALOG
and
purchasing guide
of 5000
electronic
manufacturers
and
local sales offices

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CATALOG
and
purchasing guide
of the
electronic industry

electronic engineers master

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ELECTRONIC ENGINEERS MASTER

CATALOG
and
purchasing directory
of the
electronic industry

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2. PRODUCT INDEX & DIRECTORY — page 5 Green Section

Industry-wide alphabetical list of products with the respective manufacturers' names and addresses.

3. CATALOG SECTION — page 447 White Section

Manufacturers' catalog pages organized into 51 product sections.

4. MANUFACTURERS & SALES OFFICES DIRECTORY — page 1215 Yellow Section

Over 5,000 manufacturers and their local sales offices listed alphabetically with addresses, phone numbers, key personnel.

5. TRADE NAME DIRECTORY — page 1419 Yellow Section

An alphabetical listing of more than 5,500 brand and trade names.

6. PERSONAL FILING SYSTEM — See Inside Back Cover

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To locate the nearest sales office of any listed manufacturer, refer to the Manufacturers' Directory (yellow section).

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Bomac Lab., Inc., Salem Rd., Beverly, Mass.-Pg. 1150
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif.-Pgs. 798, 799
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., Inc., 252 E. Third St., Mt. Vernon, N. Y.-Pg. 800
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Filmohm Corp., 48 W. 25th St., New York, N. Y.
Goodrich, B. F., Products, Sponge Products Div., 469 Derby Pl., Shelton, Conn.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Metavac, Inc., 45-68 162nd St., Flushing, N. Y.
Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Wellesley, Mass.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.-Pg. 830
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q.O.S. Corp., 621 E. 216th St., New York, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
Waveline, Inc., Box 718, W. Caldwell, N. J.

ABSORBERS, NUCLEAR RADIATION
Atomic Accessories, Inc., 244-02 Jamaica Ave., Bellerose, N. Y.
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Nuclear-Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nucleonic Corp. of America, 196 DeGraw St., Brooklyn, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.

ABSORBERS, R-F RADIATION ..... **Pgs. 659, 795**
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio-Pg. 659
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.-Pg. 795
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Filmohm Corp., 48 W. 25th St., New York, N. Y.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q.O.S. Corp., 621 E. 216th St., New York, N. Y.
Telerad Mfg. Corp., 1440 Broadway, N. Y.
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.

ABSORBERS, SHOCK
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Korfund Co., Inc., 48-15 32nd Pl., Long Island City, N. Y.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis, Minn.
Rubbercraft Corp. of Calif., 1800 W. 220th St., Torrance, Calif.

ACCELERATORS, NUCLEAR TYPES
Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisc.
Applied Radiation Corp., P. O. Box 725, Walnut Creek, Calif.
Atomic Labs., Inc., 3086 Claremont Ave., Berkeley, Calif.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
High Voltage Engrg. Corp., S. Bedford St., Burlington, Mass.
Nucleonic Corp. of America, 196 DeGraw St., Brooklyn, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radiation Dynamics, Inc., 1800 Shames Dr., Westbury, N. Y.

ACCELEROMETERS ..... **Pgs. 843, 1039, 1116, 1117, 1120**
A C Spark Plug Div., General Motors, 1925 E. Kenilworth Pl., Milwaukee, Wisc.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Washington, D. C.
Avionics, Ltd., P. O. Box 200, Niagara-on-the-Lake, Canada
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
BJ Electronics, Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Belock Instrument Corp., 112-03 14th Ave., College Point, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Cadillac Gage Co., P. O. Box 3806, Detroit, Mich.
Calidyne Co., The, 120 Cross St., Winchester, Mass.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Chesapeake Instrument Corp., Shadyside, Md.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Endevco Corp., 161 E. California St., Pasadena, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y.-Pg. 1116
Ford Instrument Co., Div. Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N. Y.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.-Pg. 1117
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Giannini, G. M., Co., Inc., 918 E. Green St., Pasadena, Calif.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio-Pg. 843
Goode, J. J., Assoc., 65 Eliot St., Ashland, Mass.
Greenleaf Mfg., The, Div. Mandrel, Inc., 7814 Maplewood Ind. Ct., St. Louis, Mo.
Gulton Industries, Inc., Instrumentation Div. 212 Durham Ave., Metuchen, N. J.
Harris Transducer Corp., Woodbury, Conn.
Hoffman, H. L., & Co., 3403 Garrison Blvd., Baltimore, Md.
Humphrey, Inc., 2805 Canon St., San Diego, Calif.
Impact-O-Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Instruments Div., W. L. Maxson Corp., 475 10th Ave., New York, N. Y.
Inter-Mountain Instruments, Inc., 219 Stanford, S. E., Albuquerque, N. Mex.
Jordan Electronics Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kearfoot Company, Inc., Little Falls, N. J.
Kistler Instrument Co., 15 Webster St., N. Tonawanda, N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Maxson, W. L., Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis-Honeywell Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Pace Engineering Co., 13035 Saticoy St., N. Hollywood, Calif.
Pacific Scientific Co., P. O. Box 22109, Los Angeles, Calif.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Rahm Instruments, Div. American Mach. & Metal Co., 65 Rushmore St., Westbury, N. Y.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Schaevitz Engineering, Box 505, Camden, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.-Pg. 1120
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Technology Instrument Corp., 523 Main St., Acton, Mass.-Pg. 1039
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
U. S. Time Corp., Box 847, Palos Verdes Estates, Calif.
Ultradyne, Inc., P. O. Box 3308, Albuquerque, N. Mex.
Wiancko Engrg. Co., 255 N. Halstead, Box 5020, Pasadena, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

ACCUMULATORS
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N. Y.
Applied Dynamics Corp., 32 N. Main St., Natick, Mass.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Minneapolis-Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

ACIDS (ALSO SEE CHEMICALS) ..... **Pg. 505**
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y.-Pg. 505
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland, Ohio
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.

ACOUSTIC CHAMBERS - SEE CHAMBERS, ACOUSTIC
ACOUSTIC MATERIALS - SEE MATERIALS, ACOUSTIC
ACRYLIC SPRAYS - SEE INSULATING COMPOUNDS, LACQUER

ACTUATORS ..... **Pgs. 546, 843, 1087, 1089**
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Washington, D. C.
Atchley, Inc., Raymond, 2340 Sawtelle Blvd., Los Angeles, Calif.
Belock Instrument Corp., 112-03 14th Ave., College Point, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Cunningham, James Son & Co., 33 Litchfield St., Rochester, N. Y.-Pg. 1087
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Eastern Industries, Inc., 100 Skiff St. - Box 4372, Hamden, Conn.

ACTUATORS (continued)
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electro Precision Corp., Arkadelphia, Ark.–Pg. 546
Electrosnap Corp., 4258 Lake St., Chicago, Ill.–Pg. 1089
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Hermetite Corp., 702 Beacon St., Boston, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway. – P. O. Bin N., Pasadena, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leland, G. H., Inc., 123 Webster St., Dayton, Ohio
Lyndon Aircraft Inc., 140 Clifford St., Newark, N. Y.
Mass Gear Co., Sub Geartronics Corp., 4 Nashua St., Woburn, Mass.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Moog Valve Co., Proner Airport, E. Aurora, N. Y.
Orbit Instrument Corp., 656 Main St., Westbury, N. Y.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Ruckelshaus, John G., Labs., Inc., Madison, N. J.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Universal Match Corp., Armanent Div., Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.

ADAPTERS – SEE CONNECTORS, SOCKETS, ETC.

ADHESIVES ..... Pg. 508
Adhesive Products Corp., 1660 Boone Ave., New York, N. Y.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Ambroid Co., Weymouth, Mass.
American Products Mfg. Co., 8127–33 Oleander St., New Orleans, La.
Aries Labs., Inc., 45–33 Davis St., Long Island City, N. Y.
Armstrong Cork Co., Lancaster, Pa.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Biggs, Carl H., Co., 2255 Barry Ave., W. Los Angeles, Calif.
Bingham, J. F., Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Carboline Co., 32 Hanley Ind. Ct., St. Louis, Mo.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Corkpak Co., Inc., 70 Argyle Ave., New Rochelle, N. Y.
Cox & Co., Inc., 115 E. 23rd St., New York, N. Y.
Daubert Chemical Co., 4700 S. Central Ave., Chicago, Ill.
Decimeter Products Co., 730 Hooker St., Denver, Colo.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Electroparts, P. O. Box 1137, Glendale, Calif.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Factory Enterprises, Inc., 3431 Butler St., Pittsburgh, Pa.
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Fuller, H. B., Co., 181 W. Kellogg Blvd., St. Paul, Minn.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric, Insulating Materials Dept., Schenectady, N. Y.
Hermes Plastics, Inc., 13–19 University Pl., New York, N. Y.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Insl–X Co., Inc., Water St., Ossining, N. Y.–Pg. 508
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Krylon, Inc., Ford & Washington, Norristown, Pa.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Micro–Circuits Co., New Buffalo, Mich.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Morningstar–Paisley, Inc., 630 W. 51st St., New York, N. Y.
Nareco Resins & Coatings Co., 600 Victoria St., Costa Mesa, Calif.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
Permacel, U. S. Highway 1, New Brunswick, N. J.
Polymer Industries, Inc., Springdale, Conn.
Pyroil Co., Inc., 122 Main St., La Crosse, Wisc.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N. Y.
Rubber & Asbestos Corp., 225 Belleville Ave., Bloomfield, N. J.
Rubbercraft Corp. of Calif., 1800 W. 220th St., Torrance, Calif.
Schjeldahl Co., Northfield, Minn.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Ave., New York, N. Y.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
UBS Chemical Corp., 491 Main St., Cambridge, Mass.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
United Shoe Machinery Corp., 140 Federal St., Boston, Mass.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

AERIAL SURVEYS – SEE SERVICES, AERIAL SURVEYS

AIR CONDITIONERS ..... Pg. 482
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Eastern Industries, Inc., 100 Skiff St. - Box 4372, Hamden, Conn.
Ellis & Watts Products, Inc., P. O. Box 33, Cincinnati, Ohio
I. L. G. Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago, Ill.
International Radiant Corp., 111 New York Ave., Westbury, N. Y.
Lewyt Mfg. Corp., 4322 Queens St., Long Island City, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radex Corp., 2076 N. Elston Ave., Chicago, Ill.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl. Brooklyn, N. Y.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Trane Co., The, La Crosse, Wisc.
United Aircraft Products, 1116 Bolander Ave., Daytan, Ohio
Western Devices, Inc., 600 W. Florence Avenue, Inglewood, Calif. – Pg. 482

ALARM SYSTEMS ..... Pgs. 583, 586, 663, 849, 1106
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Auth Electric Co., Inc., 34–20 45th St., Long Island City, N. Y.
Autocall Co., 57 Mack Ave., Shelby, Ohio
Basic Controls Corp., 14023 Irving Place, Culver City, Calif. – Pg. 849
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Curtiss–Wright Corp., Instr. Dept., 631 Central Ave., Carlstadt, N. J. – Pg. 663
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electronic Assistance Corp., 20 Bridge Ave., Red Bank, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Falcon Alarm Co., Inc., 243 Broad St., Summit, N. J.
Fireye Div., Electronics Corp. of America, One Memorial Dr., Cambridge, Mass.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Hawkins Commercial Electronics Co., 920 King St., Wilmington, Del.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland, Ore.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Miller Associates, P. O. Box 369, Lakeville, Conn.
Minneapolis–Honeywell, Industrial Div. Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Partrick & Wilkins Co., 51 N. 7th St., Philadelphia, Pa.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Photoswitch Div., Electronics Corp. of America 1 Memorial Dr., Cambridge, Mass.
Piezo Products Co., Whitney St., Sherborn, Mass.
Scam Instrument Co., 1811 W. Irving Park, Chicago, Ill.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Spectra Electronics Corp., Div. Douglas Microwave 250 E. 3rd Mt. Vernon, N. Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Sperti–Faraday, Inc., Adrian, Mich.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J. – Pg. 583
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Warrick, Charles F. Co., 1964 W. 11 Mile Rd., Berkeley, Mich.
Westinghouse Electric, Directors Systems, 35 Collins Ave., Pittsburgh, Pa. – Pg. 586
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

ALLOYS – SEE METALS

ALTERNATORS – SEE GENERATORS, MOTOR DRIVEN

ALTIMETERS – SEE INDICATORS, ALTIMETERS

ALUMINUM & OXIDES – SEE INSULATION MATERIALS ALSO SEE METALS

AMPLIDYNES
Craig Corp., 50 Eastern Ave., Boston, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

AMPLIFIERS, A–F ..... Pgs. 464, 512, 513, 685, 970, 971
Acton Laboratories, Inc., 536 Main St., Acton, Mass.
Adcrafters Co., 325 W. Huron St., Chicago, Ill.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Advanced Electronics, Inc., 94 Silas Deane Hway, Rocky Hill, Conn.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Airtronix Development Corp., 4902 Church St., Brooklyn, N. Y.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif. – Pg. 970, 971
Anaheim Electronics Co., Inc., 2259 W. Falmouth, Anaheim, Calif.
Associated Designers, 135 Las Tunas Dr., San Gabriel, Calif.
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Autocrat Electronics Co., 5024 Elm St., Skokie, Ill.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bennett Laboratories, Inc., 4224 Holden Emeryville 8, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.
Cal–Lee Mfg. Co., 6759 West Blvd., Inglewood, Calif.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.

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Circo Ultrasonics Corp., 51 Terminal Ave., Clark, N. J.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communication Eqpt. & Engr., 5646 W. Race Ave., Chicago, Ill.
Communication Measurements Labs., Inc., 350 Leland Ave., Plainfield, N. J.
Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.
Continental Sound Engr., Inc., 4173 N. Green Bay Ave., Milwaukee, Wisconsin
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Denson Electronics Corp., P. O. Box 122, Rockville, Conn.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St., S. Pasadena, Calif.
Electro–Associates, Box 22, St. Albans, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N. Y.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electron Enterprises, 6917–19–21 Stanley Ave., Berwyn, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg. 512
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, Ill.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Indl. Elec. Div.–Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif. – Pg. 685
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wis.
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill.
Gotham Audio Development Corp., 2 West 46th St., New York, N. Y.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Holt Instrument Lab., Oconto, Wisc.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indiannapolis, Ind.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kay–Towns Antenna Co., 1511 Dean Ave., Rome, Ga.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leak, Div. British Industries Corp., 80 Shore Rd., Port Washington, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
M. F. Electronics, 122 E. 25th St., New York, N. Y. – Pg. 513
MP Engineering Co., Fairfield, Conn.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Major Electronics, 762 Wythe Ave., Brooklyn, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
McIntosh Laboratory, Inc., 2 Chambers St., Binghamton, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Multi–Products Co., 21470 Coolidge Hway, Oak Park, Mich.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis, Minn.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Peer, Inc., P. O. Box 697, Benton Harbor, Mich.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Permolux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Q. R. K. Electronic Prods., 445 No. Circle Dr., Fresno, Calif.
Radiation Electronics Corp., 8241 N. Kimbell Ave., Skokie, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Ratelco, Inc., 820 Minor Ave., N. Seattle 9, Wash.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Republic Electronic, Industries Corp., 111 Gazza Blvd., Farmingdale, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodouff Ave., Downey, Calif.
Roanwell Corp., 180 Varick St., New York, N. Y. – Pg. 464
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Schindlers, 2429 Beverly Ave., Santa Monica, Calif.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Seismograph Service Corp., 6200 E. 41st St., Tulsa, Okla.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Shrader Sound, Inc., 2803 N. St., N. W., Washington, D. C.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., Long Island City, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solid State Electronics Co., Dept. 3., 8158 Orion St., Van Nuys, Calif.
Sonex, Inc., 73 South State Rd., Upper Darby, Pa.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Sound Projects Co., 4221 W. Harrison, Chicago, Ill.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Ta–Mar, Inc., 11571 W. Jefferson Blvd. – Box 1217, Culver City, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No., Tonawanda, N. Y.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
Tech–Master Corp., 75 Front St., Brooklyn, N. Y.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102nd St., Los Angeles, Calif.
Transonic, Inc., P. O. Box 59 – 808 16th St., Bakersfield, Calif.
U. S. Recording Co., 1347 Capitol St., Washington, D. C.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Zacharias Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS, ANTENNA ..... Pg. 529

Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Benco TV Assocs., 27 Taber Rd., Rexdale, Canada
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Central Dynamics, Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Community Engineering Corp., State College, Pa.–Pg. 529
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Electronics Div., Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Haller, Raymond & Brown, Inc., Science Park, State College, Pa.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Jerrold Electronics, Indl. Prod. Div., Dept. T. E. D., 27 Jerrold Bldg., Philadelphia, Pa.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York, N. Y.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Sage–Craft, Inc., Norwich, N. Y.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

AMPLIFIERS, COMPRESSOR

Amplifier Corp. Of America, 398 Broadway, New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Systems Engrg. Co., 903 Cravens, Oklahoma City, Okla.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Peer, Inc., P. O. Box 697, Benton Harbor, Mich.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Q.R.K. Electronic Prods., 445 No. Circle Dr., Fresno, Calif.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

AMPLIFIERS, COMPUTER ..... Pgs. 513, 542, 543, 546, 553, 687, 766, 880, 1102

Acromag, Inc., 22519 Telegraph Rd., Detroit 41, Mich.
Adage, Inc., 292 Main St., Cambridge, Mass.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aeronica Mfg. Corp., Indus Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Aeronutronic Systems Inc., 1234 Airway, Glendale, Calif.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pg. 766
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Engg. Assocs., 350 N. Halstead Ave.–Box 5457, Pasadena, Calif.
Control Circuits Inc., Box 279, East Hampton, Conn.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Digital Equipment Corp., Maynard, Mass.–Pgs. 542, 543
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okl.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St. S., Pasadena, Calif.

AMPLIFIERS, COMPUTER (continued)

EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Precision Corp., Arkadelphia, Ark.–Pg. 546
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Highway, Silver Spring, Md.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Gps Instrument Co., Inc., 180 Needham St., Newton, Mass.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good Electronic, Box 2706, West Palm Beach, Fla.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.–Pg. 687, Pg. 1102
Harvey–Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
M F Electronics, 122 E. 25th St., New York, N.Y.–Pg. 513
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minn.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Maxson, W. L., Corp., 475 Tenth Ave., New York, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell Ordnance Div., 600 2nd St., N. Hopkins, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Ransom Research, Box 269, 323 W. Seventh St., San Pedro, Calif. – Pg. 553
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodouff Ave., Downey, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn.–Pg. 880
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

AMPLIFIERS, CONTROL ..... **Pgs. 546, 583, 687, 839, 1073, 1076, 1102**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Automation Dynamics Corp., 255 County Rd., Tenafly, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basic Controls Corp., 4023 Irving Place, Culver City, Calif. – Pg. 839
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Computer Engg. Assocs., 350 N. Halstead Ave.–Box 5457, Pasadena, Calif.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St.–Box 4372, Hamden, Conn.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark.–Pg. 546
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Processes, Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Federal Scientific Corp., 615 W. 131 St., New York, N. Y.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Good Electronic, Box 2706, West Palm Beach, Fla.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.–Pg. 1073
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minn.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Peschel Electronics, Inc., Towners, Rfd 1, Patterson, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodouff Ave., Downey, Calif.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Ten Bosch, M. Inc., Appl. & Sales Dept., 80 Wheeler Ave., Pleasantville, N. Y. – Pg. 1076
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns Works, 23555 Euclid, Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Trepac Corporation Of America, 30 W. Hamilton Ave., Englewood, N. J.–Pg. 583
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Illinois
Waldorf Instr. Co. Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Westamp, Inc., 11277 Massachusetts Ave., Los Angeles, Calif.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.
Worner Electronic Devices, Rankin, Ill.

AMPLIFIERS, DC ..... **Pgs. 511, 552, 657, 667, 674, 683, 687, 768, 1102, 1105**

Belleville–Hexem Corp., 638 University Ave., Los Gatos, Calif.–Pg. 657
Calidyne Co., The, 120 Cross St., Winchester, Mass.
Curtiss–Wright Corp., Instr. Dept. 631 Central Ave., Carlstadt, N. J.–Pg. 768
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 667
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 511
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N. Y.
Franklin Electronics Inc., Bridgeport, Pa.–Pg. 674
General Electric App. Sales Div., 1 River Rd., Schenectady, N. Y.–Pg. 683
Hallamore Electronics Corp., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim Calif.–Pgs. 687, 1102
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.–Pg. 552
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Rheem Manufacturing Co., 11711 Woodruff Ave., Downey, Calif.–Pg. 1105
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
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Tri–Phi, Inc., Div. Tripoint Plastics, 141 Albertson Ave., Albertson, N. Y.

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Ballantine Laboratories, Boonton, N. J.–Pg. 653
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.–Pg. 662
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Curtiss–Wright Corp., Instr. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 663
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
E. O. Electronics Inc., Mountain Lakes, N. J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
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Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good Electronic, Box 2706, West Palm Beach, Fla.
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National Co., Inc., 61 Sherman St., Malden, Mass.
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Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
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Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.

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Boonton Electronics Corp., Morris Plains, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pg. 766
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.–Pg. 662
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
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Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Control Circuits Inc., Box 279, East Hampton, Conn.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St., S. Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edin, Div. Epsco, Inc., 207 Main St., Worcester, Mass.
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Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
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Trans–Tel. Corp., 910 N. Orange Dr., Los Angeles, Calif.
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Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
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Dare, Inc., Route 25, Troy, Ohio

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Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
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Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
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Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments Div., W. L. Maxson Corp., 475 10th Ave., New York, N. Y.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.–Pg. 450
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Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
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Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rs Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
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Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
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Amerac Inc., Dunham Rd., Beverly, Mass.–Pgs. 790, 791
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point 56, N. Y.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.
Colorado Research Corp., Broomfield Heights, Colo.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Circuits, Inc., Box 279, East Hampton, Conn.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St. S., Pasadena, Calif.
Epr Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark.
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Federal Scientific Corp., 615 W. 131 St., New York, N. Y.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good Electronic, Box 2706, West Palm Beach, Florida
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
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Kearfott Company, Inc. Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

AMPLIFIERS, ISOLATION
Audio Instrument Co., Inc., 135 W. 14th St., New York, N. Y.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Computer Engg. Assocs., 350 N. Halstead Ave.–Box 5457, Pasadena, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Keithley Instrument, Inc., 12415 Euclid Ave., Cleveland, Ohio
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Quan–Tech Labs., 236 Kemble Ave., Morristown, N. J.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Zacharias Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS, KEYING
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amittyville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trepac Corporation Of America, 30 W. Hamilton Ave., Englewood, N. J.

AMPLIFIERS, KLYSTRON ..... **Pg. 1152**
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Tex.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eitel–McCullough, Inc., 301 Industrial Rd., San Carlos, Calif.–Pg. 1152
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.
Sperry Gyroscope Co., Electronic Tube Div., Great Neck, N. Y.
Sylvania Electric Products, Special Tube Opns, 500 Evelyn, Mountain View, Calif.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.

AMPLIFIERS, LIMITING
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Amplifier Corp. Of America, 398 Broadway, New York, N. Y.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Dorsett Laboratories, Inc., P. O. Box 862–401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Systems Engrg. Co., 903 Cravens, Oklahoma City, Okla.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Fairchild Recording Equip. Co., 10–40 45th Ave., L. I. City, N. Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Indl. Elec. Div.–Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good Electronic, Box 2706, West Palm Beach, Fla.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.

AMPLIFIERS, LINE
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada

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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Emerson Radio Corp., Govt. Electr., Div., 1140 East West Hway, Silver Spring, Md.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Electric Co., Indl. Elec. Div.–Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27 Jerrold Bldg., Phila., Pa.
Langevin Div., Maxon, W. L. Corp., 47–31 Austell Pl., L. I. City, N. Y.
Lel, Inc., 380 Oak St., Copiague, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Northern Radio Co., Inc., 143–West 22nd St., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Television Utilities Co., 112–33 Colonial Ave., Corona, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Trepac Corporation Of America, 30 W. Hamilton Ave., Englewood, N. J.
Ultraudio Products, Div. Oberline, Inc., P. O. Box 921, Beverly Hills, Calif.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

AMPLIFIERS, LINEAR ..... Pgs. 511, 674, 1118

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
American Tradair, Sub. Ecko Electronics, Ltd., 34–01 30th St., L. I. City, N. Y.
Amtron Corp., 17 Felton St., Waltham, Mass.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.
Colorado Research Corp., Broomfield Heights, Colo.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Control Circuits Inc., Box 279, East Hampton, Conn.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St. S., Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.–Pg. 511
Franklin Electronics, Inc., Bridgeport, Pa.–Pg. 674
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Good Electronic, Box 2706, West Palm Beach, Florida
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Holt Instrument Lab., Oconto, Wisc.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Johnson, E.F. Co., 1439 Second Ave., S W, Waseca, Minn.
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Keuffel & Esser Co., Hoboken, N. J.–Pg. 1118
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Milro Controls Co., Park Ridge, N. J.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
Heff Instrument Corp., 2211 E. Foothill Blvd., Pasadena, Calif.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Seg Electronics Co., Inc., 1778 Flatbush Ave., Brooklyn, N. Y.
Sheffield Corp., The, Box 893, Dayton, Ohio
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Zacharios Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS, LOGARITHMIC

Audio Instrument Co., Inc., 135 W. 14th St., New York, N. Y.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Colorado Research Corp., Broomfield Heights, Colo.
Control Circuits Inc., Box 279, East Hampton, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Associates, Inc., Long Branch, N. J.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Engineering Specialties, 8115 Camargo Rd., Cincinnati, Ohio
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good Electronic, Box 2706, West Palm Beach, Fla.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Moseley, F. L. Co., 409 N. Fair Oaks Ave., Pasadena, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

AMPLIFIERS, MAGNETIC ..... Pgs. 522, 586, 629, 721, 923, 924, 958, 1073, 1074, 1077, 1123, 1124, 1136, 1141, 1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Md.
Arnold Magnetics Corp. 4613 W. Jefferson Blvd., Los Angeles, Calif.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.–Pg. 1073
Basler Electric Co., Box 269–Route 143, Highland, Ill.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Belleville–Hexem Corp., 638 University Ave., Los Gatos, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Bliss Electronic Corp., Box 366, Sussex, N. J.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Ck Components, 101 Morse St., Watertown, Mass.
California Magnetic Control Co., 11922 Valerio St., N. Hollywood, Calif.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.–Pg. 1123
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Co. Of America, Inc., 221 Washington St., Northvale, N. J.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Control Circuits Inc., Box 279, East Hampton, Conn.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Control, Div. Magnetics, Inc., Box 391, Butler, Pa.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.–Pg. 1124
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.

AMPLIFIERS. MAGNETIC (continued)

Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Engineering Specialties, 8115 Camargo Rd., Cincinnati, Ohio
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Magnetics, Inc., 135 Bloomfield Ave., Bloomfield, N. J.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Good Electronic, Box 2706, West Palm Beach, Florida
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Inductor Engrg. Inc., 117 Schley Ave., Lewes, Del.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kalbfell Electronix, 3434 Midway Dr., San Diego, Calif.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kearfott Company, Inc., Little Falls, N. J.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Keystone Products Co., 904–23 St., Union City, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., L. I. City, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.–Pgs. 923, 1073
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minn.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Magnetic Research, 3160 W. El Segundo Blvd., Hawthorne, Calif. – Pgs. 721, 924, 1074
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Milro Controls Co., Park Ridge, N. J.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. – Pg. 1136
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Piezo Products Co., Whitney St., Sherborn, Mass.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R. I.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif.–Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thompson Ramo–Wooldridge, Tapco Grp., 23555 Euclid Ave., Cleveland, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torocoil Co., 2615 Bristol Rd., Columbus, Ohio
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.–Pg. 1142
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59–808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
United Transformer Co., 150 Varick St., New York, N. Y.–Pg. 1141
Universal Electronics Co., P. O. Box 64502, Los Angeles, Calif.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.–Pg. 522
Vari–L Co., Inc., 432 Fairfield Avenue, Stamford, Conn.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas–Pg. 958
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Warren Mfg. Co., The, Littleton, Mass.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Drive, Westerbury, N. Y.–Pg. 1077
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.–Pg. 581
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

AMPLIFIERS. MASER

Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Linde Co., Crystals Dept.–Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sage–Craft, Inc., Norwich, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

AMPLIFIERS. MEDICAL INSTRUMENT

Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
All American Engineering Co., Dupone Airport, Willmington, Del.
American Electronic Labs. Inc., 121 N. 7th St., Philadelphia, Pa.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Control Circuits Inc., Box 279, East Hampton, Conn.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edin, Div. Epsco, Inc., 207 Main St., Worcester, Mass.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro–Medical Lab., Inc., S. Woodstock, Vt.
Electrodyne Co., Endicott St., Norwood, Mass.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Good Electronic, Box 2706, West Palm Beach, Fla.
Holt Instrument Lab., Oconto, Wisc.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photocon Research Products, Box 5485 - 421 N. Altadena Dr., Pasadena, Calif.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Plectron Corp., Overton, Nebr.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Tektronix, Inc., P. O., Box 831, Portland, Oreg.
Tesla Electric., 2605 W. Armitage Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 - 808 16th St., Bakersfield, Calif.
Victoreen Instr., Co., 5806 Hough Avenue, Cleveland, Ohio
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Zacharias Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS. MICROPHONE ..... Pg. 464

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Audio Instrument Co., Inc., 135 W. 14th St., New York 11, N. Y.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Barker & Williamson, Inc., Canal St., & Beaver Dam Rd., Bristol, Pa.
Burr-Brown Research Corp., Box 6444, Tucson, Ariz.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Extron Corp., 600 St. Marshfield Ave., Chicago, Ill.
Greene, L. C. Co., 314 Washington St., Newton, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Roanwell Corp., 180 Varick St., New York, N. Y. – Pg. 464
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Ultraudio Products, Div. Oberline, Inc., P. O., Box 921, Beverly Hills, Calif.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

AMPLIFIERS. MICROWAVE ..... Pgs. 449, 791, 815, 821, 1101

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Alfred Electronics, 897 Commercial Street, Palo Alto, California
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
Amerac, Inc., Dunham Rd., Beverly, Mass. Pge. 791
Avion Div., A C F Industries, Inc., 7 Park Pl., Paramus, N. J. – Pg. 1101
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.

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Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
General Electric Co., Indl. Elec. Div. – Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Hallicrafters Co., The 4401 W. 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 449
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Lambda–Pacific Eng., Inc., 14725 Arminta St., P. O., Box 70, Van Nuys, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y. Pg. 815
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Menlo Park Engineering, 721 Hamilton Ave., Menlo Park, Calif.
Microwave Associates, Inc., Burlington, Mass.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Narda Microwave Corp., 118–160 Herricks Rd., Mineola, N. Y. – Pg. 821
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polytechnic Res & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Gyroscope Co., Electronic Tube Div., Great Neck, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Strand Laboratories, Inc., 217 California St., Newton, Mass.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tele–Dynamics, Inc., 5000 Parkside Ave., Philadelphia, Pa.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

AMPLIFIERS. NONLINEAR

American Research & Mfg. Co., 920 Halpine Ave., Rockville, Maryland
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Electronic Systems Engrg. Co., 903 Cravens, Oklahoma City, Okla.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
North Electric Co., 553 S. Market St., Galion, Ohio
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

AMPLIFIERS. NULL ..... Pgs. 675, 739

Acromag, Inc., 22519 Telegraph Rd., Detroit 41, Mich.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Boonton Electronics Corp., Morris Plains, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.– Pg. 675
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
ITT Federal Div., Div. Intl. Tel. & Tell Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell Regular Co., Boston Div., 40 Life St., Boston, Mass.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Pennsylvania Testing Lab., Inc., Doylestown, Pa. – Pg. 739
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Zacharias Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS. OPERATIONAL ..... Pgs. 546, 662, 687, 711, 821, 1102

Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Adage, Inc., 292 Main St., Cambridge, Mass.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz. – Pg. 662
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St., S. Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldorado Electronics Co., 2821 10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electronic Associates, Inc., Long Branch, N. J.
Electronic Computer Co., Inc., 618 Maple St., Conshohoken, Pa.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, Utah
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Julie Research Labs., Inc., 556 W. 168th St., New York, N. Y. – Pg. 711
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Kin Tel. Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Narda Microwave Corp., 118–160 Herricks Rd., Mineola, N. Y. – Pg. 821
North Electric Co., 553 S. Market St., Galion, Ohio
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodouff Ave., Downey, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

AMPLIFIERS. PARAMETRIC ..... Pg. 1062

California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062

AMPLIFIERS. PHOTOCELL ..... Pgs. 852, 849

Appalachian Electronic Instruments, 810 West Monroe Ave., Ronceverte, W. Va.
Autotron, Inc., 3629 N. Vermilion – P. O. Box 722 Danville, Ill.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bogen–Presto Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Exact Weight Scale Co., 944 W. 5th Ave., Columbus, Ohio
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, Ill.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jem Electronics Corp., 743 Circle Ave., Forest Park, Ill.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y. – Pg. 852
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.

AMPLIFIERS. PHOTOCELL (continued)
North Electric Co., 553 S. Market St., Galion, Ohio
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Oxford Eng. Rg. Co., 47A River St., Wellesley Hills, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radiation Electronics Corp., 8241 N. Kimball Ave., Skokie, Ill.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Telchrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Valandy Electronics Corp., 15 W. 44th St., New York, N. Y.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Worner Electronic Devices, Rankin, Ill.

AMPLIFIERS. POWER..... Pgs. 449, 546, 625, 645, 685, 753, 908, 1076, 1105, 1118
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Acton Laboratories, Inc., 536 Main St., Acton, Mass. – Pg. 645
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Airtronix Development Corp., 4902 Church St., Brooklyn, N. Y.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Md.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Amtron Corp., 17 Felton St., Walthan, Mass.
Anaheim Electronics Co., Inc., 2259 W. Falmouth, Anaheim, Calif.
Appalachian Electronic Instruments, 810 West Monroe Ave., Ronceverte, W. Va.
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W. Montreal, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Communication Measurements Labs., Inc., 350 Leland Ave., Plainfield, N. J.
Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Continental Sound Engr., Inc., 4173 N. Green Bay Ave., Milwaukee, Wisconsin
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okla.
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
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Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Extron Corp., 600 So. Marshfield Ave., Chicago, Ill.
Fairchild Recording Equip Co., 10–40 45th Ave., Long Island City, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, Ill.
Fisher Radio Corp., 21–21 44th Dr., Long Island City, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.– Pg. 685
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gotham Audio Development Corp., 2 West 46th St., New York, N. Y.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Harman–Kardon, 520 Main St., Westbury, N. Y.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Holt Instrument Lab, Oconto, Wisc.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jem Electronics Corp., 743 Circle Ave., Forest Park, Ill.
Jampro Antenna Co., 1236 40th Ave., Sacramento, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Keuffel & Esser Co., Hoboken, N. J. – Pg. 1118
Keystone Products Co., 904–23rd St., Union City, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass. – Pg. 449, 908, 625
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leak, Div. British Industries Corp., 80 Shore Rd., Port Washington, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
MP Engineering Co., Fairfield, Conn.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
McIntosh Laboratory, Inc., 2 Chambers St., Binghamton, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Permaflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Plectron Corp., Overton, Nebr.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Rauland–Borg Corp., 3535 W. Addison St., Chicago, Ill.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Rheem Mfg., Defense & Tech. Prod. Div., 11711 Woodruff, Downey, Calif. – Pg. 1105
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Sonex, Inc., 73 South State Rd., Upper Darby, Pa.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pg. 753
Telephonics Corp., Park Ave., Huntington, N. Y.
Ten Bosch, M., Application & Sales Dept., 80 Wheeler, Pleasantville, N. Y. – Pg. 1076
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
U. S. Recording Co., 1347 Capitol St., Washington, D. C.
Ultraudio Products, Div. Oberline, Inc., P. O. Box 921, Beverly Hills, Calif.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

AMPLIFIERS. PREAMPLIFIER – SEE PREAMPLIFIERS

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Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Deltine, Inc., 608 Fayette Ave., Mamaroneck, N. Y.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Digital Equipment Corp., Maynard, Mass.– Pg. 542, 543
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Eldorado Electronics Co., 2821 10th St., Berkeley, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546,
Electro–Pulse, Inc., 11861 Teale St., Culver City, Calif.– Pg. 672
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. – Pg. 803
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 511
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, Utah
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Franklin Electronics, Inc., Bridgeport, Pa.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Good Electronic, Box 2706, West Palm Beach, Florida
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hammer Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 449
ITT Federal Div., Div. Intl. Tel. & Tel. Corp, 100 Kingsland Rd., Clifton, N. J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.

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Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Moulic Specialties Co., 1007 W. Washington St., Bloomington, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
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Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodouff Ave., Downey, Calif.
S–R Electronics, 3200 First Ave., S. Seattle, Wash.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pg. 753
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
U. S. Recording Co., 1347 Capitol St., Washington, D. C.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif. – Pg. 516

AMPLIFIERS. RECORDING ..... Pgs. 645, 687, 766, 1102

Acton Laboratories, Inc., 536 Main St., Acton, Mass. – Pg. 645
Alwac Computer Div., El–Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Appalachian Electronic Instruments, 810 West Monroe Ave., Ronceverte, W. Va.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pg. 766
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre, Villa Pasadena, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St., S. Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Systems Engrg. Co., 903 Cravens, Oklahoma City, Okla.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Good Electronic, Box 2706, West Palm Beach, Florida
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gotham Audio Development Corp., 2 West 46th St., New York, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif. – Pg. 687, 1102
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Maurer, J. A., Inc., 37–01 31st St., Long Island City, N. Y.
McIntosh Laboratory, Inc., 2 Chambers St., Binghamton, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Moulic Specialties Co., 1007 W. Washington St., Bloomington, Ill.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis, Minn.
Penatron Dev. Div., Delta Broadcasting System, 941 Shedborne Ave., Dayton, Ohio
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Seismograph Service Corp., 6200 E. 41st St., Tulsa, Okla.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
U. S. Recording Co., 1347 Capitol St., Washington, D. C.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Weston Instruments Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 Mc Cart St., Fort Worth, Texas

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AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Advanced Electronics Corp., 2 Commercial St., Hicksville, N. Y. – Pg. 1101
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
Amplitol Inc., 342 W. 40 St., New York 18, N. Y.
Applied Research, Inc., 76 S. Bayles Ave., Port Washington, N. Y. – Pg. 527
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Blonder–Tongue Labs., Inc. 9–25 Alling St., Newark, N. J.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg, Inc., Clegg Laboratories Div., Clegg, Inc., Morristown, N. J.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Community Engineering Corp., State College, Pa. – Pg. 529
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Denson Electronics Corp., P. O. Box 122, Rockville, Conn.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dow–Key Company, Inc., S. E. Highway 59, Thief River Falls, Minn.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engr., 1124 South 3rd St., Minneapolis, Minn.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Indl. Elec. Div.–Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif. – Pg. 685
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hallicrafters Co., The 4401 W., 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal, Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments for Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27 Jerrold Bldg., Philadelphia, Pa.
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Munston Mfg. & Service Inc., Beech St., Islip, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Port–O–Vox Corp., 521 W. 43rd St., New York, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdal Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.–Pg. 1105
Sage–Craft, Inc., Norwich, N. Y.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
SEG Electronics Co., Inc., 1778 Flatbush Ave., Brooklyn, N. Y.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Sturrup, Inc. 50 Silver St., Middletown, Conn.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, X–Ray & Ind. Elctrns. Div., 2519 Wilkins, Baltimore, Md.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

AMPLIFIERS. SERVO ..... Pgs. 546, 629, 723, 766, 1073, 1074, 1076, 1101

A. C. Spark Plug Div., General Motors, 1925 E. Kenilworth Pl., Milwaukee, Wisc.
Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif.
Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Advance Instrument Corp., 1109 Sixth Ave., Neptune, N. J.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Atchley, Inc., Raymond, 2340 Sawtelle Boulevard, Los Angeles, California
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.

AMPLIFIERS. SERVO (continued)

Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J. – Pgs. 1073, 1101
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pg. 766
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Cadillac Gage Co., P. O. Box 3806, Detroit, Mich.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W. Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Collins Corp., 2820 E. Hullet St., Long Beach, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Computing Devices of Canada Ltd., P. O. Box 508, Ottawa, Canada
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Control Circuits Inc., Box 279, East Hampton, Conn.
Datran Electr., Div. Mid–Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electronic Associates, Inc., Long Branch, N. J.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, Utah
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Magnetics, Inc., 135 Bloomfield Ave., Bloomfield, N. J.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Holt Instrument Lab., Oconto, Wisc.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Instruments Div., W. L. Maxson Corp., 475 10th Ave., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Kearfott Company, Inc., Little Falls, N. J.
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y. – Pg. 1073
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minnesota
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Magnetic Research, 3160 W. El Segundo, Hawthorne, Calif.–Pg. 1074
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Maurer, J. A. Inc., 37–01 31st St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melland Gear Co., 88–06 Van Wyck Expy., Jamaica, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Milro Controls Co., Park Ridge, N. J.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.–Pg. 723
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Atlantic Industries., Inc., 603 Main St., Westbury, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Oster John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodouff Ave., Downey, Calif.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Rytron Co., Inc., 7305 Lankershim Blvd., N. Hollywood, Calif. – Pg. 629
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Schaevitz Engineering, Box 505, Camden, N. J.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
T. T. Electronics Inc., P. O. Box 180, Culver City, Calif.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., 80 Wheeler Ave., Pleasantville, N.Y.–Pg. 1076
Thermo Electric Co., Inc., Saddle Brook, N. J.
Thompson Ramo–Wooldridge, Tapco GP. Elctrns Works, 23555 Euclid, Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Warren Mfg. Co., The, Littleton, Mass.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westamp, Inc., 11277 Massachusetts Ave., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

AMPLIFIERS. SINGLE SIDEBAND

Amtron Corp., 17 Felton St., Waltham, Mass.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp. 100 Kingsland Rd., Clifton, N. J.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

AMPLIFIERS. STABILIZING ..... **Pgs. 449, 552**

Adage, Inc., 292 Main St., Cambridge, Mass.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Good Electronic, Box 2706, West Palm Beach, Fla.
Hewett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 449
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.–Pg. 552
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Strand Laboratories, Inc., 217 California St., Newton, Mass.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.

AMPLIFIERS. STEREOPHONIC

Airtronix Development Corp., 4902 Church St., Brooklyn, N. Y.
Autocrat Electronics Co., 5024 Elm St., Skokie, Ill.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Chisholm Industries Ltd., Electronic Ave., Port Moody, Can.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio

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Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electron Enterprises, 6917–19–21 Stanley Ave., Berwyn, Ill.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., L. I. City, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Extron Corp., 600 So. Marshfield Ave., Chicago, Ill.
Fairchild Recording Equip. Co., 10–40 45th Ave., L. I. City, N. Y.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N. Y.
Fisher Radio Corp., 21–21 44th Dr., L. I. City, N. Y.
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill.
Good Electronic, Box 2706, West Palm Beach, Fla.
Gregg Electric Sales Co., 620 Essex St., Lawrence, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
MP Engineering Co., Fairfield, Conn.
Magnecord, Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Rauland–Borg Corp., 3535 W. Addison St., Chicago, Ill.
Republic Electronic, Industries Corp., 111 Gazza Blvd., Farmingdale, N. Y.
Roberts Mfg. Co., 426 E. Shaffer, Gleburne, Tex.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Tech–Master Corp., 75 Front St., Brooklyn, N. Y.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Walsco Electronics Mfg., Div. Textron, 325 Exposition Pl., Los Angeles, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

AMPLIFIERS. STRAIN GAGE ..... Pgs. 766, 1120

Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pg. 766
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Applied Research Ltd., 1500 O Connor Dr., Toronto, Can.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Computer Engg. Assocs., 350 N. Halstead Ave.–Box 5457, Pasadena, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Datran Electr., Div. Mid–Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Dynamic Electronics N. Y. Inc., 87–46 123rd. St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St. S., Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edin, Div. Epsco, Inc., 207 Main St., Worcester, Mass.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Computer Co., Inc., 618 Maple St., Conshohoken, Pa.
Ellis Associates, P. O. Box 77, 67 Lincoln Ave., Pelham, N. Y.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Franklin Electronics, Inc., Bridgeport, Pa.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Good Electronic, Box 2706, West Palm Beach, Fla.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Holt Instrument Lab., Oconto, Wisc.
Indikon Co., 76 Coolidge Hill Rd., Watertown, Mass.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Instron Engrg. Corp., 2500 Washington St., Canton, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Neff Instrument Corp., 2211 E. Foothill Blvd., Pasadena, Calif.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.–Pg. 1120
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Trepac Corporation Of America, 30 W. Hamilton Ave., Englewood, N. J.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

AMPLIFIERS. SWEEP

Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Communication Co., 677 Beacon St., Boston, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.

AMPLIFIERS. SYNCHRO

Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.

AMPLIFIERS. THYRATRON

Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Peschel Electronics, Inc., Towners, Rfd 1, Patterson, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.

AMPLIFIERS. TRANSISTOR ..... Pgs. 464, 512, 513, 516, 527, 553, 586, 662, 815, 880, 1073, 1074, 1076, 1101

Adage, Inc., 292 Main St., Cambridge, Mass.
Advance Instrument Corp., 1109 Sixth Ave., Neptune, N. J.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Alwac Computer Div., El–Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
American Electronic Labs. Inc., 121 N. 7th St., Philadelphia, Pa.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N. Y.–Pg. 527
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Associated Designers, 135 Las Tunas Dr., San Gabriel, Calif.
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J. – Pgs. 1073, 1101
Avionics Corp. Of America, Maple Ave., & Horsham Rd., Horsham, Pa.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bell Products Co., 4251 Forest Park Ave., St. Louis, Mo.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bennett Laboratories, Inc., 4224 Holden, Emeryville, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Burr–Brown Research Corp., Box 6444, Tucson, Ariz. – Pg. 662
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Applied Research Ltd., 1500 O Connor Dr., Toronto, Can.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.

AMPLIFIERS, TRANSISTOR (continued)

Control Circuits Inc., Box 279, East Hampton, Conn.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dukane Corp., St. Charles, Ill.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dynamics Instrumentation Co., 1118 Mission St. S., Pasadena, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EMP Electronics Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electro-Associates, Box 22, St. Albans, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electron Enterprises, 6917-19-21 Stanley Ave., Berwyn, Ill.
Electronic Associates, Inc., Long Branch, N. J.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Endevco Corp., 161 E. California St., Pasadena, Calif.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Extron Corp., 600 So. Marshfield Ave., Chicago, Ill.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N. Y.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.-Pg. 512
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, Ill.
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Indl. Elec. Div.-Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Holt Instrument Lab., Oconto, Wisc.
Hoover Electronics Co., 110 West Timonium Rd., Timonium, Md.
Hydro-Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Kay-Towns Antenna Co., 1511 Dean Ave., Rome, Ga.
Kearfott Company, Inc., Little Falls, N. J.
Kelsey-Hayes Co., 3600 Military, Detroit, Mich.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., L. I. City, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.-Pg. 815
Lewyt Mfg. Corp., 43-22 Queens St., L. I. City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
M F Electronics, 122 E. 25th St., New York, N. Y.-Pg. 513
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.-Pg. 1073
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minn.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Magnetic Res. Corp., Magne Pulse Div., 3160 W. El Segunda Blvd., Hawthorne, Calif.-Pg. 1074
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
Microdyne, 300 W. Washington St., Chicago, Ill.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Milro Controls Co., Park Ridge, N. J.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
North Electric Co., 553 S. Market St., Galion, Ohio
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Oster John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Pye Corp. Of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N. J.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radiation Electronics Corp., 8241 N. Kimbell Ave., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Ransom Research, Box 269 - 323 W. 7th St., San Pedro, Calif.-Pg. 553
Ratelco, Inc., 820 Minor Ave., N., Seattle 9, Wash.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Republic Electronic, Industries Corp., 111 Gazza Blvd., Farmingdale, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Roanwell Corp., 180 Varick St., New York, N. Y.-Pg. 464
Robertshaw-Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
S-R Electronics, 3200 First Ave., S., Seattle, Wash.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Schindlers, 2429 Beverly Ave., Santa Monica, Calif.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Tech-Master Corp., 75 Front St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosch, M. Inc., Appl. & Sales Dept., 80 Wheeler Ave., Pleasantville, N. Y.-Pg. 1076
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn.-Pg. 880
Trepac Corp. Of America, 30 W. Hamilton Ave., Englewood, N. J.
Tri-Phi, Inc., Div. Tripoint Plastics, 141 Albertson Ave., Albertson, N. Y.
Tripl-T Co. Electronics, P. O. Box 5352, Pasadena, Calif.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif.-Pg. 516
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Westamp, Inc., 11277 Massachusetts Ave., Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Dr., Westbury, N. Y.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Elec. Dir. Systems Dept., 356 Collins Ave., Pittsburgh, Pa.-Pg. 586
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Zacharias Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS, TRAVELING-WAVE TUBE ..... **Pgs. 449, 815**

Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.-Pg. 449
Lel, Inc., 380 Oak St., Copiague, N. Y.-Pg. 815

AMPLIFIERS, ULTRASONIC ..... **Pgs. 685, 1170, 1172-1174**

Acoustica Associates, Inc., 26 Windsor Ave., Mineola, N. Y.-Pg. 1170
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L. I., N. Y.
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.
Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain, Mass.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Blackstone Corp. Ultrasonics, 1111 Allen St., Jamestown, N. Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Burr-Brown Research Corp., Box 6444, Tucson, Ariz.
Canadian Curtiss-Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Circo Ultrasonics Corp., 51 Terminal Ave., Clark, N. J.-Pg. 1174
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Assistance Corp., 20 Bridge Ave., Red Bank, N. J.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.-Pg. 685
Harris Transducer Corp., Woodbury, Conn.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
McKenna Labs., 2503 Main St., Santa Monica, Calif.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Murdoch Labs., Div. Blackstone Corp., 921 Pt. Wash. Blvd., Pt. Washington, N. Y.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y.-Pgs. 1172, 1173
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sturrup, Inc., 50 Silver St., Middletown, Conn.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Westinghouse Electric, X-Ray & Ind. Elctrns Div., 2519 Wilkins, Baltimore, Md.
Zacharias Electronics Corp., Box 172, Livingston, N. J.

AMPLIFIERS, VIBRATION PICKUP ..... **Pg. 1114**

Advanced Electronics, Inc., 94 Silas Deane Hway, Rocky Hill, Conn.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Avien, Inc., 58-15 Northern Blvd., Woodside, N. Y.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
California Magnetic Control Co., 11922 Valerio St., N. Hollywood, Calif.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.
Chesapeake Instrument Corp., Shadyside, Md.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.

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California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
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Doss Electronic Research Inc., 820 Baltimore, Kansas City, Mo.
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Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
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Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Federal Instr., ITT Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
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Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.
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Kingston Electronic Corp., 35 North St., Medfield, Mass.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
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Alpha Instrument Co., 43 Hempstead St., New London, Conn.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Boonton Electronics Corp., Morris Plains, N. J.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edin, Div. Epsco, Inc., 207 Main St., Worcester, Mass.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Lavoie Laboratories, Inc., Morganville, N. J.–Pg. 716
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Norrman Laboratories, Williams Bay, Wisc.–Pg. 724
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pg. 728
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Beckman/Scientific Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Ellison Draft Gage Co. Inc., 548 W. Monroe St., Chicago, Ill.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Gow–Mac Instrument Co., 100 Kings Rd., Madison, N. J.
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Instrumentation Assoc., 17 W. 60 St., New York, N. Y.
Johnson–Williams, Inc., 2625 Park Blvd., Palo Alto, Calif.
Kruger, Harold Instruments, Box 164, San Gabriel, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Manufacturers Engrg. & Equipment Corp., York & Sunset Lane, Hatboro, Pa.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
National Instrument Labs., Inc., 828 Evarts St., N. E., Washington, D. C.
Process & Instruments, 15 Stone Ave., Brooklyn, N. Y.
Permutit Co., The, 50 W. 44th St., New York, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.

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Alpha Instrument Co., 43 Hempstead St., New London, Conn.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Boonton Electronics Corp., Morris Plains, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.

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Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Federal Instr., Itt. Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 726, 727
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio

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Audio Instrument Co., Inc., 135 W. 14th St., New York, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Dynamic Electronics-N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Federal Instr., ITT Indl. Prod. – Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Heath Co., Benton Harbor, Mich.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Measurements Corp., A McGraw–Edison Div., Boonton, N. J.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.

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Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Irwin Laboratories, 1238 S. Gerhart Ave., Los Angeles, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.

ANALYZERS. MICROWAVE ..... Pgs. 734, 803, 806, 827

Aircom, Inc., 139 East First Ave., Roselle, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.–Pg. 803
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Itek Corp., 1559 Trapelo Rd., Waltham, Mass.–Pg. 806
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
National Co., Inc., 61 Sherman St., Malden, Mass.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pg. 734
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.–Pg. 827
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

ANALYZERS. NEUTRON ABSORPTION ..... Pg. 848

Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.–Pg. 848
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Nucleonic Corp. of America, 196 DeGraw St., Brocklyn, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.

ANALYZERS. NOISE ..... Pgs. 673, 726–728, 827, 829

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B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Barker & Williamson, Inc., Canal St., & Beaver Dam Rd., Bristol, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.–Pg. 673
General Radio Company, 22 Baker Ave., W. Concord, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 726, 727, 728
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.–Pg. 827, 829
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

ANALYZERS. PHASE & VOLTAGE ..... Pg. 717

Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.–Pg. 717

ANALYZERS. PROBABILITY DISTRIBUTION ..... Pg. 725

GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
North Atlantic Industries Inc., 603 Main St., Westbury, N. Y.–Pg. 725

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Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
Control Circuits Inc., Box 279, East Hampton, Conn.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Tullamore Electronics Labs., 6055 S. Ashland Ave., Chicago, Ill.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio

ANALYZERS. SERVO ..... Pgs. 717, 829

Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L. I., N. Y.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Control Circuits Inc., Box 279, East Hampton, Conn.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.–Pg. 717
Melland Gear Co., 88–06 Van Wyck Expy., Jamaica, N. Y.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.–Pg. 829
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Servo Corp. Of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.

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B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Chesapeake Instrument Corp., Shadyside, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 726, 727
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

ANALYZERS. SPECTRUM ..... Pgs. 716, 720, 726, 727, 732, 733, 805, 806, 825

American Optical Co., Instrument Div., Box A, Buffalo, N. Y.
Applied Research Labs., P. O. Box 1710, Glendale, Calif.
Applied Science Corp. Of Princeton, 45 Wallace Rd., Princeton, N. J.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
Decker Corp., The, 45 Monument Rd., Bala Cynwyd, Pa.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edin, Div. Epsco, Inc., 207 Main St., Worcester, Mass.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 805
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Itek Corp., 1559 Trapelo Rd., Waltham, Mass.–Pg. 806
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lavoie Laboratories, Inc., Morganville, N. J.–Pg. 716
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.–Pg. 720
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Panoramic Radio Prod., Inc. 520 S. Fulton Ave., Mt. Vernon, N.Y.–Pgs. 726,727,732,733
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.–Pg. 825
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Production Apparatus Prod. Dept. 6120MC, Waltham, Mass.

ANALYZERS. SPECTRUM (continued)
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Technical Products, Instrument Div., 6670 Lexington Ave., Los Angeles, Calif.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

ANALYZERS. SURFACE
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Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Micrometrical Mfg. Co., 345 S. Main St., Ann Arbor, Mich.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.

ANALYZERS. TELEMETRIC DATA Pgs. 687, 728, 735, 736, 824, 1102, 1104, 1105, 1124
American Electronic Labs. Inc., 121 N. 7th St., Philadelphia, Pa.
Applied Science Corp. Of Princeton, 45 Wallace Rd., Princeton, N. J.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.–Pg. 1124
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Hoover Electronics Co., 110 West Timonium Rd., Timonium, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Missiloonics Inc., Melbourne Airport, Melbourne, Fla.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 728, 735, 736
Parsons, Ralph M. Co., Electro. Div., 151 S. DeLacey Ave., Pasadena, Calif.–Pgs. 824, 1104
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif. –Pg. 1105
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

ANALYZERS. TRANSDUCER
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okla.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kistler Instrument Co., 15 Webster St., N. Tonawanda, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.

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Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
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Chesapeake Instrument Corp., Shadyside, Md.
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B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Chesapeake Instrument Corp., Shadyside, Md.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Electro Products Lab., 4501 No. Ravenswood Ave., Chicago, Ill.–Pg. 1115
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
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General Radio Company, 22 Baker Ave., W. Concord, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
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Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
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Solarton, Inc., 530 Cooper St., Camden, N. J.
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Technical Products, Instrument Div., 6670 Lexington Ave., Los Angeles, Calif.
Tel–Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
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Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Panoramic Radio Products, Inc., 520 S Fulton Ave., Mt. Vernon, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
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Donner Scientific Co., 888 Galindo St., Concord, Calif.
Doss Electronic Research Inc., 820 Baltimore, Kansas City, Mo.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
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Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 691
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
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Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pgs. 726, 727, 728
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Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Quan–Tech Labs., 236 Kemble Ave., Morristown, N. J.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
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Weston Instruments Div., Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Flow Corp., 85 Mystic St., Arlington, Mass.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Green, H. J. Instruments, Inc., 2500 Shames Drive, Westbury, L. I.
Gurley, W. & L. E. 514 Fulton St., Troy, N. Y.
Hasting Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hill, E. V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Tradewinds Mfg. Co., 5718 N. 25th Ave., Omaha, Neb.
Westberg Mfg. Co. 144 S. Coombs St., Box 239 Napa, Calif.

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Westinghouse Electric Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

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Allied Engineering Corp., 230 Park Ave., New York, N. Y.
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Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
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Tenatronics Ltd., 1011 Power Ave., Cleveland, Ohio
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Associates, Box 22, St. Albans, N. Y.
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Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
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Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y. – Pg. 795
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
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Electro Impulse Labs., 208 River St., Red Bank, N. J. – Pg. 802
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Filmohm Corp., 48 West 25th St., New York, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.

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Filmohm Corp., 48 West 25th St., New York, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Henry Products Co., 842 Rockway Ave., Brooklyn, N. Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn. – Pg. 712
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y. – Pg. 816
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 749
Specialty Engrg. Div. Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Ward Products Corp., Div. Gabriel Co., Edson Road, Amsterdam, N. Y.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
Wind Turbine Co., East Market St., W. Chester, Pa.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ANTENNAS. ERECTION ACCESSORIES ..... Pg. 455
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Baumker Mfg. Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Bergen Wire Rope Co., 458 Gregg St., Lodi, N. J.
Channel Master Corp., Ellenville, N. Y.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Gerrardi, A. J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jampro Antenna Co., 1236 40th Ave., Sacramento, Calif.
KTV Tower & Comm. Equipt. Co., 5520 S. Shore Dr., Chicago, Ill.
Kenwood Engrg. Co., Inc., 265 Colfax Ave., Kenilworth, N. J.
Microflect Co., 2300 S. 25th St., Salem, Ore.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Scatter Communications, Inc., 4923 St. Elmo Ave., Bethesda, Md.
Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.

ANTENNAS. FEED SYSTEMS ..... Pgs. 455, 818, 830
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Chu Associates, Box 387, Whitcomb Ave., Littleton, Mass.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Kent, F. C. Corp., 135 Manchester Pl., Newark, N. J.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.– Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radiation Engrg. Labs., Main St., Maynard, Mass.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Wind Turbine Co., East Market St., W. Chester, Pa.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

ANTENNAS. FERRITE CORE
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Aircraft Radio Corp., Boonton, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coilcraft, Inc., Cary, Ill.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Essex Electronics, Berkeley Heights, N. J.
Ferroxcube Corp. of America, 125 E. Bridge St., Saugerties, N. Y.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Krystinel Corp., Fox Island Rd., Port Chester, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
National Moldite Co., 250 South St., Newark, N. J.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391–397 King St., Kitchener, Canada
Stackpole Carbon Co., St. Marys, Penn.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga 1, Tenn.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

ANTENNAS. GROUND PLANE ..... Pg. 454
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Chisholm Industries Ltd., Electronic Ave., Port Moody, Can.
Columbia Products Co., Route 3, Columbia, S. C.
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Ja Mac Products, 8845 N. E. Sandy Blvd., Portland, Ore.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Kreckman, Herb Co., Kreco Antennas, Cresco, Pa.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L., Corp., 475 Tenth Ave., New York, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Scala Radio Co., 2814 19th St., San Francisco, Calif.–Pg. 454
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telrex, Inc., 26 Neptune Hway, Asbury Park, N. J.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Ward Products Corp., Div. Gabriel Co., 1148 Euclid Ave., Cleveland, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

ANTENNAS. HELICAL ..... Pg. 455
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455

ANTENNAS. INDOOR. F–M AND TV
Admiral Corp., Govt. Sales Div., 3800 Cortland St., Chicago, Ill.
All–Channel Products Corp., 47–39 49th St., Woodside, N. Y.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Amphenol Borg Electronics Corp., 1830 S. 54th Ave., Chicago, Ill.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Barker Products Co., 3 Componet Park, West Bridgewater, Mass.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Channel Master Corp., Ellenville, N. Y.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dimick Mfg. Co., Jefferson, Ore.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Finney Co., 34 W. Interstate St., Bedford, Ohio
Gregg Electric Sales Co., 620 Essex St., Lawrence, Mass.
Hi–Lo Mfg. Corp., 1122–26 W. Newport Ave., Chicago, Ill.
I.E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Lindsay Antenna & Specialty Prod., 11 Wellington St., Lindsay, Canada
Marjo Technical Products Co., 1150 E. Henry St., Linden, N. J.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York, N. Y.
Radion Corp., 345 Terra Cotta Ave., Crystal Lake, Ill.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Dr., Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.

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Simplicity Tool Co., 2850 N. Mississippi Ave., Box 3723, Portland, Ore.
Spirling Products, Henrietta St., Box 411, Hicksville, N. Y.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Telrex, Inc. 26 Neptune Hway., Asbury Park, N. J.
Tenatronics, Ltd., 1011 Power Ave., Cleveland, Ohio
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
Waber Mfg. Co., 105 Heatherwood Rd., Havertown, Pa.
Ward Products Corp., Div. Gabriel Co., 1148 Euclid Ave., Cleveland, Ohio

ANTENNAS. LOOP

All Products Co., Electronic Div., Box 110, Mineral Wells, Texas
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Caddell–Burns Mfg Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Coilcraft, Inc., Cary, Ill.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Electronics Div., Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Miller, J. W., Co., 5917 S. Main St., Los Angeles, Calif.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Smallwood, Ltd., 391–397 King St., Kitchener, Canada
Suprex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

ANTENNAS. MARINE

Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
All–Channel Products Corp., 47–39 49th St., Woodside, N. Y.
All Products Co., Electronic Div., Box 110, Mineral Wells, Texas
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Bassett, Inc., Rex, 1314 N.E. 17th Court – Box 7127, Fort Lauderdale, Fla.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Columbia Products Co., Route 3, Columbia, S. C.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Associates, Box 22, St. Albans, N. Y.
Electronics Div., Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Gotham, 1805 Purdy Ave., Miami Beach, Fla.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Ja Mac Products, 8845 N.E. Sandy Blvd., Portland, Ore.
Jefferson, Ray, Inc., 40 E. Merrick Rd., Freeport, N. Y.
Kearfott Co., Inc., Little Falls, N. J.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles, Calif.
Munston Mfg. & Service Inc., Beech St., Islip, N. Y.
Pearce–Simpson, Inc., 2295 N. W. 14th St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Scala Radio Co., 2814 19th St., San Francisco, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Vocaline Co. of America, Old Saybrook, Conn.
Ward Products Corp., Div. Gabriel Co., 1148 Euclid Ave., Cleveland, Ohio
Webster Mfg. Co., 242 Shoreline Hwy., Mill Valley, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

ANTENNAS. MASTER COMMUNITY ..... Pg. 454

All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Amplitol, Inc., 342 W. 40th St., New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Benco TV Assocs., 27 Taber Road, Rexdale, Canada
Dimick Mfg. Co., Jefferson, Ore.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Finney Co., 34 W. Interstate St., Bedford, Ohio
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27 Jerrold Bldg., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Scala Radio Co., 2814 19th St., San Francisco, Calif.
Simplicity Tool Co., 2850 N. Mississippi Ave., Box 3723, Portland, Ore.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Telrex, Inc., 26 Neptune Hway, Asbury Park, N. J.
Tennalab, Quincy, Ill.
White, J. L. & Son, 374 Verona Ave., Newark, N. J.

ANTENNAS. MICROWAVE ..... Pgs. 452, 455, 796, 800, 814, 828

ARRA Corporation, Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Alpar Mfg. Corp., 220 Demeter St., Palo Alto, Calif.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W. Washington, D. C.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Automation Dynamics Corp., 255 County Rd., Tenafly, N. J.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Blaw–Knox Co., 300 Sixth Ave., Pittsburgh, Pa.
Bogart Manufacturing Corp., 315 Seigel St, , Brooklyn, N. Y.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Chu Associates, Box 387, Whitcomb Ave., Littleton, Mass.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. – Pg. 800
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electron–Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N.Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Houston–Fearless Corp., 11801 W. Olympic Blvd., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Ja Mac Products, 8845 N. E. Sandy Blvd., Portland, Ore.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott Company, Inc., Little Falls, N.J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kennedy, D. S. & Co., Cohasset, Mass.
Kent, F. C. Corp., 135 Manchester Pl., Newark, N. J.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Lambda–Pacific Eng., Inc., 14725 Arminta St., P. O. Box 70, Van Nuys, Calif.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pioneer Industries, Inc., 2700 Hawkeye Dr – Box 1500, Sioux City, Ia.
Polarad Electronics Corp., 43–20 34th St., Long Island City, N. Y. – Pg. 828
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiation Engrg. Labs., Main St., Maynard, Mass.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Surface Conduction, Inc., 521 Fifth Ave., New York, N.Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.– Pg. 455
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torngren, C. W. Co., Inc., 236 Pearl St., Somerville, Mass.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waveline, Inc., Box 718, W. Caldwell, N. J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ANTENNAS. MOBILE

Ainslie Corp., 312 Quincy Ave., Quincy, Mass.

ANTENNAS. MOBILE (continued)
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Bassett, Inc., Rex, 1314 N. E. 17th Court – Box 7127, Fort Lauderdale, Fla.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Columbia Products Co., Route 3, Columbia, S. C.
Crosley Div., Avco Mfg. Corp, 1329 Arlington St., Cincinnati, Ohio
Danbury Knudson, Div. Amphenol Electric, Box 148 – Thorpe St., Danbury, Conn.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrend Products Corp., St. Joseph, Mich.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Ja Mac Products, 8845 N. E. Sandy Blvd., Portland, Ore.
K–W Engineering Works, 15920 Pin Oak Ct., Butler, Wis.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leitch–Huard Corp., Stark & Commercial Sts. – Box 1024, Manchester, N. H.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Pearce–Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Pruyn–Moore, Inc., 2586 E. 67th, Long Beach, Calif.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Scala Radio Co., 2814 19th St., San Francisco, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telrex, Inc., 26 Neptune Hway, Asbury Park, N. J.
Tenatronics, Ltd., 1011 Power Ave., Cleveland, Ohio
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Ward Products Corp., Div. Gabriel Co., 1148 Euclid Ave., Cleveland, Ohio
Ward Products Corp., Div. Gabriel Co., Edson Rd., Amsterdam, N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
Webster Mfg. Co., 242 Shoreline Hwy., Mill Valley, Calif.
White, J. L., & Son, 374 Verona Ave., Newark, N. J.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ANTENNAS. OUTDOOR, F–M AND TV ..... **Pgs. 454, 534**
Admiral Corp., Govt. Sales Div., 3800 Cortland St., Chicago, Ill.
Advance Electronics Co., 8510 N. End Ave., Oak Park, Mich.
All–Channel Products Corp., 47–39 49th St., Woodside, N. Y.
Allweather Antennas Mfg. Co., 350 S. Egg Harbor Rd., Hammenton, N. J.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Amphenol Borg Electronics Corp., 1830 S. 54th Ave., Chicago, Ill.
Amplitol, Inc., 342 W. 40th St., New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 E. 75th St., Chicago, Ill.
Antenna Designs, Inc., 225 S. Third St., Burlington, Iowa
Apparatus Development Co., Inc., 115 Main St., Wethersfield, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Channel Master Corp., Ellenville, N. Y.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dimick Mfg. Co., Jefferson, Ore.
Dynair Electronics, Inc., Box 1103, El Cajon, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Finney Co., 34 W. Interstate St., Bedford, Ohio
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
Hi–Lo Mfg. Corp., 1122–26 W. Newport Ave., Chicago, Ill.
I. E. Manufacturing, 325 N. Hayne Ave., Chicago, Ill.
Ja Mac Products, 8845 N. E. Sandy Blvd., Portland, Ore.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jampro Antenna Co., 1236 40th Ave., Sacramento, Calif.
Kay–Towns Antenna Co., 1511 Dean Ave., Rome, Ga.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Medal Mfg. Co., Inc., P. O. Box 45, Sharon, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philmore Mfg. Co., Inc., 130–01 Jamaica Ave., Richmond Hill, N. Y.
Philson Mfg. Co., Inc., 47 Bergen St., Brooklyn, N. Y.
Radiart Corp., The, 2900 Columbia Ave., Indianapolis, Ind.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York, N. Y.
S & A Electronics, 1025 Nevada St., Toledo, Ohio
Scala Radio Co., 2814 19th St., San Francisco, Calif.–Pg. 454
Simplicity Tool Co., 2850 N. Mississippi Ave., Box 3723, Portland, Ore.
Specific Products, Box 425, 21051 Costanso, Woodlawn Hills, Calif.–Pg. 534
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.–Pg. 455
Telco Electronics Mfg., Div. General Cement, 400 S. Wyman St., Rockford, Ill.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Telrex, Inc., 26 Neptune Hway, Asbury Park, N. J.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Tennalab, Quincy, Ill.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
Trio Mfg. Co., Griggsville, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Winegard Co., 3000 Scotten Blvd., Burlington, Iowa

ANTENNAS, PARABOLIC ..... **Pg. 455**
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455

ANTENNAS, RADAR ..... **Pgs. 452, 455, 814, 824**
Arra Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admiral Corp., Govt. Sales Div., 3800 Cortland St., Chicago, Ill.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Aircom, Inc., 139 E. First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
All Products Co., Electronic Div., Box 110, Mineral Wells, Texas
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Blvd., Hollywood, Calif.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.–Pg. 452
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N.W., Washington, D. C.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Birdair Structures, Inc., 290 Larkin St., Buffalo, N. Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Chu Associates, Box 387, Whitcomb Ave., Littleton, Mass.
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N. Y.
Electronics Div., Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
ITT Federal Div., Div., Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.–Pg. 814
Kennedy, D. S., & Co., Cohasset, Mass.
Kent, F. C., Corp., 135 Manchester Pl., Newark, N. J.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Meridian Metal Craft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Parsons, Ralph M., Co., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.–Pg. 824
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Radiation Engrg. Labs., Main St., Maynard, Mass.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.–Pg. 455
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Telrex, Inc., 26 Neptune Hway, Asbury Park, N. J.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torngren, C. W., Co., Inc., 236 Pearl St., Somerville, Mass.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walworth Co., Electronics Div., 89 Union St., Mineola, L. I., N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
White Aircraft Corp., Palmer, Mass.

ANTENNAS, RADOME
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Albano Co., Inc., The, Honeycomb Div., 549–555 W. 54th St., New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Birdair Structures, Inc., 290 Larkin St., Buffalo, N. Y.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Electronics Div., Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Keller Products, Inc., 41 Union St., Manchester, N. H.
Kennedy, D. S. & Co., Cohasset, Mass.
Laminair, Inc., 18530 S. Broadway, Gardena, Calif.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.

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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Summit Industries, Inc., 2104 W. Rosecrans Ave., Gardena, Calif.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Thompson, H. I. Fiber Glass Co., 1733 Cordova St., Los Angles, Calif.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torngren, C. W. Co., Inc., 236 Pearl St., Somerville, Mass.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

ANTENNAS. RAILROAD

All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Ja Mac Products, 8845 N. E. Sandy Blvd., Portland, Ore.
Kreckman, Herb Co., Kreco Antennas, Cresco, Pa.
Leitch–Huard Corp., Stark & Commercial Sts. – Box 1024, Manchester, N. H.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Scala Radio Co., 2814 19th St., San Francisco, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.

ANTENNAS. REFLECTORS ..... Pgs. 454, 455

ARRA Corporation, Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Alpar Mfg. Corp., 220 Demeter St., Palo Alto, Calif.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson & Duming, Inc., 869 Washington St., Canton, Mass.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Electric Co, Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Houston–Fearless Corp., 11801 W. Olympic Blvd., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Laminair, Inc., 18530 S. Broadway, Gardena, Calif.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Microflect Co., 2300 S. 25th St., Salem, Ore.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Scala, Radio Co., 2814 19th St., San Francisco, Calif. – Pg. 454
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Stainless, Inc., 3rd St., North Wales, Pa.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torngren, C. W. Co., Inc., 236 Pearl St., Somerville, Mass.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
White Aircraft Corp., Palmer, Mass.

ANTENNAS, ROTARY BEAM

All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Freeman Co., Yankton, So. Dak.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mas.
Gotham, 1805 Purdy Ave., Miami Beach, Fla.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 199 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Lindsay Antenna & Specialty Prod., 11 Wellington St., Lindsay, Canada
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Telrex, Inc., 26 Neptune Hway., Asbury Park, N. J.
Tennalab, Quincy, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Wind Turbine Co., East Market St., W. Chester, Pa.

ANTENNAS. ROTATORS – SEE ROTATORS

ANTENNAS. SCATTER PROPAGATION

Alpar Mfg. Corp., 220 Demeter St., Palo Alto, Calif.

ANTENNAS. TELEMETRY. TRACKING ..... Pg. 455

Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455

ANTENNAS. TELESCOPIC

Alpar Mfg. Corp., 220 Demeter St., Palo Alto, Calif.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Columbia Products Co., Route 3, Columbia, S. C.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrend Products Corp., St. Joseph, Mich.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
K–W Engineering Works, 15920 Pin Oak Ct., Butler, Wis.
Lorentzen, H. K., Inc., 391 W. Broadway, New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Philson Mfg., Co., Inc., 47 Bergen St., Brooklyn, N. Y.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Radion Corp., 345 Terra Cotta Ave., Crystal Lake, Ill.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Snyder Mfg. Co., 22nd & Ontario St., Philadelphia, Pa.
Tenatronics Ltd., 1011 Power Ave., Cleveland, Ohio
Tenna Mfg., Co., 7580 Garfield Blvd., Cleveland, Ohio
Thomas Mold & Die Co., 249 W. Henry St., Wooster, Ohio
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Ward Products Corp., Div. Gabriel Co., Edson Rd., Amsterdam, N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.

ANTENNAS, TOWERS AND SUPPORTS ..... Pgs. 451, 454

Aermotor Co., Special Towers Div., 2500 Roosevelt Rd., Chicago, Ill. – Pg. 451
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Alprodco, Inc., P. O. Box 4974, Memphis, Tenn.
Alpar Mfg., Corp., 220 Demeter St., Palo Alto, Calif.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
American Tower Co., Selby, Ohio
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Antlab, Incorporated, 6330 Proprietors Road, Worthington, Ohio
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Birdair Structures, Inc., 290 Larkin St., Buffalo, N. Y.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Blaw–Knox Co., 300 Sixth Ave., Pittsburgh, Pa.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Ghance A. B. Co., 210 N. Allen St., Centralia, Mo.
Channel Master Corp., Ellenville, N. Y.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Columbia Products Co., Route 3, Columbia, S. C.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Denson Electronics Corp., P. O. Box 122, Rockville, Conn.
Dresser–Ideco Co., Div. Dresser Industries, 875 Michigan Ave., Columbus, Ohio
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
E–Z Way Towers, Inc., 5901 Broadway, P. O. Box 5491, Tampa, Fla.
Easy–Up Tower Co., 908 State St., Racine, Wisc.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
KTV Tower & Comm. Eqpt. Co., 5520 S. Shore Dr., Chicago, Ill.
Kenwood Engrg. Co., Inc., 265 Colfax Ave., Kenilworth, N. J.
Kline Iron & Steel Co., Inc., P. O. Box 1013, Columbia, S. C.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Lorentzen, H. K., Inc., 391 W. Broadway, New York, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Mechanical Steel Tubing Corp., 500 Barry St., New York, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microflet Co., 2300 S. 25th St., Salem, Ore.
Modern Wire Co., 39–30 Review Ave., Long Island City, N. Y.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pioneer Industries, Inc., 2700 Hawkeye Dr., P. O. Box 1500, Sioux City, Ia.
Pipestone Sales Co., Pipestone, Minn.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rohn Mfg. Co., 116 Limestone, Peoria, Ill.
Rostan Corp., 5660 59th St., Maspeth, N. Y.
Scala Radio Co., 2814 19th St., San Francisco, Calif. – Pg. 454
Scatter Communications, Inc., 4923 St. Elmo Ave., Bethesda, Md.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Spaulding Products Co., 550 W. Barnes St., Frankfort, Ind.
Stainless, Inc., 3rd St., North Wales, Pa.
TV Tower Mfg. Company, 927–929 W. 9th Street, Hazleton, Penna.
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Telco Electronics Mfg., Div. General Cement, 400 So. Wyman St., Rockford, Ill.
Tele–Vue Towers, Inc., 701 49th St., St. Petersburgh, Fla.
Telrex, Inc., 26 Neptune Hway, Asbury Park, N. J.
Thomas Mold & Die Co., 249 W. Henry St., Wooster, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Trilsch Inc., P. O. Box 14201, Houston, Texas
United Engineering Co., 16 Broadway, Toledo, Ohio
Universal Prods., 4100 Taylor Ave., Racine, Wisc.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Vesto Co., Inc., 20th & Clay, North Kansas City, Mo.
Video Accessory Mfg., Co., P. O. Box 223, Tulsa, Okla.
Vokar, 201 E. Catherine St., Ann Arbor, Mich.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
Webster Mfg. Co., 242 Shoreline Hwy., Mill Valley, Calif.
Western Coil & Electrical Co., 215 State St., Racine, Wisc.
Wind Turbine Co., East Market St., W. Chester, Pa.
Winegard Co., 3000 Scotten Blvd., Burlington, Iowa
Winpower Mfg. Co., Newton, Iowa
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ANTENNAS. TRANSMITTING ..... Pgs. 455, 785

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Aircraft Radio Corp., Boonton, N. J.
Alford Mfg., Co., 299 Atlantic Ave., Boston, Mass.
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Alpar Mfg. Corp., 220 Demeter St., Palo Alto, Calif.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio

ANTENNAS. TRANSMITTING (continued)

Automation Dynamics Corp., 255 County Rd., Tenafly, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Columbia Products Co., Route 3, Columbia, S. C.
Communications Co., Ina., 300 Greco Ave., Coral Gables, Fla.
Continental Electronics Mfg., Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Dare, Inc., Route 25, Troy, Ohio
Dynair Electronics, Inc., Box 1103, El Cajon, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
E–Z Way Towers, Inc., 5901 Broadway, P. O. Box 5491, Tampa, Fla.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Finney Co., 34 W. Interstate St., Bedford, Ohio
Freeman Co., Yankton, So. Dak.
General Electric Co., Indl. Elec. Div.–Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Ja Mac Products, 8845 N. E. Sandy Blvd., Portland, Ore.
Jampro Antenna Co., 1236 40th Ave., Sacramento, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kreckman, Herb Co., Kreco Antennas, Cresco, Pa.
Lattin Radio Laboratories, 1431 Sweeney – P. O. Box 44, Owensboro, Ky.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Madigan Corp., 200 Stonehinge Lane, Carle Pl., N. Y.
Mark Products Co., 6412 W. Lincoln Ave., Morton Grove, Ill.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Munston Mfg. & Service, Inc., Beech St., Islip, N. Y.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Pruyn–Moore, Inc., 2586 E. 67th, Long Beach, Calif.
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Ratelco, Inc., 820 Minor Ave., N. Seattle, Wash.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Seismograph Service Corp., 6200 E. 41st St., Tulsa, Okla.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y. – Pg. 455
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Ward Products Corp., Div. Gabriel Co., 1148 Euclid Ave., Cleveland, Ohio
Western Coil & Electrical Co., 215 State St., Racine, Wisc.
Wind Turbine Co., East Market St., W. Chester, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ANTENNAS. TUNING UNITS

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Melland Gear Co., 88–06 Van Wyck Expy., Jamaica, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Wright Radio Co., 11 Morton Pl., Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ANTIMONY – SEE METALS

ANTISTATIC COMPOUNDS – SEE COMPOUNDS. ANTISTATIC

ARRESTERS, ELECTRICAL SURGE

Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Brach Mfg., Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

ARRESTERS, LIGHTNING ..... Pg. 776

Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Ampco Mfg., 9 Kiver St., Morristown, N. J.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Brach Mfg., Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Channel Master Corp., Ellenville, N. Y.
Consolidated Wire & Asso. Companies, 1635 S. Clinton St., Chicago, Ill.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Modern Wire Co., 39–30 Review Ave., L. I. City, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radio Mercandise Sales, Inc., 2016 Bronxdale Ave., New York, N. Y.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rodale Mfg., Co., Inc., Emmaus, Pa.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Telco Electronics Mfg., Div. General Cement, 400 So. Wyman St., Rockford, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

ARSENIC – SEE METALS

ASBESTOS – SEE INSULATION MATERIALS

ASPHALT INSULATION – SEE INSULATING COMPOUNDS

ASTRONOMICAL EQUIPMENT, RADIO – SEE TELESCOPES, RADIO

ATTENUATORS, A–F ..... Pgs. 1014, 1080, 1100

ARRA Corporation, Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.–Pgs. 1014, 1080
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Tech Laboratories, Inc., Palisades Park, N. J. – Pg. 1100
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ATTENUATORS, COAXIAL Pgs. 751, 793, 794, 796, 811, 817, 821, 830, 831, 834, 838, 839

ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y.–Pgs. 793, 794
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 561
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y. – Pg. 796
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Ferrotec, Inc., 217 California St., Newton, Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 811
Holland Electronics, 772 E. 53rd St., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Measurements Corp., A McGraw–Edison Div., Boonton, N. J.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Microlab, 71 Okner Pkway., Livingston, N. J. – Pg. 817
Narda Microwave Corp., 118–160 Herricks Rd., Mineola, N. Y. – Pg. 821
Omega Laboratories, Inc., P. O. Box 308, Rowley, Mass.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y. – Pg. 831
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y. – Pg. 834
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sage–Craft, Inc., Norwich, N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Stoddart Aircraft Radio Co., 6644 Santa Monica Blvd., Hollywood, Calif. – Pg. 751
Tech Laboratories, Inc., Palisades Park, N. J.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorsort Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
Weinschel Engrg., Kensington, Md.– Pg. 838, 839
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.

ATTENUATORS, DECADE ..... Pgs. 673, 811, 838, 839

Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.

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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.– Pg. 673
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 811
Holland Electronics, 772 E. 53rd St., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.
Measurements Corp., A McGraw–Edison Div., Boonton, N. J.
Microlab, 71 Okner Pkway., Livingston, N. J.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y.
Tech Laboratories, Inc., Palisades Park, N. J.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
Weinschel Engrg., Kensington, Md.– Pgs. 838, 839

ATTENUATORS. FIXED Pgs. 527, 529, 673, 796, 800, 810, 820, 834, 838, 839, 1014, 1080
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N. Y.– Pg. 527
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.–Pgs. 1014, 1080
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Community Engineering Corp., State College, Pa. – Pg. 529
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.– Pg. 800
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 810
Holland Electronics, 772 E. 53rd St., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microlab, 71 Okner Pkway., Livingston, N. J.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pg. 820
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y. – Pg. 834
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Tech Laboratories, Inc., Palisades Park, N. J.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Weinschel Engrg., Kensington, Md. – Pgs. 838, 839

ATTENUATORS I–F ..... Pgs. 673, 792, 793
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y.–Pgs. 792, 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N..Y.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Microlab, 71 Okner Pkway., Livingston, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Tech. Laboratories, Inc., Palisades Park, N. J.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ATTENUATORS. IMPEDANCE MATCHING ..... Pgs. 527, 792–794, 804, 1076
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y.–Pgs. 792,794
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Applied Research, Inc., 76 South Bayles Ave., Port Waxhington, N. Y. – Pg. 527
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
Holland Electronics, 772 E. 53rd St., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microlab, 71 Okner P'kway, Livingston, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sage–Craft, Inc., Norwich, N. Y.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Tech. Laboratories, Inc., Palisades Park, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Ten Bosch M., Application & Sales Dept., 80 Wheeler, Pleasantville, N. Y. – Pg. 1076
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.

ATTENUATORS. LOGARITHMIC
Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain, Mass.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical & Physical, Instrument Corp., 42–19 27th St., Long Island City, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Tech. Laboratories, Inc., Palisades Park, N. J.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ATTENUATORS. MICROWAVE Pgs. 673, 751, 792–796, 798–800, 803, 804, 810, 811, 814, 817, 818, 820, 821, 830, 831, 834, 837, 1033, 1062
ARRA Corp., Antenna & Radome Res. Assoc., 1 Bond, Westbury, N. Y. – Pgs. 792, 794
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Avion, Div. A. C. F. Industries, Inc., 7 Park Pl., Paramus, N. J.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y. – Pg. 795
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical & Physical, Instrument Corp., 42–19 27th St., Long Island City, N. Y.
Electron–Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Elektro–Serv Co., 480 Johnson Ave., Brooklyn, N. Y.
Elsin Electronic Corp., Eileen Way Syossett, N. Y. – Pg. 803
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
Ferrotec, Inc., 217 California St., Newton, Mass.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
Goodrich, B. F. Products, Sponge Products Div., 469 Derby Pl., Shelton, Conn.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 810, 811
Holland Electronics, 772 E. 53rd St., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C., 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Lambda–Pacific Eng., Inc., 14725 Arminta St., P. O. Box 70, Van Nuys, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Microlab, 71 Okner P'kay, Livingston, N. J. – Pg. 817
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 821
National Co., Inc., 61 Sherman St., Malden, Mass.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y. – Pg. 831
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Pyrofilm Resistor Co., Inc., U. S. Highway 46, Parsippany, N. J. – Pg. 1033
Q. O. S. Corp., 621 E. 216th St., New York, N. Y.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y. – Pg. 834
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Stoddart Aircraft Radio Co., 6644 Santa Monica Blvd., Hollywood, Calif. – Pg. 751
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technicraft Labs., Inc., Thomaston–Waterbury Road, Thomaston, Conn.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine St., Farmingdale, New York
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waveline, Inc., P. O. Box 718, W. Caldwell, N. J. – Pg. 837
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

ATTENUATORS. R–F ... Pgs. 527, 529, 673, 707, 751, 792–794, 796, 803, 804, 810, 811, 814, 817, 830, 831, 834, 838, 839, 1100
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y. – Pgs. 792–794
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y. – Pg. 527

ATTENUATORS. R–F (continued)
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Benco TV Assocs., 27 Taber Road, Rexdale, Canada
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Boonton Radio Corp., Intervale Rd., Boonton, N. J.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Community Engineering Corp., State College, Pa. – Pg. 529
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Daven Corp., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical & Physical, Instrument Corp., 42–19 27th St., Long Island City, N. Y.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. – Pg. 803
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Los Angeles, Calif. – Pgs. 810, 811
Holland Electronics, 772 E. 53rd St., Brooklyn, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jerrold Electronics, Indl. Prod. Div., Dept. T. E. D., 27 Jerrold Bldg., Phila., Pa. – Pg. 707
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Measurements Corp., A. McGraw–Edison Div., Boonton, N. J.
Microlab, 71 Okner Pkway., Livingston, N. J. – Pg. 817
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y. – Pg. 831
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q. O. S. Corp., 621 E. 216th St., New York, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of American, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Stoddart Aircraft Radio Co., 6644 Santa Monica Blvd., Hollywood, Calif. – Pg. 751
Tech. Laboratories, Inc., Palisades Park, N. J. – Pg. 1100
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Walworth Co., Electronics Div., 89 Union St., Mineola, L. I., N. Y.
Weinschel Engrg., Kensington, Md. – Pgs. 838, 839
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

ATTENUATORS, TURRET ..... **Pgs. 673, 751, 792, 793, 821, 838, 839**
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond, Westbury, N. Y. – Pgs. 792, 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Coaxial Connetor Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Microlab, 71 Okner P'kway, Livingston, N. J.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pg. 821
Stoddart Aircraft Radio Co., 6644 Santa Monica Blvd., Hollywood, Calif. – Pg. 751
Tech. Laboratories, Inc., Palisades Park, N. J.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Weinschel Engrg., Kensington, Md. – Pgs. 838, 839

AUDIO EQUIPMENT – SEE AMPLIFIERS. MICROPHONES. SPEAKERS. ETC.

AUDIOMETERS ..... **Pg. 1115**
Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif.
Audio Instrument Co., Inc., 135 W. 14th St., New York, N. Y.
B. & K. Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Products Labs., 4501 N. Ravenswood Ave., Chicago, Ill. – Pg. 1115
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
U. S. Recording Co., 1347 Capitol St., Washington, D. C.

AUTOMATION SYSTEMS, ASSEMBLY AND/OR TEST ..... **Pgs. 649, 654, 704, 962**
Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif.
Acton Laboratories, Inc., 533 Main St., Acton, Mass.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill. – Pg. 649
Automatic Electric Sales Corp., Northlake, Ill.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Inc., 212 Worcester St., Wellsly Hills, Mass.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barnes Development Co., 213 W. Baltimore Ave., Landsdowne, Pa. – Pg. 654
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Cunningham, James Son & Co., 33 Litchfield St., Rochester, N. Y.
Daystrom Systems, Div. Daystrom, Inc., La Jolla, Calif.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Epr Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Fenwal Incorporated, Ashland, Mass.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo P'way – P. O. & Bin N., Pasadena, Calif.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J. – Pg. 704
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg. 962
Kearfott Company, Inc., Little Falls, N. J.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mechaneers Inc., Westport, Conn.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Omega Mfg., Inc., 2243 Washington Ave., Bronx, N. Y.
Oxford Eng. Rg. Co., 47A River St, Wellesley Hills, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Photoswitch, Div. Electronics Corp. Of America, 1 Memorial Dr., Cambridge, Mass.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Sensory Inc., 10 New St., Norristown, N. J.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Products, Inc., Shelter Rock Rd., Danbury, Conn.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N. J.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Teller Co., Box 989, Butler, Pa.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trepac Corporation Of America, 30 W. Hamilton Ave., Englewood, N. J.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

AUTOPILOTS ..... **Pg. 530**
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Babcock Radio Engrg, 1640 Monrovia Ave. – P. O. Box 344, Costa Mesa, Calif.
Collins Radio Co., 855 35th St., N. E. Cedar Rapids, Iowa
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.–Pg. 530
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Mitchell Industries, Inc., P. O. Box 17, Mineral Wells, Tex.
Navigation Devices Inc., 616 Security Mutual Blvd., Box 1107, Binghampton, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

AUTOSYNS
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.

AUTOTRANSFORMERS – SEE TRANSFORMERS. AUTOTRANSFORMER

BADGES. RADIATION AND SERVICES – SEE FILM BADGES AND SERVICES

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BAFFLES. ACOUSTIC MATERIALS – SEE MATERIALS. ACOUSTIC

BAFFLES. SPEAKER – SEE ENCLOSURES. SPEAKER. CABINET

BALANCING EQUIPMENT. DYNAMIC ..... **Pgs. 698, 1076**
Annis R. B. Co., 1101 N. Delaware St., Indianapolis, Ind.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Cosa Corp., 405 Lexington Ave., New York, N. Y.
Decker Corporation, The, 45 Monument Rd., Bala Cynwyd, Pa.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Exact Weight Scale Co., 944 W. 5 Ave., Columbus, Ohio
Hickok Electrical Instrument Co., 10500 DuPont Ave., Cleveland, Ohio – Pg. 698
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Mechaneers Inc., Westport, Conn.
Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.
Ten Bosch, M., Inc., Appl. & Sales Dept., 80 Wheeler Ave., Pleasantville, N. Y.–Pg. 1076
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

BALL AND SOCKET JOINT – SEE JOINT. BALL AND SOCKET

BALLAST TUBES – ALSO SEE TUBES. BALLAST ..... **Pg. 800**
Douglas Microwave Co., Inc., 252 E. Third St., Mt. Vernon, N. Y.–Pg. 800

BALUNS ..... **Pgs. 454, 785**
Ac Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Apparatus Development Co., Inc., 115 Main St., Wethersfield, Conn.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Tex.
Community Engineering Corp., State College, Pa.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Tex.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.–Pg. 785
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Scala Radio Co., 2814 19th St., San Francisco, Calif.–Pg. 454
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Univox Corp., 102 Warren St., New York, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BALLS. ALL TYPES
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.

BARIUM – SEE METALS

BAROGRAPHS
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Green, H. J. Instruments Inc., 2500 Shames Dr., Westbury, L. I., N. Y.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.

BAROMETERS
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co. Of Canada, 146 Kendal Ave., Toronto, Canada
G. M. Mfg. Co., 134 W. 26th St., New York, N.Y.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Green, H. J. Instruments, Inc., 2500 Shames Dr., Westbury, L. I., N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.

BARORESISTORS – SEE RESISTORS. BARORESISTORS

BAROSWITCH – SEE SWITCHES. BAROSWITCH

BARRETTERS – SEE RESISTORS. BARRETTERS

BASES. ANTENNA
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Alprodco, Inc., Box 4974, Memphis, Tenn.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Antlab Incorporated, 6330 Proprietors Rd., Worthington, Ohio
Baumker Mfg. Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Channel Master Corp., Ellenville, N. Y.
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Davies Molding Co., Harry, 1428 N. Wells St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Kenwood Engrg. Co., Inc., 265 Colfax Ave., Kenilworth, N. J.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Munston Mfg. & Service Inc., Beech St., Islip, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Rohn Mfg. Co., 116 Limestone, Peoria, Ill.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
Wind Turbine Co., East Market St., W. Chester, Pa.

BASES. PHONO
Acousti Craft, 14122 Aetna, Van Nuys, Calif.
Fairchild Recording Equip. Co., 10–40 45th Ave., L. I. City, N. Y.
Hammond Mfg. Co., Ltd., Guelph, Can.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Jayell Mfg. Co., 1360 Garrison Ave., New York, N. Y.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Titchener, E. H. & Co., 67 Clinton St., Binghamton, N. Y.
Wellcor, Inc., 1214–18 N. Wells St., Chicago, Ill.

BATTERIES. DRY
Acme Battery Co., 200 Henry St., Stamford, Conn.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bright Star Industries, 600 Getty Ave., Clifton, N. J.
Burgess Battery Co., Foot of Exchange St., Freeport, Ill.
Exide Div. Elec. Storage Bat. Co., Rising Sun Adams, Philadelphia, Pa.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Marathon Battery Co., P. O. Box 298, Wausau, Wisc.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Corp. Of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Ray–O–Vac Co., 212 E. Washington Ave., Madison, Wisc.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
U. S. Rubber Co., 1230 Ave. of The Americas, New York, N. Y.

BATTERIES. HEARING AID
Acme Battery Co., 200 Henry St., Stamford, Conn.
Burgess Battery Co., Foot of Exchange St., Freeport, Ill.
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N. J.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Marathon Battery Co., P. O. Box 298, Wausau, Wisc.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Ray–O–Vac Co., 212 E. Washington Ave., Madison, Wisc

BATTERIES. LEAD–ACID
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bowers Battery & Spark Plug Co., Box 1262, Reading, Pa.
C. & D. Batteries Inc., Conshohocken, Pa.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Batteries, Inc., Bush Terminal No. 4, 28–34 35th St., Brooklyn, N. Y.
Exide Div. Elec. Storage Bat. Co., Rising Sun Adams, Philadelphia, Pa.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Willard Storage Battery, 246 E. 131st St., Cleveland, Ohio

BATTERIES. MERCURY
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Corp. Of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.

BATTERIES. NICKEL–ALKALINE
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N. J.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Nicad Div., Gould–National Batteries, Inc., 172 Pleasant St., Easthampton, Mass.
Radio Corp. Of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.

BATTERIES. NICKEL–CADMIUM
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N. J.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Nicad Div., Gould–National Batteries, Inc., 172 Pleasant St., Easthampton, Mass.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.

BATTERIES. NUCLEAR
Isotopes Specialties Co., Box 688, Burbank, Calif.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Radiation Research Corp., 1114 1st Ave., New York, N. Y.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.

BATTERIES. SILVER–CADMIUM
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Yardney Electric Corp., 40–50 Leonard St., New York, N. Y.

BATTERIES. SILVER–ZINC
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
Cook, Frank R. Co., 36 S. Santa Fe Dr., Denver, Colo.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Exide Div. Elec. Storage Bat. Co., Rising Sun Adams, Philadelphia, Pa.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Yardney Electric Corp., 40–50 Leonard St., New York, N. Y.

BATTERIES. SOLAR ..... **Pgs. 977, 1058**
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Hill, E.V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.–Pg. 1058
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.–Pg. 977
U. S. Semi–Conductor Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.

BATTERIES. STANDARD CELL
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Exide Div. Elec. Storage Bat. Co., Rising Sun Adams, Philadelphia, Pa.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Ray–O–Vac Co., 212 E. Washington Ave., Madison, Wisc.

BATTERIES. STORAGE
American Tv & Radio Co., 300 E. 4th St., St. Paul, Minn.
Bowers Battery & Spark Plug Co., Box 1262, Reading, Pa.
C. & D. Batteries Inc., Conshohocken, Pa.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Batteries, Inc., Bush Terminal No. 4, 28–34 35th St., Brooklyn, N. Y.
Exide Div. Elec. Storage Bat. Co., Rising Sun Adams, Philadelphia, Pa.
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N. J.
Nicad Div., Gould–National Batteries, Inc., 172 Pleasant St., Easthampton, Mass.
U. S. Rubber Co., 1230 Ave. of The Americas, New York, N. Y.
Western Coil & Electrical Co., 215 State St., Racine, Wisc.
Willard Storage Battery, 246 E. 131st St., Cleveland, Ohio
Yardney Electric Corp., 40–50 Leonard St., New York, N. Y.

BATTERY CHARGER – SEE CHARGERS, BATTERY
BATTERY ELIMINATORS – SEE ELIMINATORS, BATTERY
BATTERY HOLDERS – SEE HOLDERS, BATTERY

BEACONS
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N. Y.
Automation Dynamics Corp., 255 County Rd., Tenafly, N. J.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Babcock Radio Engrg., 1640 Monrovia Ave. – P. O. Box 344, Costa Mesa, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway. – P. O. & Bin N., Pasadena, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Copper, Bl. 15–1, Camden, N. J.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Simmonds Aerocessories, Inc., Tarrytown, N. Y.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

BEADS, INSULATION – SEE INSULATION PARTS

BEARINGS ..... **Pgs. 601, 604, 605**
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Laubscher Corp., 250 W. 57th St., New York, N. Y.
American Lava Corp., Cherokee Blvd. & Mfgrs. Rd., Chattanooga, Tenn.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Barden Corp., E. Franklin St., Danbury, Conn.
Beemer Engineering Co., 401 N. Broad St., Philadelphia, Pa.
Bennett, Paul & Co., 230 N. Ohio St., Chicago, Ill.
Bird, Richard H. & Co., 1 Spruce St., Waltham, Mass.–Pg. 601
Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Dixon Corp., Burnside St., Bristol, R. I.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fafnir Bearing Co., The, 39 Booth St., New Britain, Conn.
Ferro Powdered Metals, Magnetic Materials Div., Salem, Ind.
Fluorulon Labs. Inc., Box 305, Caldwell, N. J.
Gap Instrument Corp., 116 E. Merrick Rd., Freeport, N. Y.–Pgs. 604, 605
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Halax Corp., P. O. Box 425, Los Gatos, Calif.
International Powder Metallurgy Co., 439 W. Main St., Ridgway, Pa.
Jeffery Mfg. Co., 803 N. 4 St., Columbus, Ohio
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Kaydon Engineering Corp., The, McCracken St., Muskegon, Mich.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Landis & Gyr, Inc., 45 W. 45th St., New York, N. Y.
La Vezzi Machine Works, 4635 W. Lake St., Chicago, Ill.
Marlin–Rockwell Corp., Jamestown, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miniature Precision Bearings, Inc., Precision Park, Keene, N. H.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Lead Co., 111 Broadway, New York, N. Y.
New Departure Div., General Motors Corp., Bristol, Conn.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Ohio Carbon Co., The, 12508 Berea Rd., Cleveland, Ohio
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland, Ohio
Raway Bearing Co., 8 Forsyth St., New York, N. Y.
Roller Bearing Co. Of America, Sullivan Way, W. Trenton, N. J.
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Swiss Jewel Co., Lafayette Bldg., Philadelphia, Pa.
Thomson Industries, Inc., Manhasset, N. Y.
Timken Roller Bearing Co., Canton, Ohio
Torrington Co., Specialties Div., 59 Field St., Torrington, Conn.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.

BEARINGS, PRECISION JEWEL–ASSEMBLIES ..... **Pg. 601**
Bird, Richard H. & Co., Inc., 1 Spruce St., Waltham, Mass. – Pg. 601

BELLOWS
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Belfab Corp., 11 Ramah Circle, Agawam, Mass.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Flexonics Corp., 1315 S. 3rd Ave., Maywood, Ill.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
Goodrich, B. F., Co., Aviation Products Div., Akron, Ohio
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Resistoflex Corp., Roseland, N. J.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.

BELLS AND BUZZERS
Auth Electric Co., Inc., 34–20 45th St., Long Island City, N. Y.
Bell Products Co., 4251 Forest Park Ave., St. Louis, Mo.
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Cable Electric Products 234 Dabell St., Providence, R. I.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Fisher– Berkeley Corp., 4224 Holden St., Emeryville, Calif.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R. I.
Johnson E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Lee Electric, Inc., 566 52nd St., W. New York, N. J.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Murdock, William, 158 Carter Street, Chelsea, Massachusetts
Partrick & Wilkins Co., 51 N. 7 St., Philadelphia, Pa.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Sperti–Faraday, Inc., Adrian, Mich.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
U.S. Instrument Corp., P.O. Box 1191 Charlottesville, Va.
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J.

BELTS ..... **Pg. 607**
Armour & Co., Cushioning Prd. Div., Alliance, Ohio
Baumker Mfg. Co., Comm Prod. Div., 3826–28 Summit St., Toledo, Ohio
Chicago–Allis Mfg. Co., 113 N. Green St., Chicago, Ill.
Corkpak Co. Inc., 70 Argyle Ave., New Rochelle, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Schjeldahl Co., Northfield, Minn.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.

BENCHES, TABLES – LAB, SERVICE, ETC.
Hobbs, Guy Inc., Dallastown, Pa.
Pressteel Co., 9705 E. Garvey Ave., El Monte, Calif.
Radio Mfg. Engineers, Inc., Div. Electro-Voice, Inc., Buchanan, Mich.

BENDS & TWISTS, MICROWAVE TEES **Pgs. 796, 789–800, 804, 818, 820, 823, 830, 836, 837**
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance-Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Bart Mfg. Corp., 227 Main St., Belleville, N. J.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Demornay-Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y. – Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass.–Pg. 818
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., 118-160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 823
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Technicraft Labs. Inc., Thomaston-Waterbury Road, Thomaston, Conn.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, inc., Grand & Marine Sts., Farmingdale, New York – Pg. 836
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Walworth Co., Electronics Div., 89 Union St., Mineola, L. I., N. Y.
Waveline, Inc., Box 718, W. Caldwell, N. J. – Pg. 837

BERYLLIUM – SEE METALS

BEZELS
Allied Plastics Supply Corp., 75 Cliff St., New York, N.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Plastics Corp., 675 Barbey St., Brooklyn, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
Jan Hardware Mfg. Co., 38-01 Queens Blvd., Long Island City, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
National Co., Inc., 61 Sherman St., Malden, Mass.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Sinclair Mfg. Co., Chartley, Mass.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.

BINDERS, LIQUID
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Morningstar–Paisley, Inc., 630 W. 51st St., New York, N. Y.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.

BINS
Akro–Mills, Inc., 820 East Market St., Akron, Ohio
Equipto Div., Aurora Equipment Co., Aurora, Ill.
Falstrom Co., Falstrom Court, Passaic, N. J.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Republic Steel Corporation, 1441 Republic Bldg., Cleveland, Ohio
Service Parts Systems, 13380 E. 9 Mile Rd., E. Detroit, Mich.
Speedassembly Equipment Co., Box 344, Fords, N. J.
Stackin Corp., 1255 Main St., Pawtucket, R. I.

BISMUTH – SEE METALS

BLOWERS & FANS – ACCESSORIES ..... **Pgs. 482, 609, 611–614, 840, 842, 843, 846**
Air Marine Motors, Inc., 369 Bayview Ave., Amityville, N. Y.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 840
Ashland Electric Prod., 32–02 Queens Blvd., Long Island City, N. Y. – Pg. 609

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Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Broan Mfg. Co., Inc., 926 W. State St., Hartford, Wisc.
Brunner Div., Dunham–Bush, Inc., 179 So. Street, West Hartford, Conn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Dean & Benson Research, Inc., 16 Richmond St., Clifton, N. J.
Dynamic Air Engrg., 7412 Maie Ave., Los Angeles, Calif.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Trading Co., 313 Canal St., New York, N. Y.
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
Flexaust Co., 100 Park Ave., New York, N. Y.
General Dynamics Corp., Electric Boat Div., Groton, Conn.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Heinze Electric Co., 685 Lawrence St., Lowell, Mass.
Homelite Div. Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
IIG Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago, III.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Jeffery Mfg. Co., 803 N. 4th St., Columbus, Ohio
Joy Mfg. Co., 333 Oliver Bldg., Pittsburgh, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kooltronic Fan Co., Carter Road at Rosedale, Princeton, N. J.
Lamson Corp., Lamson St., Syracuse, N. Y.
Mamco Corp., 532 Fourth St., Racine, Wis.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
McLean Engineering Labs., P. O. Box 228, 70 Washington Rd., Princeton, N. J. – Pg. 611
Oster John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Pesco Products Div., Borg–Warner Corp., 24700 N. Miles Road, Bedford, Ohio
Redmond Co., Inc., Owosso, Mich.
Ripley Co., Inc., Middletown, Conn. – Pg. 612
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Roots–Connersville Blower Div., Dresser Ind., 900 W. Mount St., Connersville, Ind.
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Rotron Mfg. Co., Inc., Woodstock, N. Y. – Pg. 614
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Small Motors, Inc., 2076 Elston Ave., Chicago, III.
Standard Electric Mfg. Co., Haddon Ave., W. Berlin, N. J.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Torit Mfg. Co., Walnut & Exchange Sts., St. Paul, Minn.
Torrington Mfg. Co., The, Air Impeller Div., 100 Franklin Dr., Torrington, Conn.
Trane Co., The, La Crosse, Wisc.
Western Devices, Inc., 600 W. Florence Avenue, Inglewood, Calif. – Pg. 482
Western Gear Corp., 2600 E. Imperial Hgwy., P. O. Box 182, Lynwood, Calif.
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N. Y.

BOARDS, PLOTTING

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Chart–Pak, Inc., Leeds, Mass.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Fenske, Fedrick & Miller, Inc., 12820 Panama St., Los Angeles, Calif.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L. I. City, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N. Y.
Mechanical Engraving Co., Inc., 10 Van Cortland Ave., E., New York, N. Y.
Norrich Plastics Corp., 109 W 18th St., New York, N. Y.
Seismograph Service Corp., 6200 E. 41st St., Tulsa, Okla.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio

BOARDS, PLUG

Amp, Inc., Eisenhower Blvd., Harrisburg, Pa.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Molex Products Co., 9515 Southview Ave., Brookfield, III.
Nelson Instrument Co., 607 Howard St., Evanston, III.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trimm, Inc., 400 Lake St., Libertyville, III
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.

BOARDS, TERMINAL ..... Pgs. 519, 569, 600, 604, 605, 632–634, 636–640, 780

A–1 Precision Products, 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aeronautical Electric Co., 5656 Northwest Hway, Chicago, III.
Aircraft Radio Corp., Boonton, N. J.
Alac, Inc., 375 West Arden – P. O. Box 471, Glendale, Calif.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, III.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
Audio Accessories, 279 Broadway, Amityville, N. Y.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.
Buchanan Electrical Products Corp., 260 U. S. 22, Hillside, N. J. – Pg. 632
Bureau of Engraving, Inc., Ind. Div., 500 S. 4th St., Minneapolis, Minn.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. – Pg. 519
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Como Plastics, Inc., 97–24 Albert Rd., Ozone Park, N. Y.
Compact Controls Co., 1635 No. Halsted St., Chicago, III.
Continental Connector Corp., Div. Dejur Amsco, 45–10 Northern Blvd., L. I. C., N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Curtis Develop. & Mfg. Co., 3278 N. 33rd St., Milwaukee, Wisc.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dalmore Corp., Div. of Atlas E–E Corp., 47 Prospect St., Woburn, Mass.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Electronic Plastics Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn, N. Y. – Pg. 636
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, III.
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, III.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Gap Instrument Corp., 116 E. Merrick Rd., Freeport, N. Y. – Pgs. 604, 605
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, III. – Pg. 633
General Components, Inc., 225 E. 144th St., New York, N. Y. – Pg. 634
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Products Corp., Union Springs, New York
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, III.
Hampden Mfg. Co., Inc., 3 Rivers – P. O. Box 89, Palmer, Mass.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, III.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Jones, Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, III. – Pg. 569
Kolton Electric Mfg. Co., 123 New Jersey R. R. Ave., Newark, N. J.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 637
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pgs. 638–640
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, III.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E. New York 68, N. Y.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, III. – Pg. 780
Mica Insulator Div., Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, III.
Morey Corp., The, 2014 N. Major Ave., Chicago, III.
Murdock, William, 158 Carter Street, Chelsea, Massachusetts
NY-Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, III.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Nelson Instrument Co., 607 Howard St., Evanston, III.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, III.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Pilgrim Prdts., Inc., 271 Central St., W. Action, Mass.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, III.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Saxon Electronics, 14098 W. Alameda, Burbank, Calif.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Sierra Electrical Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri-Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y. – Pg. 780
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Warren Components Div., El-Tronics, Inc., Warren, Pa.

BOBBINS, COIL WINDING ..... Pg. 600

A–1 Precision Products, 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
American Molded Products Co., 2727 W. Chicago Ave., Chicago, III.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Buckeye Bobbin Co., 12200 Sprecher Ave., Cleveland, Ohio
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cosmo Plastics Co., 3239 W. 14th St., Cleveland, Ohio
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, III.
Form-It Products Inc., 1619 W. Walnut St., Chicago, III.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Hydro Molding Co., Inc., Plattsburgh, N. Y.
Industrial Winding Machinery Corp., 120 Wall St., New York 5, N. Y.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Knopp, Inc., 1307 66th Street, Oakland, Calif.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Ny-Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.

BOBBINS, COIL WINDING (continued)
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Pilgrim Prdts., Inc., 271 Central St., W. Action, Mass.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Southern Plastics Engrg. Corp., Box 6428, Greensboro, N. Caro.
Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa.
Stevens Products, Inc., 86-88 Main St., East Orange, N. J.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Stone Paper Tube, Div. Stone Straw, 900 Franklin St., N. E., Washington, D. C.
Telex, Telex Park, St. Paul, Minn.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

BOBBINS, TRANSFORMER WINDING
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
American Molded Products Co., 2727 W. Chicago Ave., Chicago, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Buckeye Bobbin Co., 12200 Sprecher Ave., Cleveland, Ohio
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cosmo Plastics Co., 3239 W. 14th St., Cleveland, Ohio
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Form-It Products, Inc., 1619 W. Walnut St., Chicago, Ill.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Hydro Molding Co., Inc., Plattsburgh, N. Y.
Industrial Winding Machinery Corp., 120 Wall St., New York 5, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Ny-Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Smallwood, Ltd., 391-397 King St., Kitchener, Canada
Southern Plastics Engrg. Corp., Box 6428, Greensboro, N. Caro.
Stevens Products, Inc., 86-88 Main St., East Orange, N. J.
Telex, Telex Park, St. Paul, Minn.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.

BOLOMETERS ..... **Pgs. 804, 821**
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y. - Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. - Pg. 821
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J.

BOLTS ..... **Pg. 644**
A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
American Screw Co., Willimantic, Conn.
Anchor Expansion Bolt Co., 88 W. Broadway, New York, N. Y.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N. Y.
Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago, Ill.
Atlas Screw & Specialty Co., Inc., 450 Broome St., New York, N. Y.
Autoscrew Co., 216-222 W. 18th St., New York, N. Y.
Chase Brass & Cooper Co., 236 Grand St., Waterbury, Conn.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
Hercules Fastener Co., 2722 N. Clybourn Ave., Chicago, Ill.
Huck Mfg. Co., 2480 Bellevue Ave., Detroit, Mich.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Lamson & Sessions Co., The, 5000 Tiedeman Road, Cleveland, Ohio
National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nylogrip Prods., 449 Watertown St., Newton, Mass.
Nylok Corp., 611 Industrial Ave., Paramus, N. J.
Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.
Republic Steel Corporation, 1441 Republic Bldg., Cleveland, Ohio
Rosan, Inc., 2901 West Coast H'way., Newport Beach, Calif.
Russell, Burdsell & Ward, Bolt & Nut Co., Port Chester, N. Y.
SPS Western, 2701 So. Harbor Blvd., Santa Ana, Calif.
Sinclair Mfg. Co., Chartley, Mass.
South River Metal Products Co., 377-379 Turnpike, South River, N. J.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Sterling Bolt Co., 363-405 W. Erie St., Chicago, Ill.
Torrington Co., Specialties Div., 59 Field St., Torrington, Conn.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. - Pg. 644
White, J. L. & Son, 374 Verona Ave., Newark, N. J.

BOOKS - SEE TECHNICAL BOOKS

BOOMS, MICROPHONE
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
National Cine Equipment Inc., 209 W. 48 St., New York, N. Y.
Roanwell Corp., 180 Varick St., New York, N.Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Television Specialty Co., 350 West 31st St., New York, N. Y.

BOOSTERS, TV
Adler Electronics Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Blonder-Tongue Labs., Inc., 9-25 Alling St., Newark, N. J.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Community Engineering Corp., State College, Pa.
Dero Electronics 134 Nassau Rd. Roosevelt, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Ercona Corp., Electro Div. 16 W. 46th St., New York, N. Y.
Spencer-Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

BORON - SEE METALS

BOXES, ECHO ..... **Pgs. 820, 822**
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. - Pgs. 820, 822
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.

BOXES, JUNCTION
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Ansco Div., General Aniline H Film Corp., 40 Charles St., Binghamton, N. Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Audio-Master Corp., 17 E. 45th St., New York, N. Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Blickman, Inc., 201 Gregory Ave., Weehawken, N. J.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Columbia Metal Box Co., 260 E. 143rd St., Bronx, N. Y.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Electri-Wire Assemblies, Co., 700 W. Virginia St., Milwaukee, Wisc.
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Golding MFG. Co., 52 Elm St., Newark, N. J.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hughes-Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Kolton Electric Mfg. Co., 123 New Jersey R. R. Ave., Newark, N. J.
L. M. B., 2528 W. 9th St., Los Angeles, Calif.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
P-W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanley Works, The, New Britain, Conn.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif.

BOXES, METAL, PLASTIC OR WATERPROOF ..... **Pgs. 467, 469, 481, 483, 600**
A-1 Precision Products Co., 5454 W. Washington Blvd., Los Angeles, Calif. - Pg. 600
AA Metal Products, Inc., 154 Elliott St., Box 716, Brattleboro, Vt.
Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Akro-Mills, Inc., 820 East Market St., Akron 9, Ohio
Allied Fabricating Corp., 1538 N. Clybourn Ave., Chicago, Ill.
Althor Products, 2301 Benson Avenue, Brooklyn, N. Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y. - Pg. 467
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bennett Mfg. Co., Alden, N. Y.
Bradley Associates, Inc., 1650-58 N. Damen Ave., Chicago, Ill.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Consolidated Molded Prods. Corp., Scranton, Pa.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Davies Molding Co., Harry, 1428 N. Wells St., Chicago, Ill.
Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn, N. Y.
Dura Plastics of N. Y., Inc., 303-5th Ave., New York, N. Y.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Equipment & Service Co., 7118 Envoy Ct., Dallas, Texas
Equipto Div., Aurora Equipment Co., Aurora, Ill.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Golden Co., 1054 38th St., Brooklyn, N. Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J.

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Goldsman Co., 1325–27 No. Lawrence St., Philadelphia, Pa.
Gordon Enterprises, 5362 N. Cahuenga Bldg., N. Hollywood, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hinde & Dauch, Div. W. Virginia Pulp & Paper Co., 407 Decatur St., Sandusky, Ohio
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
Independing Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kent Lighting Corp., 500 Johnson Ave., Brooklyn, N. Y.
Koch, H. & Sons, Corte Madera, Calif.
L. M. B., 2528 W. 9th St., Los Angeles, Calif.
Lorentzen, H. K., Inc., 391 W. Broadway, New York, N. Y.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Middletown Mfg. Co., Middletown, Conn.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Muckle Mfg. Co., Owatonna, Minn.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nostrand Metal Fabricators, 321 Lexington Ave., Brooklyn, N. Y.
Olympic Products Co., Inc., Third Ave., Alpha, N. J.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Republic Steel Corporation, 1441 Republic Bldg., Cleveland, Ohio
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Stackbin Corp., 1255 Main St., Pawtucket, R. I.
Stanley Works, The, New Britain, Conn.
Stevens–Walden, Inc., 475 Shrewsbury St., Worcester, Mass.
Technical Tool Case Co., P. O. Box 6111, Charlotte, N. C.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vlcheck Tool Co., The, 3001 E. 87th St., Cleveland, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Watson Mfg. Co., 4800 Taylor St., Jamestown, N. Y. – Pg. 481
White Aircraft Corp., Palmer, Mass.
Widney Dorlec, Dept. YY 1299, 80 Shore Rd., Port Washington, N. Y. – Pg. 469
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

BOXES, POWER OUTLET ..... Pg. 561

CBC Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 561

BRACKETS, HARDWARE ..... Pgs. 481, 483, 519, 597, 633

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Amaton Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Arkay Products Mfg. Co., 4111-13 W. Jefferson Blvd., Los Angeles, Calif.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. – Pg. 519
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Channel Master Corp., Ellenville, N. Y.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
General Cement Mfg. Co., 400 S. Wyman St., Rockford, Ill. – Pg. 633
Golden Co., 1054 38 St., Brooklyn, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Kent Lighting Corp., 500 Johnson Ave., Brooklyn, N. Y.
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Medal Mfg. Co., Inc., P. O. Box 45, Sharon, Pa.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Monadnock Mills, 1977 First Ave., San Leando, Calif.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, Ill.
Olympic Products Co., Inc., Third Ave., Alpha, N. J.
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Raytheon Manufacturing Co., Dept. 6120 MC, Waltham, Mass. – Pg. 597
South River Metal Products Co., 377-379 Turnpike, South River, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanley-Judd Div., Stanley Works, Wallingford, Conn.
Stanley Works, The, New Britain, Conn.
Stone City Products Co., 1206-Seventh Street, Bedford, Indiana
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Telco Electronics Mfg., Div. General Cement, 400 So. Wyman St., Rockford, Ill.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Watson Mfg. Co., 4800 Taylor St., Jamestown, N. Y. – Pg. 481
Wind Turbine Co., East Market St., W. Chester, Pa.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

BRACKETS, MOUNTING ..... Pgs. 467, 469, 470, 519, 582, 631

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Allied Fabricating Corp., 1538 N. Clybourn Ave., Chicago, Ill.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Artisan Metal Works Co., 11400 Madison Ave., Cleveland, Ohio
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass. – Pg. 631
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Baumker Mfg. Co., Comm. Prod. Div., 3826-28 Summit St., Toledo, Ohio
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Brooks & Perkins, Inc., 1950 W. Fort, Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. – Pg. 519
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Channel Master Corp., Ellenville, N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Easy-Up Tower Co., 908 State St., Racine, Wisc.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Golden Co., 1054 38 St., Brooklyn, N. Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J. – Pg. 470
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hughes-Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
K-W Engineering Works, 15920 Pin Oak Cr., Butler, Wis.
Kent Lighting Corp., 500 Johnson Ave., Brooklyn, N. Y.
Kenwood Engrg. Co., Inc., 265 Colfax Ave., Kenilworth, N. J.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Middletown Mfg. Co., Middletown, Conn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, Ill.
Olympic Products Co., Inc., Third Ave., Alpha, N. J.
P-W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Par-Metal Products Corp., 32–48 49th St., L. I. City, N. Y. – Pg. 476
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Ia.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rohn Mfg. Co., 116 Limestone, Peoria, Ill.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sinclair Mfg. Co., Chartley, Mass.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanley–Judd Div., Stanley Works, Wallingford, Conn.
Stanley Works, The, New Britain, Conn.
Stone City Products Co., 1206 7th Street, Bedford, Indiana
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Technical Devices Co., 2340 Centinela Ave., Los Angeles, Calif.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y. – Pg. 582
Tobe–Deutschman Corp., 921 Providence Hway., Norwood, Mass.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
White, J. L. & Son, 374 Verona Ave., Newark, N. J.
Widney Dorlec, Dept. YY 1299, 80 Shore Rd., Port Washington, N. Y. – Pg. 469
Wind Turbine Co., East Market St., W. Chester, Pa.

BRASS – SEE METALS

BREAKERS, CIRCUIT – SEE SWITCHES, CIRCUIT BREAKER

BRIDGES, AUDIO ..... Pg. 739

Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Pennsylvania Testing Lab., Inc., Doylestown, Pa. – Pg. 739
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wayne Kerr Corp., 2920 N. 4th St., Box 801, Philadelphia, Pa.

BRIDGES, BOLOMETER

Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
Measurements Corp., A. McGraw–Edison Div., Boonton, N. J.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

BRIDGES, CAPACITANCE Pgs. 459, 654, 661, 663, 668, 676, 679, 704, 719, 739, 752, 764

Acton Laboratories, Inc., 536 Main St., Acton, Mass.
Alpha Instrument Co., 43 Hempstead St., New London, Conn.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
B. & K. Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Barnes Development Co., 213 W. Baltimore Ave., Landsdowne, Pa. – Pg. 654
Boonton Electronics Corp., Morris Plains, N. J. – Pg. 661
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Chicago Industrial Instrument Co., 865 North Sangamon, Chicago, Ill.
Clippard Instrument Lab., Inc., 7350–90 Colerain Rd., Cincinnati, Ohio
Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Curtiss–Wright Corp., Instr. Dept. 631, Central Ave., Carlstadt, N. J. – Pg. 663

BRIDGES, CAPACITANCE (continued)
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eder Engrg. Co., 1568 S. First St., Milwaukee, Wisc.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn. – Pg. 459
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N. Y.
Epic, Inc., 154 Nassau St., New York, N. Y.
Federal Instr., ITT. Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y. – Pg. 676
General Communication Co., 677 Beacon St., Boston, Mass.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Heath Co., Benton Harbor, Mich.
Indikon Co., 76 Coolidge Hill Rd., Watertown, Mass.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J. – Pg. 704
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Macleod & Hanopol, Inc., 10 Roland St., Charlestown, Mass.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 719
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Metronix, Inc., Chesterland, Ohio
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Pennsylvania Testing Lab., Inc., Doylestown, Pa. – Pg. 739
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Simmonds Aerocessories, Inc., Tarrytown, N. Y.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y. – Pg. 752
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Wayne Kerr Corp., 2920 N. 4th St., Box 801, Philadelphia, Pa.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIDGES, IMPEDANCE ..... Pgs. 645, 668, 676, 704, 706, 739, 764, 775, 809
Acton Laboratories, Inc., 536 Main St., Acton, Mass. – Pg. 645
Alpha Instrument Co., 43 Hempstead St., New London, Conn.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Boonton Radio Corp., Intervale Road, Boonton, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories, Div., Clegg, Inc., Morristown, N. J. – Pg. 775
Clough-Brengle Co., 6014 Broadway, Chicago, Ill.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
Epic, Inc., 154 Nassau St., New York, N. Y.
Federal Instr., ITT. Indl. Prod.-Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y. – Pg. 676
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Harris Transducer Corp., Woodbury, Conn.
Heath Co., Benton Harbor, Mich.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 809
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J. – Pg. 704
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. – Pg. 706
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Metronix, Inc., Chesterland, Ohio
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y.
Pennsylvania Testing Lab, Inc., Doylestown, Pa. – Pg. 739
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Slaughter Co., Piqua, Ohio
Sullivan, H. W., Lts., Dept. ZY1299, 80 Shore Rd., Pt. Washington, N. Y.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Tech Laboratories, Inc., Palisades Park, N. J.
Wayne Kerr Corp., 2920 N. 4th St., Box 801, Philadelphia, Pa.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIDGES, INDUCTANCE ..... Pgs. 645, 661, 668, 676, 719, 675
Acton Laboratories, Inc., 536 Main St., Acton, Mass. – Pg. 645
Alpha Instrument Co., 43 Hempstead St., New London, Conn.
Boonton Electronics Corp., Morris Plains, N. J. – Pg. 661
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clough-Brengle Co., 6014 Broadway, Chicago, Ill.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
Epic, Inc., 154 Nassau St., New York, N. Y.
Federal Instr., ITT. Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y. – Pgs. 675, 676
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Industrial Transformer Co., Gouldsboro, Pa.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 719
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Metronix Inc., Chesterland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pennsylvania Testing Lab., Inc., Doylestown, Pa.
Rinco Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y.
Tech Laboratories, Inc., Palisades Park, N. J.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIDGES, MEGOHM ..... Pgs. 668, 704, 764
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Chicago Industrial Instrument Co., 865 North Sangamon, Chicago, Ill.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J. – Pg. 704
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Pimex, Inc., 18 East 60th St., New York , N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Tech Laboratories, Inc., Palisades Park, N. J.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIDGES, RESISTANCE ..... Pgs. 654, 663, 668, 704, 710, 719, 740, 750, 764, 1011
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Alpha Instrument Co., 43 Hempstead St., New London, Conn.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Atohm Electronics, Inc., 7648 N. San Fernando Rd., Sun Valley, Calif. – Pg. 1011
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Bach-Simpson, Ltd., 1255 Brydges St., London, Canada
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa. – Pg. 654
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Chicago Industrial Instrument Co., 865 North Sangamon, Chicago, Ill.
Clippard Instrument Lab., Inc., 7350-90 Colerain Rd., Cincinnati, Ohio
Clough-Brengle Co., 6014 Broadway, Chicago, Ill.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Curtiss-Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 663
Datran Electr., Div. Mid-Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro-Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Federal Instr., ITT. Indl. Prod.-Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Heath Co., Benton Harbor, Mich.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J. – Pg. 704
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y. – Pg. 710
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 719
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Metronix, Inc., Chesterland, Ohio
Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Millitest Corp., Sub. Computer Instr. Corp., 88 Madison Ave., Hempstead, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Physics Research Labs., 507 Hempstead Tpk., Box 555, Hempstead, N. Y. – Pg. 740
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Special Instruments Lab, Inc., 312 W. Vine Ave., Knoxville, Tenn.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y. – Pg. 750
Stratocon Corp., Box 10, Morristown, N. J.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
United Audio Products, Div. United Optical Mfg., 202 East 19th St., New York, N. Y.
Wayne Kerr Corp., 2920 N. 4th St.-Box 801, Philadelphia, Pa.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIDGES, R–F, VHF ..... Pg. 809
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.

See YELLOW SECTION for local sales offices, telephones, etc.

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Amplitol Inc., 342 W. 40 St., New York, N. Y.
Boonton Radio Corp., Intervale Road, Boonton, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett–Packard Co., 4801R, Page Mill Rd., Palo Alto, Calif. – Pg. 809
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIDGES, TEMPERATURE ..... **Pg. 686**
Appalachian Electronic Instruments, 810 West Monroe Ave., Ronceverte, W. Va.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Bach–Simpson Ltd., 1255 Brydges St., London, Canada
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Chicago Industrial Instrument Co., 865 North Sangamon, Chicago, Ill.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Processes, Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
Good Electronic, Box 2706, West Palm Beach, Florida
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Leeds & Northup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Minco Products, Inc., 740 Washington Ave., No. Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Ruge, Arthur , Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

BRIDGES, THERMISTOR ..... **Pg. 1047**
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Processes, Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
General Communication Co., 677 Beacon St., Boston, Mass.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott Company, Inc., Little Falls, N. J.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
Victory Engrg. Corp., P. O. Box 373, Union, N. J. – Pg. 1047

BRIDGES, VACUUM TUBE
Asheville–Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.

BRIDGES, WEIN
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Wright Radio Co., 11 Morton Place, Scitute Harbor, Mass.

BRIDGES, WHEATSTONE ... **Pgs. 654, 663, 668, 686, 705, 740, 750, 752, 764, 1016, 1119**
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
B. & K. Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa. – Pg. 654
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
British Industries Corp., 80 Shore Rd., Pt. Washington, N. Y. – Pg. 752
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y. – Pg. 1016
Curtiss–Wright Corp., Electr. Div. Instrs., Dept., 631 Central Ave., Carlstadt, N. J. – Pg. 663
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J. – Pg. 705
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kearfott Company, Inc., Little Falls, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. At 35th St., Phila., Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Physics Research Labs., 507 Hempstead Tpk., Box 555, Hempstead, N. Y. – Pg. 740
Pimex, Inc., 18 East 60th St., New York, N. Y.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif. – Pg. 1119
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y. – Pg. 750
Stratocon Corp., P. O. Box 10, Morristown, N. J.
Sullivan H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Port Washington, N. Y.
Tech. Laboratories, Inc., Palisades Park, N. J.
Tel–Labs., Inc., 1050 Second St., Manchester, N. H.
United Audio Products, Div. United Optical Mfg., 202 East 19th St., New York, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

BRIGHTENERS, TV TUBE
Anchor Products Co., 2712 W. Montrose Ave., Chicago, Ill.
L. G. Electronic Mfg. Co., Inc., 163–165 Remsen Ave., Brooklyn, N. Y.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

BRONZE – SEE METALS

BRUSHES, MOTOR
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
National Carbon Co., Div., Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Pure Carbon Co., Inc., 441 Hall Ave., St. Marys, Pa.
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Seager Standard Carbon Co., 291 Church St., New York, N. Y.
Sittler Corp., 18 N. Ada St., Chicago, Ill.
Stackpole Carbon Co., St. Marys, Penn.
Union Broach Co., Inc., 80–02 51st Avenue, Elmhurst, New York

BUS BAR & SYSTEMS ..... **Pg. 1183**
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pg. 1183
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Chase Brass & Copper Co., 236 Grand St. Waterbury, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric Co., Distribution Assemblies Dept., Plainville, Conn.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
Mullenbach Div. Electric Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
Phelps Dodge Copper Prods. Co., 30. Park Ave., New York, N. Y.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

BUSHINGS, HERMETICALLY SEALED
A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, O.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif.
Frenchtown Porcelain Co., Frenchtown, N. J.
General Ceramics Corp., Keasbey, N. J.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Lundey Associates, Inc., 694 Main St., Waltham, Mass.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Philips Electronics, Inc., Electrical Industries Div., Murray Hill, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Waterbury Companies, Inc., Waterbury, Conn.

BUSHINGS, PLASTIC, METAL ..... **Pgs. 477, 601, 634**
Acme Industrial Co., 200–222 N. Laffin St., Chicago, Ill.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Bird, Richard H. & Co., 1 Spruce St., Waltham, Mass. – Pg. 601
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dura Plastics of N. Y., Inc., 303–5th Ave., New York, N. Y.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Frenchtown Porcelain Co., Frenchtown, N. J.
General Components, Inc., 225 E. 144th St., New York, N. Y. – Pg. 634
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Helwig Co., 2544 N. 30th St., Milwaukee, Wisc.
Heyman Mfg. Co., East Michigan Ave., Kenilworth, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Keystone Electronics Corp., 49 Bleeker St. , New York, N. Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Louthan Mfg. Co., P. O. Box 781, East Liverpool, Ohio
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.

BUSHINGS, PLASTIC, METAL (continued)
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Moxness Prod. Inc., 1914 Indiana Ave., Racine, Wisc.
National Co., Inc., 61 Sherman St., Malden, Mass.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Norrich Plastics Corp., 109 W 18th St., New York, N. Y.
North & Judd Mfg. Co., New Britain, Conn.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penna. Fluorocarbon Co., Inc., 1115 N. 38th St., Philadelphia, Pa.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Pure Carbon Co., Inc., 441 Hall Ave., St. Marys, Pa.
Rattan Mfg. Co., 10 Wall St., New Haven, Conn.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rodale Mfg. Co., Inc., Emmaus, Pa.
Rubbercraft Corp. of Calif., 1800 W. 220th St., Torrance, Calif.
Russel Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Schuyler Manufacturing Corp., 84 Porette Ave., N. Arlington, N. J. – Pg. 477
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sinclair Mfg. Co., Chartley, Mass.
Sparta Mfg. Co., Dover, Ohio
Synthane Corp., 12 River Rd., Oaks, Pa.
Thomson Industries, Inc., Manhasset, N. Y.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Waterbury Companies, Inc., Waterbury, Conn.
Wilmington Fibre Specialty Co., New Castle, Del.

CABINETS, METAL ..... **Pgs. 467–471, 473, 475, 476, 480–483**
AA Metal Products, Inc., 154 Elliott St., P. O. Box 716, Brattleboro, Vt.
Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Air Transport Mfg., 1114 N. Sycamore Ave., Los Angeles, Calif.
Akro–Mills, Inc., 820 East Market St., Akron, Ohio
Albano Co., Inc., The, Honeycomb Div., 549–555 W. 54th St., New York, N. Y.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Allied Fabricating Corp., 1538 N. Clybourn Ave., Chicago, Ill.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Alpitec, Inc., 49 Gleason Ave., Stamford, Conn.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Washington, D. C.
Anetsberger Bros., Inc., Northbrook, Ill.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Baumker Mfg. Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Benco TV Assocs., 27 Taber Road, Rexdale, Canada
Bennett Laboratories, Inc., 4224 Holden, Emeryville, Calif.
Bennett Mfg. Co., Alden, N. Y.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Blickman, Inc., 201 Gregory Ave., Weehawken, N. J.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Budd Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Campro Products, Inc., 3131 Alliance Rd., N. E., Canton, Ohio
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Chisholm Industries Ltd., Electronic Ave., Port Moody, Can.
Columbia Metal Box Co., 260 E. 143rd St., Bronx, N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Corry–Jamestown Mfg. Co., Corry, Pa.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Crown Electronics Div., Marathon Metal Prod., 67 Huntington St., Cortland, N. Y.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Daystrom Instrument, Archbald, Pa.
Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn, N. Y.
Donnelly Mfg. Co., Div. of the Indian Co., 580 Winter St., Waltham, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electronic Enclosures, 2322 Michigan Ave., Santa Monica, Calif.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Elgin Metalformers Corp., 630 Congdon Ave., Elgin, Ill.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Equipto Div., Aurora Equipment Co., Aurora, Ill.
Etched Products Corp., 39–01 Queens Blvd., Long Island City, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Formica Metal Products Co., Corporation Way, Medford, Mass.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Golden Co., 1054 38th St., Brooklyn, N. Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J. – Pg. 470
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hake Products, Inc., 6152 Wasigo Dr., Cincinnati, Ohio
Halliburton, Inc., Mfg. Div., Dept. EEM 59, 4724 So. Boyle Ave., Los Angeles, Calif. – Pg. 471
Hamilton Mfg. Co., Two Rivers, Wis.
Hammond Mfg. Co., Ltd., Guelph, Canada
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Kane Mfg. Co., Kane, Pa.
Kees, F. D. Mfg. Co., 700 Park St., Beatrice, Neb.
Kent Lighting Corp., 500 Johnson Ave., Brooklyn, N. Y.
Lindsay Structure Inc., 291 1/2 Deerpath, Lake Forest, Illinois
Lorentzen, H. K. Inc., 391 W. Broadway, New York, N. Y.
Lowell Mfg. Co., 3030 Laclede Station Rd., St. Louis, Mo.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
MM Enclosures, Inc., 111 Bloomingdale Rd., Hicksville, L. I., N. Y. – Pg. 473
Machinery Electrification, Inc., 56 Hudson St. Northboro, Mass.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham, Mass.
Middletown Mfg. Co., Middletown, Conn.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Muckle Mfg. Co., Owatonna, Minn.
Mullenbach Div. Electric Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Northeastern Engrg., Inc., 25 South Bedford St., Manchester, N. H.
Nostrand Metal Fabricators, 321 Lexington Ave., Brooklyn, N. Y.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.
Oiljak Mfg. Co., The, Montclair, N. J.
Olympic Products Co., Inc., Third Ave., Alpha, N. J.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
P. B. R. Mfg. Co., H. & Luzerne Sts., Philadelphia, Pa.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Par Metal Products Corp., 32–48 49th St., L. I. City, N. Y. – Pg. 476
Penn. Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Powers J. J. Co., 1317 S. 5th – P. O. Box 211, Maywood, Ill.
Premier Metal Products Co., 337 Manida St., New York, N. Y. – Pg. 475
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Republic Steel Corporation, 1441 Republic Bldg., Cleveland, Ohio
Reynolds Metal Co., 3rd & Grace St., Richmond, Va.
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Schrack Electrical Sales, 45 W. 81st St., New York, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Stackbin Corp., 1255 Main St., Pawtucket, R. I.
Standard Pressed Steel Co., P. O. Box 1084, Jenkintown, Pa.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Teletronics Lab., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 480
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Mfg. Co., Div. W. L. Maxson Corp., 41 Haig St., Hamden, Conn.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Warren Corp., 2901 Brighton Rd., Pittsburgh, Pa.
Warren Mfg. Co., The, Littleton, Mass.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
Watson Mfg. Co., Inc., 4800 Taylor St., Jamestown, N. Y. – Pg. 481
Western Devices, Inc., 600 W. Florence Avenue, Inglewood, Calif. – Pg. 482
Widney–Dorlec, Div. British Ind., Dept. YY1299, 80 Shore Rd., Pt. Washington, NY – Pg. 469
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

CABINETS, PLASTIC
Akro–Mills, Inc., 820 East Market St., Akron, Ohio
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Argos Products Co., 301 Main St., Genoa, Ill.
Bennett Laboratories, Inc., 4224 Holden, Emeryville, Calif.
Campro Products, Inc., 3131 Alliance Rd., N. E., Canton, Ohio
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fourjay Industries, 2360 W. Dorothy La., Dayton, Ohio
Hake Products, Inc., 6152 Wasigo Dr., Cincinnati, Ohio
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kleer–Vue Mfg. Co., Inc., P. O. Box 10304, Pittsburgh, Pa.
McMillian Industrial Co., Brownville Ave., Ipswich, Mass.
Pioneer Industries, Inc., 2700 Hawkeye Dr., P. O. Box 1500, Sioux City, Iowa
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Schrack Electrical Sales, 45 W. 81st St., New York, N. Y.
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.
Southern Plastics Engrg. Corp., P. O. Box 6428, Greensboro, N. Caro.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Warwick Products Co., 1572 Riverbed Rd., Cleveland, Ohio
Western Coil & Electrical Co., 215 State St., Racine, Wisc.

CABINETS, WOOD
Acousti Craft, 14122 Aetna, Van Nuys, Calif.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Argos Products Co., 301 Main St., Genoa, Ill.
Audio Electronic Corp., 1347 W. Fond Du Lac Ave., Milwaukee, Wis.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bennett Laboratories, Inc., 4224 Holden, Emeryville, Calif.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Cambridge Patten Works, 55 First St., Cambridge, Mass.
Chisholm Industries Ltd., Electronic Ave., Port Moody, Can.
Conrad Radio Co., 4103 W. Belmont, Chicago, Ill.
Davis, J. W. & Co., P. O. Box 35313, Dallas, Texas
Dura Plastics of N. Y., Inc., 303–5th Ave., New York, N. Y.
Furniture Craftsman, 3596 Alpine Rd., N. W., Comstock Park, Mich.
Goldsman Co., 1325–27 No. Lawrence St., Philadelphia, Pa.
Gravely Furniture Co., Inc., Ridgeway Div., Martinsville, Va.
Greene, L. C. Co., 314 Washington St., Newton, Mass.
Hamilton Mfg. Co., Two Rivers, Wis.
Heath Co., Benton Harbor, Mich.
Hobbs, Guy Inc., Dallastown, Pa.
Jayell Mfg. Co., 1360 Garrison Ave., New York, N. Y.
Karlson Associates, Inc., 433 Hempstead Ave., W. Hempstead, N. Y.
Kent Television, Inc., 505 Driggs Ave., Brooklyn, N. Y.
Lansing, James B. Sound, Inc., 3249 Casas Ave., Los Angeles, Calif.
Mastra Co., 2104 Superior Ave., Cleveland, Ohio
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Powers, J. J. Co., 1317 S. 5th – P. O. Box 211, Maywood, Ill.
R. J. Audio Products, 80 Shore Rd., Port Washington, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
River Edge Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Rockbar Corp., 650 Halstead Ave., Mamaroneck, N. Y.

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Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Specialty Woodworking, 36 E. Merrick Rd., Freeport, N. Y.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Steger Furniture Mfg. Co., Steger, Ill.
Utah Radio Products Corp., 1124 E. Franklin St., Huntington, Ind.
Warwick Products Co., 1572 Riverbed Rd., Cleveland, Ohio
Wellcor, Inc., 1214–18 N. Wells St., Chicago, Ill.
Wharfedale, Div. British Industries Corp., 80 Shore Rd., Pt. Washington, N. Y.
William Tell Woodcrafters, Inc., Tell City, Ind.
Woodcraft Service Co., 54 Newcastle St., Toronto, Can.

CABLE ASSEMBLIES... Pgs. 458, 461, 463, 570, 571, 574, 575, 648, 776, 850, 1099, 1183, 1185–1187, 1189, 1191, 1192, 1194, 1198, 1199, 1205, 1207, 1210, 1211

A–K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pg. 1183
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 S. 54th, Chicago, Ill.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Antenna Specialists Co., The, 12435 Euclid Ave., Cleveland, Ohio
Associated Engineering Corp., 65 Kent St., Brookline, Mass. – Pg. 648
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Audiosears Corp., Shepard Hill Rd., Roxbury, N. Y. – Pg. 458
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Bennett Laboratories, Inc., 4224 Holden, Emeryville, Calif.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bliss Electronic Corp., P. O. Box 366 Sussex, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.
Bureau of Engraving, Inc., Ind. Div., 500 S. 4th St., Minneapolis, Minn.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1191
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cable Specialist of Conn., 95 Kitts Lane, Newington, Conn.
Cadre Industries Corp., P. O. Box 150, Endicott, N. Y.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Chicago Industrial Instrument Co., 865 North Sangamon, Chicago, Ill.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Co–Op Industries, Inc., 100 Oakdale Rd., Chester, N. J.
Cornish Wire Co., 50 Church St., New York, N. Y.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Doty Accoustical Electronic, Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Parts Corp., P. O. Box 234, Georgetown, Ky.
Electronic Cable Corp., 615 Somerville Ave., Somerville, Mass.
Electronics, Inc. of Pa., 39 York Rd., Willow Grove, Pa.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Empire Electronics Co., Inc., 166 River St., Paterson, N. J.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, Utah
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Federal Electronics, Sls. Div. Fedtro Electronics Bldg., Rockville Centre, N. Y. – Pg. 461
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Electric, App. Sales Div., 1 River Rd., Schnectady, N. Y. – Pg. 850
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
General Lab. Assoc., Inc., 17 E. Railroad St., Norwich, N. Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
General Products Corp., Union Springs, New York
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City of Industry, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hi–Lo Mfg. Corp., 1122–26 W. Newport Ave., Chicago, Ill.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
Houlihan Co., T. J., 2510 W. Lawrence, Chicago, Ill.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Industrial Products Co., Div. Amphenol Elec., Thorpe St., Danbury, Conn.
Industrial Wiring & Cable Co., 103 Foundry St., Wakefield, Mass.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Jefferson Electronic Prods. Corp., 322 State St., Santa Barbara, Calif.
Jettron Products, Route 10, Hanover, N. J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Keisers Industries, Inc., Laumau St., Mt. Holly, Springs, Pa.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y. – Pg. 1194
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Mechaneers, Inc., Westport, Conn.
Mercury Engrg. Corp., 339 E. Cottage Pl., York, Pa.
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif. – Pg. 571
Missileonics, Inc., Melbourne Airport, Melbourne, Fla.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
National Multi–Prods. Co., 5049 N. Clark St. Chicago, Ill.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Paraplegics Mfg. Co., Inc., 10068 Franklin Ave., Franklin Park, Ill.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R. I. – Pg. 463
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., Pomona, Calif. – Pgs. 574, 575
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Revere Corp. of America, Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rho Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.
Roanwell Corp., 180 Varick St., New York, N. Y.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Rowe Industries, 1702 Wayne St., Toledo, Ohio
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Saratoga Plastics, Inc., North Walpole, N. H.
Schaffer Air Industries, Inc., 290 N. Henry St., Brooklyn, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Shrader Sound, Inc., 2803 N. St., N. W., Washington, D. C.
Sittler Corp., 18 N. Ada St., Chicago, Ill.
Skysweeper, Inc., Mc Henry, Ill.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl. Brooklyn, N. Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Ta–Mar, Inc., 11571 W. Jefferson Blvd., P. O. Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P. O. Box 1314, Gardena, Calif.
Tenatronics Ltd., 1011 Power Ave., Cleveland, Ohio
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Thomas Electronics, Inc., 118 Ninth St., Passaic, N. J.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. – Pgs. 1210, 1211
Tri–Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Univox Corp., 102 Warren Street, New York, N. Y.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.
Wire Company of America, Bldg. 247, Santa Barbara Airport, Goleta, Calif.

CABLE CLAMPS & CLIPS ..... Pgs. 562, 579, 632, 633, 1191

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Buchanan Electrical Products Corp., 260 U. S. 22, Hillside, N. J. – Pg. 632
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 560
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Co–Op Industries, Inc., 100 Oakdale Rd., Chester, N. J.
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif.
Dossert Mfg. Corp., 249 Huron St., Brooklyn, N. Y.
Electrovert, Inc., 124 E. 40th St., New York, N. Y.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pgs. 633, 1191
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles, Calif.
Holub Industries, Inc., 413 Dekalb Ave., Sycamore, Ill.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Monadnock Mills, 1977 First Ave., San Leando, Calif.
National Multi–Prods. Co., 5049 N. Clark St., Chicago, Ill.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Omaton Div., Burndy Corporation, Norwalk, Conn.
P–W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Panduit Co., 14461 Waverly St., Midlothian, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.

CABLE CLAMPS & CLIPS (continued)
Roanwell Corp., 180 Varick St., New York, N. Y.
Smith, Herman H., Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
Sunbank Electronics, Inc., 515 S. Varney, Burbank, Calif. – Pg. 579
TA Mfg. Co. Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
Tinnerman Products, Inc., P. O. Box 6688, Cleveland, Ohio
Utilities Service Co., 1 Pine St., Allentown, Pa.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Weckesser Co., 5701 Northwest H'way., Chicago, Ill.
Zierick Mfg. Corp., Beechwood & Rockdale Aves., New Rochelle, N. Y.

CABLE, COAXIAL .... Pgs. 556, 559, 571, 1184–1187, 1189, 1190, 1192, 1195, 1197, 1200–1208, 1210, 1211
A–K Mfg. Co., Inc., 115 S. Northwest H'wy., Barrington, Ill.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div. U. S. Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg. Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pg. 556
Amphenol Cable & Wire Div., Harlem Ave. At 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Ansonia Wire & Cable Co., The, 111 Martin Street, Ashton, R. I.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Cadre Industries Corp., P. O. Box 150, Endicott, N. Y.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago ,Ill. – Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Co–Op Industries, Inc., 100 Oakdale Rd., Chester, N. J.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Parts Corp., P. O. Box 234, Georgetown, Ky.
Electrical & Physical, Instrument Corp., 42–19 27th St., L. I. City, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City of Industry, Calif.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
International Telemeter Co., 2000 Stoner Ave., Los Angeles, Calif.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27 Jerrold Bldg., Phila., Pa.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.–Pg. 1195
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.–Pg. 571
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
New London Instrument Co., Inc., 82 Union St. – Box 189, New London, Conn.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Precision Tube Co., Inc., N. Wales, Pa.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytherm Corp., Oakside At Northside, Redwood City, Calif.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Supa Insulations, Inc., 123 East Bassett St., Rocky Mount, N. C.
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Univox Corp., 102 Warren St., New York, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

CABLE, DIAL – SEE CORDS, DIAL CORDS & CABLES

CABLE, FLAT RIBBON – ALSO SEE WIRE, FLAT, INSULATED
Gore, W. L. & Assoc., 487 Papermill Rd., Newark, Dela.
Permaluster, Inc., 2012 W. Burbank, Burbank, Calif.

CABLE, HEATER ..... Pgs. 1189, 1190, 1192, 1207, 1208, 1210–1212
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Cox & Co., Inc., 115 E. 23rd St., New York, N. Y.
Electric Parts Corp., Box 234, Georgetown, Ky.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y.–Pg. 1192
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

CABLE, INSULATED ..... Pgs. 1183–1187, 1189, 1190, 1192, 1193, 1195, 1200–1212
A–K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Alpha Wire Corp., 200 Varick St., New York, N. Y.–Pg. 1183
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.–Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Ansonia Wire & Cable Co., The, 111 Martin St., Ashton, R. I.
Apex Wire & Cable Corp., 237 37th St., Brooklyn, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Chester Cable Corp., Hill St., Chester, N. Y.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Parts Corp., Box 234, Georgetown, Ky.
Gavitt Wire & Cable Co., Div. Of Amerace Corp., Brookfield, Mass.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
Gore, W. L. & Assoc., 487 Papermill Rd., Newark, Dela.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y.–Pg. 1192
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Inso Electronic Prods. Corp., Wire & Cable Div., 1200 Commerce Ave., Union, N. J.–Pg. 1193
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill–Pg. 1195
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
New England Electrical Works, Inc., Lisbon, N. H.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Raytherm Corp., Oakside At Northside, Redwood City, Calif.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Revere Corp. Of America, Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Action, Mass.–Pg. 1205
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N. Y.
Roebling's, John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Southwire Co., 4 Fortilla St., Carrollton, Ga.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Supa Insulations, Inc., 123 East Bassett St., Rocky Mount, N. C.
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.

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Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wire Company Of America, Bldg. 247 – Santa Barbara Airport, Goleta, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

CABLE, LOW CAPACITANCE ..... Pgs. 556, 1183–1187, 1189, 1190, 1197, 1200–1212

A–K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Alpha Wire Corp., 200 Varick St., New York, N. Y.–Pg. 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.–Pg. 1184
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 556
Amphenol–Borg Cable & Wire Div., Harlem Ave. At 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pg. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
International Telemeter Co., 2000 Stoner Ave., Los Angeles, Calif.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
New England Electrical Works, Inc., Lisbon, N. H.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Revere Corp. Of America, Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Tape Cable Corp., 790 Linden Ave., Rochester, N. Y.–Pg. 1209
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Univox Corp., 102 Warren St., New York, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

CABLE, MICROPHONE Pgs. 1183, 1185–1187, 1189, 1190, 1192, 1195, 1200–1208, 1210–1212

A–K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Alpha Wire Corp., 200 Varick St., New York, N. Y.–Pg. 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Cornish Wire Co., 50 Church St., New York, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y.–Pg. 1192
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill. – Pg. 1195
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rex Corp., The, 100 Hayward Rd., West Action, Mass.–Pg. 1205
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. –Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

CABLE, SHIELDED ..... Pgs. 1183–1187, 1189, 1190, 1195, 1197, 1200–1212

A–K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Alpha Wire Corp., 200 Varick St., New York, N. Y.–Pg. 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Ansonia Wire & Cable Co., The, 111 Martin St., Ashton, R. I.
Associated American Trading Div., 750 St. Anns Ave., New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Co–op Industries, Inc., 100 Oakdale Rd., Chester, N. J.
Cornish Wire Co., 50 Church St., New York, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Gavitt Wire & Cable Co., Div. Of Amerace Corp., Brookfield, Mass.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.–Pg. 1195
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
New London Instrument Co., Inc., 82 Union St. – Box 189, New London, Conn.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Precision Tube Co., Inc., N. Wales, Pa.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Revere Corp. Of America, Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N. Y.
Roebling's, John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Tape Cable Corp., 790 Linden Ave., Rochester, N. Y.–Pg. 1209
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wire Company Of America, Bldg. 247 – Santa Barbara Airport, Goleta, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

CABLE, SOLID DIELECTRIC .. Pgs. 1184, 1189, 1190, 1195, 1197, 1200–1208, 1210–1212

American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.–Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.

CABLE. SOLID DIELECTRIC (continued)

Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.–Pg. 1195
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Precision Tube Co., Inc., N. Wales, Pa.
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boane Ave., Bronx, N. Y.–Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

CABLE. TELEPHONE.. Pgs. 1186, 1187, 1189, 1190, 1195, 1197, 1200–1208, 1210, 1211
A–K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Ansonia Wire & Cable Co., The, 111 Martin St., Ashton, R. I.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Ericsson Corp., 100 Park Ave., New York, N. Y.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.–Pg. 1195
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Roanwell Corp., 180 Varick St., New York, N. Y.
Roebling's, John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products Inc., 1661 Boane Ave., Bronx, N. Y.–Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Southwire Co., 4 Fortilla St., Carrollton, Ga.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

CABLE. TRANSMISSION LINE . . . . . Pgs. 556, 743, 785, 1184, 1186, 1187, 1189, 1190, 1200–1208, 1210, 1211
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.–Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 556
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Ansonia Wire & Cable Co., The, 111 Martin St., Ashton, R. I.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pgs. 1186, 1187
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Channel Master Corp., Ellenville, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton St., Chicago, Ill.–Pg. 1190
Cornish Wire Co., 50 Church St., New York, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electrical & Physical Instrument Corp., 42–19 27th St., L. I. City, N. Y.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.–Pg. 785
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Precision Tube Co., Inc., N. Wales, Pa.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Frequency Lab., Inc., Boonton, N. J. – Pg. 743
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Roebling, S. John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boane Ave., Bronx, N. Y.–Pg. 1206
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Univox Corp., 102 Warren St., New York, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wind Turbine Co., East Market St., W. Chester, Pa.

CABLE. UHF . . . . . Pgs. 556, 1184, 1186, 1187, 1189, 1190, 1200–1208, 1210–1212
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.–Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 556
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.–Pgs. 1186, 1187
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Channel Master Corp., Ellenville, N. Y.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill.–Pg. 1189
Consolidated Wire, 1635 S. Clinton Ave., Chicago, Ill.–Pg. 1190
Cornish Wire Co., 50 Church St., New York, N. Y.
Electrical & Physical Instrument Corp., 42–19 27th St., L. I. City, N. Y.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
International Telemeter Co., 2000 Stoner Ave., Los Angeles, Calif.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.–Pg. 1197
Plastoid Corp., 42–61 24th St., L. I. City, N. Y.–Pgs. 1200–1204
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 1661 Boane Ave., Bronx, N. Y.–Pg. 1206
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.–Pg. 1207
Superior Cable Corp., Box 480–A, Hickory, N. Car.–Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Tenna Mfg. Co., 7580 Garfield Blvd., Cleveland, Ohio
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y.–Pg. 1212
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn.–Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

CADMIUM – SEE METALS

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CAGE. PRINTED CIRCUIT CARD ..... Pgs. 553, 567
Circon Component Corp., Municipal Airport, Goleta, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 567
Flotron Industries, 301 E. Regent St., Inglewood, Calif.
Good Electronic, Box 2706, West Palm Beach, Fla.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.–Pg. 553
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.

CALCIUM – SEE METALS

CALIBRATORS. ATTENUATION ..... Pg. 839
Weinschel Engineering Co., 10503 Metropolitan Ave., Kensington, Md.–Pg. 839

CALIBRATION SERVICES – SEE SERVICES. CALIBRATION

CALIBRATORS. COMPUTER
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Digital Equipment Corp., Maynard, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.

CALIBRATORS. CRYSTAL ..... Pgs. 589, 594
Aircom, Inc., 354 Main St., Winthrop, Mass.
Bliley Electric Co., Union Station Bldg., Erie, Pa.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristwon, N. J.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Associates, Box 22, St. Albans, N. Y.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.–Pg. 589
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Measurements Corp., A McGraw–Edison Div., Boonton, N. J.
Metronix Inc., Chesterland, Ohio
National Co., Inc., 61 Sherman St., Malden, Mass.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Reeves–Hoffman, Div. Dynamics Corp. Of America, Carlisle, Pa.–Pg. 594
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.

CALIBRATORS. FREQUENCY Pgs. 594, 716, 718, 724, 726, 727, 735, 736, 743, 775, 794
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Amerac Inc., Dunham Rd., Beverly, Mass.–Pg. 791
Arra Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.–Pg. 794
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.– Pg. 775
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hickok Electrical Instr. Co., 10500 DuPont Ave., Cleveland, Ohio
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. Y.
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Lavoie Laboratories, Inc., Morganville, N. J.–Pg. 716
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Marconi Instruments Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
National Co., Inc., 61 Sherman St. Malden, Mass.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Norrman Laboratories, Williams Bay, Wisc.–Pg. 724
Panoramic Radio Prod., Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 726, 727, 735, 736
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.–Pg. 743
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Strain Engrg. Service, 4556 Northside Dr., N. W., Atlanta, Ga.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systron Corp., 950 Galindo St., Concord, Calif.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waterman Products Co., Philadelphia, Pa.

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Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Can.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

CALIBRATORS. SWEEP
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Hickok Electrical Instr. Co., 10500 DuPont Ave., Cleveland, Ohio
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Owen Laboratories, Inc., 55 Beacon Pl., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa.–Pg. 686
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Julie Research Labs., Inc., 556 West 168th St., New York, N. Y.–Pg. 710
Kearfott Co., Inc., Little Falls, N. J.
Millitest Corp., Sub. Computer Instr. Corp., 88 Madison Ave., Hempstead, N. Y.
Pennsylvania Testing Lab., Inc., Doylestown, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.–Pg. 755

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CALIBRATORS. UHF
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hickok Electrical Instr. Co., 10500 DuPont Ave., Cleveland, Ohio
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.

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Ballantine Laboratories, Boonton, N. J. – Pgs. 651, 653
Calidyne Co., The, 120 Cross St., Winchester, Mass.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Demolab Corp., 1550 N. Highland Ave., Hollywood, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg.
Electro–Pulse, Inc., 11861 Teale St., Culver City, Calif.–Pg. 672
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Franklin Electronics, Inc., Bridgeport, Pa.–Pg. 674
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Heath Co., Benton Harbor, Mich.
Hickok Electrical Instr. Co., 10500 DuPont Ave., Cleveland, Ohio
Holt Instrument Lab., Oconto, Wisc.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.–Pg. 710
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Metronix Inc., Chesterland, Ohio
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneaspolis, Minn.
New York Transformer Co., Third Ave., Alpha, N. J.
Owen Laboratories, Inc., 55 Beacon Pl., Pasadena, Calif.
Peschel Electronics, Inc., Towers, Rfd. 1, Patterson, N. Y.–Pg. 742
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.

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All Products Company, Electronic Div., Box 110, Mineral Wells, Tex.
Amerac Inc., Dunham Rd., Beverly, Mass.–Pg. 791
ARRA Corp., Antenna & Randome Research Assoc., Bond St., Westbury, N. Y. – Pg. 794
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kearfott Co., Inc., Little Falls, N. J.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Wright Radio Co., 11 Morton Pl., Scituate Harbor, Mass.

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Aircom, Inc., 354 Main St., Winthrop, Mass.
Chemalloy Electronics Co., Gillespie Airport, Santee, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Electro Impulse Labs., 208 River St., Red Bank, N. J.–Pg. 802
Ellison Draft Gage Co. Inc., 548 W. Monroe St., Chicago, Ill.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 808, 810
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.–Pg. 821
National Co., Inc., 61 Sherman St., Malden, Mass.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.–Pg. 749

CALORIMETERS. MICROWAVE (continued)
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

CAMBRIC. VARNISHED – SEE INSULATION MATERIALS

CAMERAS. DATA RECORDING
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Beattie–Coleman, Inc., 1000 N. Olive St., Anaheim, Calif.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Berndt–Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Canadian Applied Research Ltd., 1500 O Connor Dr., Toronto, Can.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fairchild Camera & Instr. Corp., Indust. Prod. Div., 5 Aerial Way, Syosset, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Flight Research, Inc., P. O. Box 1F, Richmond, Va.
General Electric Co., X–Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo P Way – P. O. & Bin N., Pasadena, Calif.
Instrument Corp. Of Fla., P. O. Box 1226, Melbourne, Fla.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Mast Development Co., Inc., 2212 E. 12 St., Davenport, Iowa
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
National Cine Equipment Inc., 209 W. 48 St., New York, N. Y.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Peerless Photo Products, Inc., Shoreham, N. Y.
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Producers Sales Corp., 2704 West Olive Ave., Burbank, Calif.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Tinsley Labs. Inc., 2526 Grove St., Berkeley, Calif.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.

CAMERAS. MOTION PICTURE
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Berndt–Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Chadwick–Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Maurer, J. A. Inc., 37–01 31st St., L. I. City, N. Y.
National Cine Equipment Inc., 209 W. 48 St., New York, N. Y.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Producers Sales Corp., 2704 West Olive Ave., Burbank, Calif.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.

CAMERAS. OSCILLOSCOPE ..... **Pgs. 671, 726, 727, 729**
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Beattie–Coleman, Inc., 1000 N. Olive St., Anaheim, Calif.
Berndt–Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Coleman Engineering Co., Inc., 3500 Torrance Blvd., Torrance, Calif.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Electro–Medical Lab., Inc., S. Woodstock, Vt.
Electronic Tube Corp., Philadelphia, Pa.,–Pg. 671
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hycon Manufacturing Co., 1030 So. Arroyo P Way – P. O. & Bin N., Pasadena, Calif.
Maurer, J. A. Inc., 37–01 31st St., L. I. City, N. Y.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 726, 727, 729
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Producers Sales Corp., 2704 West Olive Ave., Burbank, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.

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Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.–Pg. 528
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Dage Television Div., Thompson Ramo Wooldridge, W. 10th St., Michigan City, Ind.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Precision Laboratory Inc., 63 Bedford Rd., Pleasantville, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hycon Manufacturing Co., 1030 So. Arroyo P Way – P. O. & Bin N., Pasadena, Calif.
ITT Intl. Tel. & Tel. Corp.,Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif. – Pg. 530
Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Producers Sales Corp., 2704 West Olive Ave., Burbank, Calif.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ries Camera Co., 6610 Santa Monica Blvd., Hollywood, Calif.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Dr., Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Visual Electronics Corp., 342 West 40th St., New York, N. Y.

CAMERAS. X–RAY
Beattie–Coleman, Inc., 1000 N. Olive St., Anaheim, Calif.
Bracke–Seib X–Ray Co., Inc., 16 Pelham Bay Pk. W., Pelham Manor, N. Y.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
General Electric Co., X–Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Picker X–Ray Corp., 25 S. Broadway, White Plains, N. Y.
Rototest Labs. Inc., 2803 Los Flores Blvd., Lynwood, Calif.
Television Specialty Co., 350 West 31st St., New York, N. Y.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.

CANS ..... **Pg. 1106**
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brass Co., 414 Meadow St., Waterbury, Conn.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Continental Can Co., Inc., 100 E. 42nd St., New York, N. Y.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Falstrom Co., Falstrom Court, Passaic, N. J.
Great Eastern Metal Prod. Co., Div. of Gemp Mfg., 22 Woodworth Ave., Yonkers, N. Y.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., L. I. City, N. Y.
Kling Metal Spinning Co., 247 Centre St., New York, N. Y.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Mirro Aluminum Co., Manitowoc, Wisc.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Recording Tape Co., 125 E. 88th St., New York, N. Y.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Sinclair Mfg. Co., Chartley, Mass.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N. J.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Stone City Products Co., 1206–Seventh St., Bedford, Indiana
Tayloreel Corp., 185 Murray St., Rochester, N. Y.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
White Aircraft Corp., Palmer, Mass.
Zell Products Corp., 276–280 Main St. – Box 590, Norwalk, Conn.

CAP AND SHIELD, CONNECTOR ..... **Pgs. 562, 579**
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cannon Electric Co., 3208 Humbolt St., Los Angeles, Calif. – Pg. 562
Clover Industries, Inc., 588 Young St., Tonawanda, N. Y.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Sunbank Electronics, Inc., 515 S. Varney St., Burbank, Calif.–Pg. 579

CAP LIGHT – ALL TYPES ..... **Pgs. 857–871**
Dialight Corp., 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857–871
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.

CAPACITANCE STANDARDS – SEE STANDARDS. CAPACITANCE

CAPACITORS. FIXED. AIR
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Valco Div., Valianos, Inc., 11747 Vose St., N. Hollywood, Calif.

CAPACITORS. FIXED. BUTTON ..... **Pg. 519**
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.–Pg. 519
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.

CAPACITORS. FIXED. CERAMIC ..... **Pgs. 485–487, 498, 519**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Arco Electronics, Inc., 64 White St., New York, N. Y.–Pg. 485
Arrow Radio Co., 1829 Davenport Rd., Toronto, Can.
Astron Corp., 255 Grant Ave., East Newark, N. J.–Pg. 486
Bradford Components, Inc., 65 So. Ave., Box 107, Salomanca, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.–Pg. 519
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.–Pg. 487
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dilectron Div. Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.
Du–Co Ceramics Co., Box 587, Butler, Pa.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electro–Ceramics Inc., 120 State St., New Haven, Conn.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Good–All Electric Mfg. Co., Ogallala, Neb.–Pg. 498
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Mucon Corp., 9 St. Francis St., Newark, N. J.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Onondaga Pottery Co., 1858 W. Fayette St., Syracuse, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Radio Materials Corp., 3325 N. California Ave., Chicago, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.

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TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co., Canada Ltd., 50 Bertal Rd., Toronto, Can.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Valco Div., Valianos, Inc., 11747 Vose St., N. Hollywood, Calif.

CAPACITORS. FIXED. COMPOSITION

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jeffers Electronics Div., Speer Carbon Co., Hoover Ave., Dubois, Pa.
Quality Components, Inc., St. Marys, Pa.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Stackpole Carbon Co., St. Marys, Pa.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.

CAPACITORS. FIXED. DECADE ..... Pgs. 497, 669, 679

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg.–Pg. 669
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.– Pg. 679
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.–Pg. 497
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Macleod & Hanopol, Inc., 10 Roland St., Charlestown, Mass.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rinco Inc., 7962 S. E. Powell Blvd., Portland, Ore.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
U. S. Semi–Conductor Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.

CAPACITORS. FIXED. DISC ..... Pgs. 485–487, 498

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Arco Electronics, Inc., 64 White St., New York, N. Y.–Pg. 485
Astron Corp., 255 Grant Ave., East Newark, N. J.–Pg. 486
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.–Pg. 487
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dilectron Div. Gudeman Co., 2669 S. Myrtle, Ave., Monrovia, Calif.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Good–All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.–Pg. 498
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Mucon Corp., 9 St. Francis St., Newark, N. J.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.

CAPACITORS. FIXED. ELECTROLYTIC. ALL TYPES ... Pgs. 486, 492, 495, 498, 502, 503, 976, 1069

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Arco Electronics, Inc., 64 White St., New York, N. Y.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Astron Corp., 255 Grant Ave., East Newark, N. J.–Pg. 486
Barco, Inc., 829 N. Marshall, Milwaukee, Wisc.
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Chemtronic Corp., 309–11th Ave., S., Nashville, Tenn.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Cosmic Condenser Co., 853 Whittier St., Bronx, N. Y.
Cosmic Radio Corp., 853 Whittier St., New York, N. Y.
Dunleavey Electronics Corp., 1735 Central St., Stoughton, Mass.
Dunwell Mfg. Corp., 257 Queen Anne Rd., Bogota, N. J.
Eastern Jewel Corp., Rego Park, N. Y.
Electro–Capacitors Corp., 10132 Edes Ave., Oakland, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.–Pg. 492
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.–Pg. 495
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Good–All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.–Pg. 498
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
ITT Components Div., P. O. Box 412, Clifton, N. J. – Pg. 976
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
M. E. C., Inc., P. O. Box 577, 796 Berry Rd., Nashville, Tenn.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Nucleonic Products Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Planet Mfg. Corp., 225 Belleville Ave., Bloomfield, N. J.–Pg. 502
Pyramid Electric Co., Orange St., Darlington, S. C.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
Texas Instruments, Inc., P. O. Box 312, 13500 N. Central Expwy., Dallas, Tex.–Pg. 1064
United Electronic Mfg. Corp., 542–39th St., Union City, N. J.
U.S. Semcor., 3536 W. Osborn Rd., Phoenix, Ariz.–Pg. 503
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

CAPACITORS. FIXED. ENERGY STORAGE ..... Pgs. 494, 739

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Electro–Capacitors Corp., 10132 Edes Ave., Oakland, Calif.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.– Pg. 494
Girard–Hopkins, 1000 40th Ave., Oakland, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Pennsylvania Testing Lab., Inc., Doylestown, Pa.–Pg. 739
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Radiation Research Corp., 1114 1st Ave., New York, N. Y.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi–Conductor Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.

CAPACITORS. FIXED. FEED THROUGH ..... Pgs. 485, 487, 504

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Lava Corp., Cherokee Blvd. & Mfgrg. Road, Chattanooga, Tenn.
Arco Electronics, Inc., 64 White St., New York, N. Y. – Pg. 485
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J.
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Carnf Co., Box 554, Brookhaven, Miss.
Centralab Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 487
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Electro–Ceramics, Inc., 120 State St., New Haven, Conn.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles, California
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co., Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vitramon, Inc., P. O. Box 544, Bridgeport, Conn. – Pg. 504

CAPACITORS. FIXED. FILM ..... Pgs. 489–491, 493, 494, 497

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Astron Corp., 255 Grant Ave., East Newark, N. J.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J. – Pgs. 488, 489
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Double E Products Co., 208 Standard St., El Segundo, Calif.
Efcon, 682 Broadway, New York, N . Y. – Pg. 491
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 494
Good–All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 497
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Radiation Research Corp., 1114 1st Ave., New York, N. Y.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.

CAPACITORS. FIXED. FILM (continued)
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Texas Capacitor Co., Div. K–C–K Corp., 922 S. 75th St., Houston, Texas
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi–Conductor Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Universal Condenser Co., 3435 N. Kimball Ave., Chicago, Ill.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, GLASS
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Efcon, 682 Broadway, New York, N. Y.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
U. S. Semi–Conductor Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.
Vitramon, Inc., P. O. Box 544, Bridgeport, Conn.

CAPACITORS, FIXED, HIGH CAPACITANCE, LOW VOLTAGE ... Pgs. 487, 490–492
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 487
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Dilectron Div. Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electro–Capacitors Corp., 10132 Edes Ave., Oakland, Calif.
Electro–Ceramics Inc., 120 State St., New Haven, Conn.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Federal Electronics Sls.–Div.–Fedtro, Electronics Bldg., Rockville Centre, N. Y. – Pg. 492
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Electronic Industries, Inc., Box 1368, Nashville, Tenn.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Mucon Corp., 9 St. Francis St., Newark, N. J.
Planet Mfg. Corp., 225 Belleville Ave., Bloomfield, N. J.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
Radiation Research Corp., 1114 1st Ave., New York, N. Y.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Southern Elsctronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi–Conductor Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago, Ill.
United Electronic Mfg. Corp., 542–39th St., Union City, N. J.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, HIGH TEMPERATURE ..... Pgs. 488–492, 494, 498, 504
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Astron Corp., 255 Grant Ave., East Newark, N. J.
Balco Research Labs., Inc, Capacitor Div, 49–53 Edison Pl, Newark, N. J. – Pgs. 488, 489
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Carnf Co., Box 554, Brookhaven, Miss.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Double E Products Co., 208 Standard St., El Segundo, Calif.
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Electro–Ceramics Inc., 120 State St., New Haven, Conn.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fairchild Camera & Instr. Corp., Indust. Prod. Div., 5 Aerial Way, Syosset, N. Y.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.–Pg. 494
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good–All Electric Mfg. Co., Ogallala, Neb. – Pg. 498
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Mucon Corp., 9 St. Francis St., Newark, N. J.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
Texas Capacitor Co., Div. K–C–K Corp., 922 S. 75th St., Houston, Texas
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi–Conductor Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Vitramon, Inc., P. O. Box 544, Bridgeport, Conn. – Pg. 504
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, HIGH VOLTAGE ..... Pgs. 486, 487, 493–495
AMP, Inc., Eisenhower Blvd., Harrisburg, Pa.
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Arco Electronics, Inc., 64 White St., New York, N. Y.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs, Inc., Capacitor Div., 49–53 Edison Pl, Newark, N. J.
Carnf Co., Box 554, Brookhaven, Miss.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 487
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dearborn Electronic Lab, 1421 N. Wells St., Chicago, Ill.
Dilectron Div. Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.
Efcon, 682 Broadway, New York, N. Y.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fairchild Camera & Instr. Corp., Indust. Prod. Div., 5 Aerial Way, Syosset, N. Y.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd, Schenectady, N.Y. – Pgs. 494, 495
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
Radiation Research Corp., 1114 1st Ave., New York, N. Y.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
United Condenser Corp., 3400 Park Avenue, Bronx, New York
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Universal Winding Co., 1655 Elmwood Avenue, P. O. Box 1605, Cranston, R. I.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, METALLIZED PAPER – SEE PAPER, METALLIZED

CAPACITORS, FIXED, MICA ..... Pg. 485
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Arco Electronics, Inc., 64 White St., New York, N. Y. – Pg. 485
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago, Ill.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

CAPACITORS, FIXED, MINIATURE AND SUBMINIATURE Pgs. 487, 490, 492, 494, 496, 498, 503, 505, 763, 1043, 1069
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Arco Electronics, Inc., 64 White St., New York, N. Y.
Astron Corp., 255 Grant Ave., East Newark, N. J.
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.
Centralab, Div., Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 487
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corning Glass Works, 95-6 Crystal St., Corning, N. Y.
Cosmic Radio Corp., 853 Whittier St., New York, N. Y.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Dilectron Div., Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.

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Electro-Ceramics, Inc., 120 State St., New Haven, Conn.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Federal Electronics, Fedtro, Electronics Bldg., Rockville Centre, N. Y. – Pg. 492
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 494
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb. – Pg. 498
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
Hi-Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 496
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Electronic Industries, Inc., Box 1368, Nashville, Tenn.
M. E. C., Inc., P. O. Box 577, 796 Berry Road, Nashville, Tenn.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Mucon Corp., 9 St. Francis St., Newark, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Texas Instruments, Inc., P. O. Box 312, 13500 N. Central Expwy, Dallas, Texas–Pg. 1069
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
US Semi-Cond. Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz. – Pg. 503
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Vitramon, Inc., P. O. Box 544, Bridgeport, Conn. – Pg. 504
Waterman Prod. Co., Inc., 2445-63 Emerald St., Philadelphia, Pa. – Pg. 763
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

CAPACITORS, FIXED, MOTOR STARTING

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Astron Corp., 255 Grant Ave., East Newark, N. J.
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dunleavey Electronics Corp., 1735 Central St., Stoughton, Mass.
Electro-Capacitors Corp., 10132 Edes Ave., Oakland, Calif.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Girard-Hopkins, 1000 40th Ave., Oakland, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Springfield Electrical Specs., 120 Wooster, New York, N. Y.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.

CAPACITORS, FIXED, MYLAR ..... Pgs. 486, 488–491, 493, 497, 498

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Arco Electronics, Inc., 64 White St., New York, N. Y.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Balco Research Labs., Capacitor Div., 49–53 Edison Pl., Newark, N. J. – Pgs. 488, 489
Cornf Co., Box 554, Brookhaven, Miss.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Double E Products Co., 208 Standard St., El Segundo, Calif.
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Products Corp., Union Springs, New York
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb. – Pg. 498
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 497
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
New York Coil Co., Phoenixville, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Texas Capacitor Co., Div. K-C-K Corp., 922 S. 75th St., Houston, Texas
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
United Condenser Corp., 3400 Park Ave., Bronx, New York
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Universal Condenser Co., 3435 N. Kimball Ave., Chicago, Ill.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, MYLAR, METALLIZED ..... Pgs. 486, 488, 489, 497

Astron Corp., 255 Grant Ave., E. Newark, N. J. – Pg. 486
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.–Pgs. 488, 489
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 497
Universal Condenser Co., 3435 N. Kimbell Ave., Chicago, Ill.

CAPACITORS, FIXED, OIL FILLED ..... Pg. 496

AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J.
Axel Bros., Inc., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.
Cornf Co., Box 554, Brookhaven, Miss.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Girard-Hopkins, 1000 40th Ave., Oakland, Calif.
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 496
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
United Condenser Corp., 3400 Park Avenue, Bronx, New York
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, OIL IMPREGNATED ..... Pg. 495

AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J.
Axel Bros., Inc., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.
Cornf Co., Box 554, Brookhaven, Miss.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 495
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Springfield Electrical Specs., 120 Wooster, New York, N. Y.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
United Condenser Corp., 3400 Park Avenue, Bronx, New York
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, PAPER ..... Pgs. 485, 486, 493, 494, 496, 498

AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Arco Electronics, Inc., 64 White St., New York, N. Y. – Pg. 485
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Cornf Co., Box 554, Brookhaven, Miss.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.

CAPACITORS. FIXED. PAPER (continued)
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Cosmic Condenser Co., 853 Whittier St., Bronx, N. Y.
Cosmic Radio Corp., 853 Whittier St., New York, N. Y.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 483
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y. – Pg. 494
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Products Corp., Union Springs, New York
Girard-Hopkins, 1000 40th Ave., Oakland, Calif.
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb. – Pg. 498
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 496
Illinois Condenser Co., 1616 N. Throop St., Chicago, Ill.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New York Coil Co., Phoenixville, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschmann Corp., 921 Providence H'way, Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
United Condenser Corp., 3400 Park Ave., Bronx, N. Y.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, PAPER, METALLIZED ..... **Pgs. 486, 493, 496**
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Carnf Co., P. O. Box 554, Brookhaven, Miss.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Double E. Products Co., 208 Standard St., El Segundo, Calif.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. H Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 496
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New York Coil Co., Phoenixville, Pa.
Philco Corp., Accessory Div., P. O. Box 3635, Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tobe-Deutschman Corp., 921 Providence H'way, Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
United Condenser Corp., 3400 Park Ave., Bronx, N. Y.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Universal Condenser Co., 3435 N. Kimball Ave., Chicago, Ill.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

CAPACITORS, FIXED, PLASTIC ..... **Pgs. 488, 489–491, 493, 497**
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J.
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs., Capacitor Div., 49–53 Edison Pl., Newark, N. J. – Pgs. 488, 489
Carnf Co., P. O. Box 554, Brookhaven, Miss.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Inc.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 497
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Texas Capacitor Co., Div. K-C-K Corp., 922 S. 75th St., Houston, Texas
Tobe-Deutschmann Corp., 921 Providence H'way., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, POLYSTYRENE ..... **Pgs. 488–491, 493, 497**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Arco Electronics, Inc., 64 White St., New York, N. Y.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Astron Corp., 255 Grant Ave., East Newark, N. J.
Balco Research Labs., Capacitor Div., 49–53 Edison Pl., Newark, N. J. – Pgs. 488, 489
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif. – Pg. 497
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Radiation Research Corp., 1114 1st Ave., New York, N. Y.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Canada
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Universal Condenser Co., 3435 N. Kimball Ave., Chicago, Ill.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, PORCELAIN ..... **Pg. 504**
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Arrow Radio Co., 1829 Davenport Rd., Toronto, Canada
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Vitramon, Inc., P. O. Box 544, Bridgeport, Conn. – Pg. 504

CAPACITORS, FIXED, POWER FACTOR ..... **Pgs. 490, 491, 493–495, 503**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric, Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pgs. 494, 495
Girard-Hopkins, 1000 40th Ave., Oakland, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschman Corp., 921 Providence Hway., Norwood, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
York Electronics 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, PRECISION ..... **Pgs. 490, 491, 493, 503, 1069**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Electro-Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Good-All Electric Mfg. Co., 112 W. First St., Ogallala, Neb.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New England Scientific, Instruments Co., P. O. Box 408, Cambridge, Mass.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.

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Southern **Electronics Corp., 150** W. Cypress Ave., Burbank, Calif.
Sprague Electric **Co., 91** Marshall St., No. Adams, Mass.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telegraph Condenser Co. Canada Ltd., 50 Bertal Rd., Toronto, Can.
Texas Capacitor Co., Div. K–C–K Corp., 922 S. 75th St., Houston, Texas
Texas Instruments, Inc., P. O. Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
US Semi–Cond. Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz. – Pg. 503
Vitramon, Inc., P. O. Box 544, Bridgeport, Conn.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, PULSE FORMING NETWORK ..... **Pg. 494**
AMP, Inc., Eisenhower Blvd., Harrisburg, Pa.
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. Y.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 494
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada Ltd., 50 Bertal Rd., Toronto, Can.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi–Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

CAPACITORS, FIXED, SELENIUM RECTIFIER
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Interelectronics Corp., 2432 Grand Councourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.

CAPACITORS, FIXED, SILICONE–FILLED
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Efcon, 682 Broadway, New York, N. Y.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Hughes Products - Hughes Aircraft, Semiconductor Div., Intl. Apt., Los Angeles, Calif.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

CAPACITORS, FIXED, SILVERED MICA ..... **Pg. 485**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Arco Electronics, Inc., 64 White St., New York, N. Y. – Pg. 485
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago, Ill.

CAPACITORS, FIXED, SOLID DIELECTRIC ..... **Pg. 503**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dilectron Div., Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Electro-Ceramics, Inc., 120 State St., New Haven, Conn.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
US Semi–Cond. Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz. – Pg. 503

CAPACITORS, FIXED, TANTALUM ..... **Pgs. 486, 495, 503, 976, 1069**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Barco, Inc., 829 N. Marshall, Milwaukee 1, Wisconsin
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Efcon, 682 Broadway, New York, N. Y.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y. – Pg. 495
ITT Components Division, P. O. Box 412, Clifton, N. J. – Pg. 976
International Electronic Industries, Inc., Box 1368, Nashville, Tenn.
Kemet Co., Div. Union Carbide Corp., 11901 Madison Ave., Cleveland, Ohio
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pyramid Electric Co., Orange St., Darlington, S. C.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tansitor Electronics, Inc., West Rd., Bennington, Vt.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Texas Instruments, Inc., P. O. Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
US Semi–Cond. Prod., Div. US Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz. – Pg. 503

CAPACITORS, FIXED, TEFLON ..... **Pgs. 488–491, 493**
Arco Electronics, Inc., 64 White St., New York, N. Y.
Axel Bros., Inc., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.–Pgs. 488, 489
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Double E Products Co., 208 Standard St., El Segundo, Calif.
Efcon, 682 Broadway, New York, N. Y. – Pg. 491
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Industrial Condenser Corp., 3243 N. California Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Micamold Electronics Mfg. Corp., 1087 Flushing Ave., Brooklyn, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Texas Capacitor Co., Div. K-C-K Corp., 922 S. 75th St., Houston, Texas
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago, Ill.
Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill.
Universal Condenser Co., 3435 N. Kimball Ave., Chicago, Ill.
Universal Winding Co., 1655 Elmwood Avenue, P. O. Box 1605, Cranston, R. I.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
York Electronics, 104 So. 4th St., Brooklyn, N. Y.

CAPACITORS, FIXED, TEFLON, METALLIZED ..... **Pgs. 488, 489**
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.–Pgs. 488, 489

CAPACITORS, FIXED, TEMPERATURE COMPENSATED ..... **Pgs. 486, 487, 490, 498**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Astron Corp., 255 Grant Ave., E. Newark, N. J. – Pg. 486
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.
Centralab Div., Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 487
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Corson Electric Mfg. Corp., 540 39th St., Union City, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Diamond Electronics Corp., 64 White St., New York, N. Y. – Pg. 490
Dilectron Div., Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Calif.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electro-Ceramics, Inc., 120 State St., New Haven, Conn.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Good-All Electric Mfg. Co., Ocallala, Neb. – Pg. 498
Hi-Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Interelectronics Corp., 2432 Grand Councourse, New York, N. Y.
Mucon Corp., 9 St. Francis St., Newark, N. J.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Telegraph Condenser Co., Canada, Ltd., 50 Bertal Rd., Toronto, Can.
Texas Capacitor Co., Div. K-C-K Corp., 922 S. 75th St., Houston, Texas
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Semi-Conductor Prod., Div. U. S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

CAPACITORS, FIXED, VACUUM ..... **Pgs. 500, 1168**
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Dolinko & Wilkins, Inc., 1901-7 Summit Ave., Union City, N. J.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Jennings Radio, 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif. – Pg. 500
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Resistron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
United Electronics Co., Sub. Ling Electronics, 42 Spring St., Newark, N. J. – Pg. 1168

CAPACITORS, VARIABLE, AIR ..... **Pg. 532**
All Star Products, Inc., Post Office Box 187, Defiance, Ohio
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.

CAPACITORS, VARIABLE, AIR (continued)
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Hammond Mfg. Co., Ltd., Guelph, Canada
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johanson Mfg. Co., Box 329, Boonton, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Muirhead Instruments, Inc., 677 Fifth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

CAPACITORS, VARIABLE, CERAMIC ..... **Pgs. 487, 519**
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. – Pg. 519
Centralab, Div. Globe-Union, 984 E. Keefe Ave, Milwaukee, Wisc. – Pg. 487
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electro-Ceramics, Inc., 120 State St., New Haven, Conn.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fastex, Div. Ill. Tool Works, 195 Algonquin Rd., Des Plains, Ill.
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Resistron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.

CAPACITORS, VARIABLE, DISC ..... **Pg. 485**
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CAPACITORS, VARIABLE, GAS
Resistron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.

CAPACITORS, VARIABLE, GLASS
Atlas E-E Corp., 47 Prospect St., Woburn, Mass.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Corning Glass Works, 95-6 Crystal St., Corning, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.

CAPACITORS, VARIABLE, MICA
Arco Electronics, Inc., 64 White St., New York, N. Y.
Electro Motive Mfg. Co., So. Park & John Sts., Willimantic, Conn.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Teleradio Engrg., 99 Wall St., New York, N. Y.

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Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

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Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Hammond Mfg. Co., Ltd., Guelph, Canada
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Teleradio Engrg., 99 Wall St., New York, N. Y.

CAPACITORS, VARIABLE, PADDER ..... **Pgs. 485, 532**
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Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Teleradio Engrg., 99 Wall St., New York, N. Y.

CAPACITORS, VARIABLE, PISTON ..... **Pg. 499**
Atlas E-E Corp., 47 Prospect St., Woburn, Mass.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y. – Pg. 499
Johanson Mfg. Co., Box 329, Boonton, N. J.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.

CAPACITORS, VARIABLE, PLASTIC
Balco Research Labs, Inc., Capacitor Div., 49-53 Edison Pl., Newark, N. J.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

CAPACITORS, VARIABLE, QUARTZ ..... **Pg. 499**
Atlas E-E Corp., 47 Prospect St., Woburn, Mass.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y. – Pg. 499

CAPACITORS, VARIABLE, TEMPERATURE COMPENSATED ..... **Pg. 499**
American Lava Corp., Cherokee Blvd. & Mfgrs., Road, Chattanooga, Tenn.
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Electro-Ceramics, Inc., 120 State St., New Haven, Conn.
Gulton Industries, Inc., Glenco Corp., Div., 212 Durham Ave., Metuchen, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y. – Pg. 499
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.

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All Star Products, Inc., Post Office Box 187, Defiance, Ohio
Arco Electronics, Inc., 64 White St., New York, N. Y. – Pg. 485
Atlas E-E Corp., 47 Prospect St., Woburn, Mass.
British Radio Electronics, 1833 Jefferson Pl., N. W., Washington, D. C.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Centralab Div., Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 487
Corning Glass Works, 95-6 Crystal St., Corning, N. Y.
Electro-Ceramics, Inc., 120 State St., New Haven, Conn.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fastex Div. Ill., Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Fluorocarbon Products, Inc., Div. of U. S. Gasket Co., Camden, N. J. – Pg. 771
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y. – Pg. 499
Johanson Mfg. Co., Box 329, Boonton, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson-Meissner Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Underwood Electric & Mfg. Co., Inc., 4926 W. Grand Ave., Chicago, Ill.
United Electronics Co., Sub Ling Electronics, 42 Spring St., Newark, N. J. – Pg. 1168

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All Star Products, Inc., Post Office Box 187, Defiance, Ohio
Argonne Electronics Mfg., Corp., 165-11 South Rd., Jamaica, N. Y.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Dynamic Electronics, N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johanson Mfg. Co., Box 329, Boonton, N. J.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
National Co., Inc., 61 Sherman St., Malden, Mass.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.

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Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johanson Mfg. Co., Box 329, Boonton, N. J.
Johnson, E. F., Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
National Co., Inc., 61 Sherman St., Malden, Mass.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.

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Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif.–Pg. 500
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
United Electronics Co. Sub. Ling Electronics, 42 Spring St., Newark, N. J. – Pg. 1168
Vacap Corp., 1905 Summit Ave., Union City, N. J.

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International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif. – Pg. 977

CARBON & CARBIDES
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
Helwig Co., 2544 N. 30th St., Milwaukee, Wisc.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Pure Carbon Co., Inc., 441 Hall Ave., St. Marys, Pa.
Seager Standard Carbon Co., 291 Church St., New York, N. Y.
Stackpole Carbon Co., St. Marys, Penn.
United Carbon Products Co., Inc., P.O. Box 269, Bay City, Michigan
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

CARDIOSCOPES
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Electrodyne Co., Endicott St., Norwood, Mass.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City 15, Utah
Essential Electronics Corp., 1011 Power Ave., Cleveland, Ohio
General Electric Co., X-Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Pacific Technical Co., 2047 Sawtelle Blvd., Los Angeles, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.

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Methode Manufacturing Corp., 7447 W. Wilson Ave., Chicago, Ill. – Pg. 572

CARRIER CURRENT SYSTEMS – SEE COMM. SYS., CARRIER CURRENT

CARTRIDGES, MICROPHONE – SEE MICROPHONES

CARTRIDGES, PHONO – SEE PICKUPS

CASES, DELAY LINE ..... **Pgs. 554, 555, 600**
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Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pgs. 554, 555

CASES, INSTRUMENT & METER ..... **Pgs. 468, 471, 480, 483, 644**
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Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Air Transport Mfg., 1114 N. Sycamore Ave., Los Angeles, Calif.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Argos Products Co., 301 Main St., Genoa, Ill.
Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Auto Test Inc., 600 S. Michigan Ave., Chicago, Ill.
Baumker Mfg. Co., Comm. Prod. Div., 3826-28 Summit St., Toledo, Ohio
Bristol Co., P. O. Box 1790, Waterbury, Conn.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
Cambridge Patten Works, 55 First St., Cambridge, Mass.
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Craftsman Cases, 285 Jay St., Brooklyn, N. Y.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts

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Daniels, C. R., Inc., Daniels, Md.
Davies Molding Co., Harry, 1428 N. Wells St., Chicago, Ill.
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Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Enclosures, 2322 Michigan Ave., Santa Monica, Calif.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Feiner, P. & Sons, 522 W. 45th St., New York, N. Y.
Formica Metal Products Co., Corporation Way, Medford, Mass.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
Golden Co., 1054 38th St., Brooklyn, N. Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J.
Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Halliburton, Inc., Mfg. Div., Dept. EEM-59, 4724 So. Boyle Ave., Los Angeles, Calif. – Pg. 471
Hammond Mfg., Co., Ltd., Guelph, Canada
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
Koch, H. & Sons, Corte Madera, Calif.
L. M. B., 2528 W. 9th St., Los Angeles, Calif.
Lorentzen, H. K., Inc., 391 W. Broadway, New York 12, N. Y.
M. M. Enclosures, 111 Bloomingdale Rd., Hicksville, N. Y. – Pg. 473
Mastra Co., 2104 Superior Ave., Cleveland, Ohio
Mechaneers Inc., Westport, Conn.
Middletown Mfg. Co., Middletown, Conn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Mobil Electronics Mfg., Co., 1111 State Rd., Anderson, Ind.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
P. B. R. Mfg., Co., H & Luzerne Sts., Philadelphia, Pa.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Scientific Wood Cabinet, 88 Homnes St., Belleville, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Teletronics Lab. Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 480
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Warwick Products Co., 1572 Riverbed Rd., Cleveland, Ohio
White Aircraft Corp., Palmer, Mass.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

CASES, PORTABLE, FOR PHONOGRAPHS, AMPLIFIERS, ETC. .....Pgs. 471, 483

Audio Electronic Corp., 1347 W. Fond Du Lac Ave., Milwaukee, Wis.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Feiner, P. & Sons, 522 W. 45th St., New York, N. Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Golden Co., 1054 38 St., Brooklyn, N. Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J.
Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa.
Halliburton, Inc., Mfg. Div., Dept. EEM-59, 4724 So. Boyle Ave., Los Angeles, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Horton And Hubbard Mfg. Co., 141 Canal St., Nashua, N. H.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
Mastra Co., 2104 Superior Ave., Cleveland, Ohio
Middletown Mfg. Co., Middletown, Conn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Newberg Industrial Case Co., 61 Greenpoint Ave., Brooklyn, N. Y.
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
Warwick Products Co., 1572 Riverbed Rd., Cleveland, Ohio
White Aircraft Corp., Palmer, Mass.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

CASES, TRANSIT ..... Pgs. 471, 473, 483

A & J Mfg. Co., 1013 W. Hillcrest Blvd., Inglewood, Calif.
Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Baltic Metal Products Co., Dept E, 120 Sutton St., Brooklyn, N. Y.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Craftsman Cases, 285 Jay St., Brooklyn, N. Y.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Daniels, C. R., Inc., Daniels, Md.
Donnelly Mfg. Co., Div. of the Indian Co., 580 Winter St., Waltham, Mass.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Feiner, P. & Sons, 522 W. 45th St., New York, N. Y.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
Golding Mfg. Co., 52 Elm St., Newark, N. J.
Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Halliburton, Inc., Mfg. Div., Dept. EEM-59, 4724 So. Boyle Ave., Los Angeles, Calif. – Pg. 471
Kollman Case Corp., P. O. Box 180, Ft. Wayne, Ind.
Lindsay Structure Inc., 291 1/2 Deerpath, Lake Forest, Illinois
Lorentzen, H. K., Inc., 391 W. Broadway, New York 12, N. Y.
M M Enclosures, 111 Bloomingdale Rd., Hicksville, N. Y. – Pg. 473
Mastra Co., 2104 Superior Ave., Cleveland, Ohio
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Overly-Hautz Co., The., 11500 Madison Ave., Cleveland, Ohio
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Skydyne, Inc., River Rd., Port Jervis, N. Y.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
White Aircraft Corp., Palmer, Mass.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

CASTINGS ..... Pg. 796

Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Ansco Div. General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Arwood Precision Casting, 75 Washington St., Brooklyn, N. Y.
Austenal, Inc., Microcast Div., 224 E. 39th St., New York, N. Y.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Crucible Steel Co. of Amer., Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Diehl Co., 1728 Grand Central Terminal, New York, N. Y.
Dollin Corp., 600 S. 21st St., Irvington, N. J.
Dow Chemical Co., Midland, Mich.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Engineered Precision Casting Co., Matawan Rd., Morganville, N. J.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hitchiner Mfg. Co., Inc., P. O. Box 339, Milford, N. H.
Investment Casting Co., 60 Brown Ave., Springfield, N. J.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Lawrence Laboratory, 1668 Euclid St., Santa Monica, Calif.
Microdyne, 300 W. Washington St., Chicago, Ill.
Misco Precision Casting Co., 116 W. Gibbs St., Whitehall, Mich.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
National Lead Co., 111 Broadway, New York, N. Y.
Norgren Stemac, 5400 So. Delaware, Littleton, Colo.
Precision Metalsmiths, Inc., 1081 E. 200th St., Cleveland, Ohio
Sims Casting Corp., 2174 E. Erie Blvd., Syracuse, N. Y.
Toman, E. & Co., 8700 W. 47th St., Lyons, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

CAVITIES, MICROWAVE .....Pgs. 798-800, 803, 818, 825, 830, 1145, 1150

ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Admittance-Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Amerac, Inc., Dunham Rd., Beverly, Mass.
Amtron Corp., 17 Felton St., Waltham, Mass.
Avion Div., A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Bomac Lab., Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1150
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y.
CGS Laboratories, Inc., Routes 7 And 35 Ridgefield, Conn.
Canoga Div. Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. – Pg. 803
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
General Communication Co., 677 Beacon St., Boston, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lavoie Laboratories, Inc., Morganville, N. J.
Lewyt Mfg. Corp., 43-22 Queens St., L. I. City, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass.–Pg. 818
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y.–Pg. 825
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.–Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thornson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine St., Farmingdale, N. Y.
Voi-Sahn Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Warren Mfg. Co., The, Littleton, Mass.
Waveline, Inc., Box 718, W. Caldwell, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

CAVITIES, TUNED, WAVEMETER .... Pgs. 796, 798-800, 803, 811, 818, 830, 1145, 1150

Aircom, Inc., 139 East First Ave., Roselle, N. J.
Amerac, Inc., Dunham Rd., Beverly, Mass.
Bomac Lab., Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1150
Budd-Stanley Co., Inc., 43-01 22nd St., L. I. City, N. Y.–Pg. 796
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif.–Pgs. 798, 799
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.–Pg. 800
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.–Pg. 803
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
General Communication Co., 677 Beacon St., Boston, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 811
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.

CAVITIES. TUNED. WAVEMETER (continued)
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lavoie Laboratories, Inc., Morganville, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass.–Pg. 818
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.–Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Warren Mfg. Co., The, Littleton, Mass.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

CEMENTS. RADIO ..... **Pg. 506**
Ambroid Co., Weymouth, Mass.
Barrett Varnish Co., 1532 S. 50th Court, Cicero, Ill.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Dakoline Chemical Co., Inc., 357 Atlantic Ave., Brooklyn, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.–Pg. 506
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh, Pa.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.

CENTRIFUGES ..... **Pg. 684**
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.–Pg. 684

CERAMICS – SEE INSULATION MATERIALS
CERIUM – SEE METALS
CESIUM – SEE METALS

CHAMBERS. ACOUSTIC
Associated Testing Labs., Inc., 127 Clinton Rd., Caldwell, N. J.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Korfund Co., Inc., 48–15 32nd Pl., L. I. City, N. Y.
Rototest Labs., Inc., 2803 Los Flores Blvd., Lynwood, Calif.
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Shielding, Inc., Box 59, 30 Reade St., Riverton, N. J.
Temperature Engrg. Corp., U. S. Highway No. 130, Riverton, N. J.
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

CHAMBERS. ENVIRONMENTAL ..... **Pg. 610**
Aireco, Inc., 2323 Second Ave., Schenectady, N. Y.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
American Research Corp., Route 6 & New Britain Ave., Farmington, Conn.
Associated Testing Labs., Inc., 127 Clinton Rd., Caldwell, N. J.
Atlas Engineering Corp., 26 Custer St., West Hartford, Conn.
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
B. T. U. Engineering Corp., 440 Somerville Ave., Somerville, Mass.
Blickman Inc., 201 Gregory Ave., Weehawken, N. J.
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Cincinnati Sub Zero Products, 3932 Reading Rd., Cincinnati, Ohio
Consolidated Electrodynamics Corp., 1775 Mt. Read Blvd., Rochester, N. Y.
Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Development Engrg. Co., 9 Cross St., Norwalk, Conn.
Edward Labs., Inc., New Hackensack Rd., Wappinger Falls, N. Y.
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
Environmental Equipment Co., 371 Linden St., Brooklyn, N. Y.
General Vacuum Corp., 400 Border St., E. Boston, Mass.
Guardite Co., Div. American Marietta Co., P. O. Box 188, Wheeling, Ill.
Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
Hiett Engineering Co., 2228 N. Hollywood Way, P. O. Box 349, Burbank, Calif.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Hudson Bay Co., Div. of Labline, Inc., 3070 W. Grand Ave., Chicago, Ill.
Hull–Standard Corp., Davisville Rd., Hatboro, Pa.
Huppert Co., K. H., 6830–40 S. Cottage Grove Ave., Chicago, Ill.
International Radiant Corp., 111 New York Ave., Westbury, N. Y.
Itemco, Inc., 4 Manhasset Ave., Port Washington, N. Y.–Pg. 610
Labline, Inc., 3070–82 W. Grand Ave., Chicago, Ill.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Manostat Corp., 20–26 N. Moore St., New York, N. Y.
Mast Development Co., Inc., 2212 E. 12 St., Davenport, Iowa
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N. J.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Murphy & Miller, Inc., 606 West Taylor St., Chicago, Ill.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rototest Labs. Inc., 2803 Los Flores Blvd., Lynwood, Calif.
Scientific Engineering Laboratory, 1510–6th St., Berkeley, Calif.
Shielding, Inc., Box 59, 30 Reade St., Riverton, N. J.
Standard Cabinet Co., 60 Washington Ave., Carlstadt, N. J.
Temperature Engrg. Corp., U. S. Highway No. 130, Riverton, N. J.
Tenney Engrg. Inc., 1090 Springfield Rd., Union, N. J.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Webber Engineering Corp., P. O. Box 217, 24 S. Keystone, Indianapolis, Ind.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.

CHAMBERS. IONIZATION
American Tradair, Sub. Ecko Electronics, Ltd., 34–01 30th St., L. I. City, N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Eichner Instruments, 19 Sebago St., Clifton, N. J.
General Electric Co., X–Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.

CHAMBERS. SHIELDED SCREEN – SEE SCREEN ROOMS
CHANGERS. AUTOMATIC RECORD – SEE RECORD CHANGERS. AUTOMATIC

CHARGERS. BATTERY ..... **Pgs. 881, 885, 906, 925, 942, 1103**
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Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
American Rectifier Corp., 91 Lafayette St., New York, N. Y.
American Tv & Radio Co., 300 E. 4th St., St. Paul, Minn.–Pg. 881
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
C. & D. Batteries Inc., Conshohocken, Pa.
Chisholm Industries Ltd., Electronic Ave., Port Moody, Can.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif. – Pg. 885
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dresser Electric Co., 2705 Wight St., Detroit, Mich.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., L. I. City, N. Y.
Exide Div. Elec. Storage Bat. Co., Rising Sun Adams, Philadelphia, Pa.
Fox Products Co., 4720 N. 18th St., Philadelphia, Pa.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Georator Corp., 313 Tudor Lane, Manassas, Va.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Heath Co., Benton Harbor, Mich.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hobart Bros., Hobart Square, E. Troy, Ohio
Homelite Div. Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Milro Controls Co., Park Ridge, N. J.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.–Pg. 925
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
Onan, D. W. & Sons, Inc., University Ave. at 25th S. E., Minneapolis, Minn.
Opad Electric Co., 43–12 Walker St., New York, N. Y.–Pg. 942
Paco Electronic Co., Inc., 70–31 84th St., Glendale, N. Y.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Pioneer Gen–E–Motor Co., 5841 W. Dickens, Chicago, Ill.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Quick Charge, Div. Line Scale Co., 2734 So. High St., Oklahoma City, Okla.
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richardson–Allen Corp., 116–15 15th Ave., College Point, N. Y.
Schauer Mfg. Corp., 4524 Alpine Ave., Cincinnati, Ohio
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Service Instruments Corp., 171 Official Rd., Addison, Ill.
Syntron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Vocaline Co. Of America, Old Saybrook, Conn.
Warren Mfg. Co., The, Littleton, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Willard Storage Battery, 246 E. 131st St., Cleveland, Ohio
Wincharger Corp., E. 7th & Division Sts., Box 1168, Sioux City, Iowa
Yardney Electric Corp., 40–50 Leonard St., New York, N. Y.

CHARGERS. MAGNET – SEE MAGNETIZERS

CHARGERS. RADIAC DETECTOR
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio

CHASSIS ..... **Pgs. 467, 468, 470, 475, 481–483**
AA Metal Products, Inc., 154 Elliott St. – Box 716, Brattleboro, Vt.
Air Transport Mfg., 1114 N. Sycamore Ave., Los Angeles, Calif.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Alpitec Inc., 49 Gleason Ave., Stamford, Conn.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Artisan Metal Works Co., 11400 Madison Ave., Cleveland, Ohio
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y.–Pg. 467
Baumker Mfg. Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Bennett Mfg. Co., Alden, N. Y.
Blickman Inc., 201 Gregory Ave., Weehawken, N. J.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio–Pg. 468
Cadre Industries Corp., Box 150, Endicott, N. Y.
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Corry–Jamestown Mfg. Co., Corry, Pa.

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Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Donnelly Mfg. Co., Div. Of The Indian Co., 580 Winter St., Waltham, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Falstrom Co., Falstrom Court, Passaic, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Formica Metal Products Co., Corporation Way, Medford, Mass.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
Golden Co., 1054 38th St., Brooklyn, N. Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J. – Pg. 470
Hammond Mfg. Co., Ltd., Guelph, Canada
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Industrial Wiring & Cable Co., 103 Foundry St., Wakefield, Mass.
Kane Mfg. Co., Kane, Pa.
L. M. B., 2528 W. 9th St., Los Angeles, Calif.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lorentzen, H. K., Inc., 391 W. Broadway, New York, N. Y.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham, Mass.
Middletown Mfg. Co., Middletown, Conn.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
North Electric Co., 553 S. Market St., Galion, Ohio
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.
Oiljak Mfg. Co., The, Montclair, N. J.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Premier Metal Products Co., 337 Manida St., New York, N. Y. – Pg. 475
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Television Utilities Co., 112–33 Colonial Ave., Corona, N. Y.
Watson Mfg. Co., Inc., 4800 Taylor St., Jamestown, N. Y. – Pg. 481
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif. – Pg. 482
White Aircraft Corp., Palmer, Mass.
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

CHECKER, RADAR PERFORMANCE ..... Pgs. 791, 820, 822

Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Narda Microwave Corp., 118 160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 822
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

CHEMICALS. DEHUMIDIFYING ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Barium & Chemicals, Inc., Willoughby, Ohio
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Clarkson Labs., Inc., 919 N. 9th St., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Metal Hydrides, Inc., Beverly, Mass.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Stroblite Co., 75 W. 45th St., New York, N. Y.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Wye Industries, 6 General Devine Way, Boston, Mass.

CHEMICALS. ELECTROPLATING ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Barco Chemical Products Co., 701–703 S. Lasalle, Chicago, Ill.
Barium & Chemicals, Inc., Willoughby, Ohio
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Clarkson Labs., Inc., 919 N. 9th St., Philadelphia, Pa.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Enthone, Inc., 442 Elm St., New Haven, Conn.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Materials For Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Metal & Thermit Corp., Rahway, N. J.
Metaplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
St. Eloi Corp., P. O. Box 507, Newtown Br., Cincinnati, Ohio
Technic, Inc., 39 Snow St., P. O. Box 965, Providence, R. I.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

CHEMICALS. ETCHING ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Baker J. T. Chemical Co., Phillipsburg, N. J.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Clarkson Labs., Inc., 919 N. 9th St., Philadelphia, Pa.
Cudner & O'Connor Co., 4035 W. Kinzie Ave., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
Gates, George W. & Co., Hempstead Tpke. & Lucille Ave., Franklin Square, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Hunt Philip A. Co., Palisades Park, N. J.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
Printed Electronics Corp., 7 North Ave., Natick, Mass.

CHEMICALS. LUMINESCENT ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Baker J. T. Chemical Co., Phillipsburg, N. J.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Materials For Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Pilot Chemicals, Inc., 36 Pleasant St., Watertown, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
U. S. Radium Corp., Morristown, New Jersey
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

CHEMICALS. PHOTOSENSITIVE

Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Materials For Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

CHEMICALS. RADIOACTIVE ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Research Specialties Co., Radiochemical Dept., 2005 Hopkins St., Berkeley, Calif.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
U. S. Radium Corp., Morristown, New Jersey
Volk Radiochemical Co., 5412 N. Clark St., Chicago, Ill.

CHEMICALS. WIRE STRIPPING – SEE STRIPPERS. WIRE. CHEMICAL

CHESTSETS – SEE HANDSETS. CHESTSETS

CHOKES. A–F ..... Pgs. 958, 1121, 1123, 1124, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale Fla.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Clippard Instrument Lab., Inc., 7350–90 Colerain Rd., Cincinnati, Ohio
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Co., Inc., 61 Sherman St., Malden, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.

CHOKES. A–F (continued)

Peerless Electr. Prod., Div. Altec Lansing, 6920 S. MicKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., P. O. Box 240, Kutztown, Pa.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Co., 150 Varick St., New York, N. Y. – Pg. 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, New Jersey
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Virginia Electronics Co., River Rd. & B. & D. Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York

CHOKES, FILTER ..... **Pgs. 624, 629, 958, 1121, 1123, 1125, 1127**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
All–Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Maryland
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Bradford Components, Inc., 65 So. Avenue, P. O. Box 107, Salomanca, N. Y.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 624
Double E. Products Co., 208 Standard St., El Segundo, Calif.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Era Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1127
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645 47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Milro Controls Co., Park Ridge, N. J.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.

See YELLOW SECTION for local sales offices, telephones, etc.

New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. MicKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Philco Corp., Accessory Div., P. O. Box 3635, Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Virginia Electronics Co., River Rd. & B. & D. Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N. Y.

CHOKES, POWER ..... **Pgs. 1121, 1123, 1127**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carson Mfg. Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1127
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Miller Sanford Co., 691 Bedford Ave., Brooklyn, N. Y.
Milro Controls Co., Park Ridge, N. J.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Opad Electric Co., 69-12 Murray St., New York, N. Y.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn-East Engrg. Corp., Box 240, Kutztown, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
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Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 - 808 16 St., Bakerstield, Calit.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York

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Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Raytheon Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
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Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Telex, Telex Park, St. Paul, Minn.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calit.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

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Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aladdin Industries, Electronics Div., 726 Murfreesboro Rd., Nashville, Tenn.
All-Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Caddell-Burns Mfg. Co., 40 E. 2nd St., Mineola, N. Y. – Pg. 518
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calit.
Cambridge Thermjonic Corp., 445 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Clippard Instrument Lab., Inc., 7350-90 Colerain Rd., Cincinnati, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
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Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calit.
Essex Electronics, Berkeley Heights, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle-Miller Labs., Inc., Central Ave., Clark, N. J.
General Communication Co., 677 Beacon St., Boston, Mass.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
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Hammond Mfg. Co., Ltd., Geulph, Canada
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International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
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Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calit.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
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Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. – Pg. 1136
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Co., Inc., 61 Sherman St., Malden, Mass.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Research Dev. Mfgr. Inc., 429 E. Collom St., Philadelphia, Pa.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage-Craft, Inc., Norwich, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391-397 King St., Kitchener, Canada
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Telectro Industries Corp., 35-16 37th St., Long Island City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Tenatronics Ltd., 1011 Power Ave., Cleveland, Ohio
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif. – Pg. 526
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Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Wells Electronics Co., 1701 S. Main St., S. Bend, Ind.
Wilco Corp., 546 Drover St., Indianapolis, Ind.

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Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Instrument Development Labs, Inc., 67 Mechanic St., Attleboro, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Inter-Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
James Vibrapower Co., 4050 N. Rockwell St., Chicago, Ill. – Pg. 1175
Kruger, Harold Instruments, Box 164, San Gabriel, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa. – Pg. 1176
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Illinois
Solid State Electronics Co., Dept. E., 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Stevens-Arnold, Inc., 7 Elkins St., S. Boston, Mass. – Pg. 1178
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.

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CIRCUIT BREAKERS – SEE SWITCHES. CIRCUIT BREAKERS

CIRCUITS. COMPUTER PACKS ..... Pgs. 510, 513, 516, 542, 543, 546, 550, 553, 1122

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Alwac Computer Div., El-Tronics, Inc., 10340 S. Cerise Ave., Hawthorne, Calif.
Becks, Inc., 298-300 E. 5th St., St. Paul, Minn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1122
Cadre Industries Corp., Box 150, Endicott, N. Y.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Control Co., Inc., 92 Broad St., Wellesley, Mass.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass. – Pgs. 542, 543
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okla.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 510
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
M F Electronics, 122 E. 25th St., New York, N. Y. – Pg. 513
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
North Electric Co., 553 S. Market St., Galion, Ohio
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Precision Circuits, Inc., 705 So. Fulton Ave., Mt. Vernon, N. Y.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif. – Pg. 553
Raytheon Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Yuba Systems Div., Uyba Consolidated Ind., 990 Varian St., San Carlos, Calif.

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Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
All American Engineering Co., Dupont Airport, P. O. Box 1247, Wilmington, Del.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
Ansley Mfg. Co., Arthur, New Hope, Pa.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.

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Becks, Inc., 298-300 E. 5th St., St. Paul, Minn.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burr-Brown Research Corp., Box 6444, Tucson, Ariz. – Pg. 662
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1122
Cadre Industries Corp., Box 150, Endicott, N. Y.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 541
Consolidated Avionics Corp., 800 Shames Dr., Westbury, N. Y. – Pg. 889
Control Data Corp., 501 Park Avenue, Minneapolis, Minn.
Corning Glass Works, 95-6 Crystal St., Corning, N. Y.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Defiance Printed Circuit Corp., P. O. Box 136, 81 Albion St., Wakefield, Mass.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass. – Pgs. 542, 543
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okla.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Electronic Processes Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 510
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg. 512
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
G-V Controls Inc., 83 Okner Pkway., Livingston, N. J. – Pg. 990
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Grenco Co., 5157 Melrose, Los Angeles, Calif.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Jeffers Electronics Div., Speer Carbon Co., Hoover Ave., Dubois, Pa.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lambda–Pacific Eng., Inc., 14725 Arminta St., P. O. Box 70 Van Nuys, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N. J.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y. – Pg. 725
North Electric Co., 553 S. Market St., Galion, Ohio
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Parsons, Ralph M., Co., Electronics Div., 151 S. DeLacey Ave., Pasadena, Calif.–Pg. 1104
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
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Trott Electronics, Inc., 412 Smith St., Rochester 6, N. Y.
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Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
White Instrument Labs., Box 9006, Austin, Texas

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Bureau of Engraving, Inc., Ind. Div., 500 S. 4th St., Minneapolis, Minn.
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Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
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Warren Components Div. El–Tronics, Inc., Warren, Pa.
Zierick Mfg. Corp., Beechwood & Rockdale Aves., New Rochelle, N. Y.

CLIPS. TEST ..... **Pgs. 565, 568, 573, 633**
Air-O-Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Donmar Products, Inc., Box 8396, Denver, Colo.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
General Cement Mfg. Co. Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 565, 633
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Illinois, – Pg. 568
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
Mueller Electric Co., 1589 H E. 31st St., Cleveland 14, Ohio – Pg. 573
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif.
Rapid Specialties Co., 327 W. Huron, Chicago, Ill.
Smith, Herman H. Inc., 2326 Nostrand Ave., Brooklyn, New York
Stone City Products Co., 1206-Seventh Street, Bedford, Indiana
Walsco Electronics Mfg. Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

CLOCKS. ALL TYPES ..... **Pgs. 542, 543, 724, 756, 992, 1106**
Digital Equipment Corp., Maynard, Mass. – Pgs. 542, 543
Haydon, A. W., Co., 247 N. Elm St., Waterbury, Conn. – Pg. 992
Norrman Lab., Williams Bay, Wis., – Pg. 724
Times Facsimile Corp., 540 W. 58th St., New York, N. Y., – Pg. 756
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106

CLOTHS. SPEAKER GRILLE
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.
General Cement Mfg. Co. Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Lumite Div. Chicopee Mills, Inc., 47 Worth St., New York, N. Y.
Newcastle Fabrics Corp., 80 Wythe Ave., Brooklyn, N. Y.
Walsco Electronics Mfg. Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Wendell Plastic Fabrics Corp., 1220 Broadway, New York 1, New York

CLOTHS. WOVEN WIRE ..... **Pgs. 477–479**
Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.
Newark Wire Cloth Co., 351 Verona Ave., Newark, N. J.
Reynolds Wire Div. National Standard Co., Dixon, Ill.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J. – Pg. 477
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J. – Pg. 478, 479
Wright, G. F. Steel & Wire Co., 243 Stafford St., Worcester, Mass.

CLUTCHES. BRAKES. FRICTION ..... **Pgs. 604, 605, 843, 852, 1039**
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Dial Products Co., 9 Avenue E, Bayonne, N. J.
Digitronics Corp., Albertson Ave., Albertson, L. I., N. Y.
Dynamic Gear Co., 20 Merrick Rd., Amityville, N. Y.
Electro–Mechanical Div. General Riverters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Fae Instruments Co., 42-61 Hunter St., Long Island City, N. Y.
Formsprag Co., 23601 Hoover Rd., Warren, Mich.
Gap Instrument Corp., 116 Merrick Rd., Freeport, L.I., N.Y., – Pgs. 604, 605
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio, – Pg. 843
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y. – Pg. 852
Livermont, Inc., Myrtle & Maple Aves., Monrovia, Calif.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Orbit Instrument Corp., 656 Main St., Westbury, N. Y.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Warner Electric Brake & Clutch Co., Industrial Div., Beloit, Wisc.
White, J. L. & Son, 374 Verona Ave., Newark, N. J.

CLUTCHES. BRAKES. MAGNETIC ..... **Pgs. 607, 843, 1039**
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y.
Autotronics, Inc., Route 1, Box 812, Florissant, Mo.
Belock Instrument Corp., 112-03 14th Ave., College Point 56, N.Y.
Dial Products Co., 9 Avenue E, Bayonne, N. J.
Dynamic Instrument Corp., 59 New York Ave., Westbury, N. Y.
Electro–Mechanical Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N.Y.
Fae Instruments Co., 42–61 Hunter St., L. I. C., N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hardy Assocs., 414 Cribbel Rd., Wyncote, Pa.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
I-T-E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lyndon Aircraft, Inc., 140 Clifford St., Newark, N. J.
Magne Tec. Corp., The, 11785 W. Olympic Blvd., Los Angeles, Calif.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass.
Orbit Instrument Corp., 656 Main St., Westbury, N. Y.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Simplatrol Products Corp., 24 Salisbury St., Worcester, Mass.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Warner Electric Brake & Clutch Co., Industrial Div., Beloit, Wisc.

CLUTCHES. POSITIVE ..... **Pg. 607**
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Dynamic Gear Co., 20 Merrick Rd., Amityville, N. Y.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Formsprag Co., 23601 Hoover Rd., Warren, Mich.
Gear Specialties, Inc., 2635 W. Medill Ave., Chicago, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass.
Pic Design, Div. Benrus Watch, 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Precision Specialties, Inc., 1342 E. 58 St., Kansas City, Mo.
Revco, Inc., 1900 Lyndale Ave., S., Minneapolis, Minn.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
White, J. L. & Son, 374 Verona Ave., Newark, N. J.

COATINGS. CONDUCTIVE
Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Carboline Co., 32 Hanley Ind. Ct., St. Louis, Mo.
Columbia Technical Corp., 61–02 31st Ave., Woodside, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Handy & Harman, 82 Fulton St., New York, N. Y.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Huron Industries, P. O. Box 557, Port Huron, Mich.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Metal & Thermit Corp., Rahway, N. J.
Metaplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
Micro–Circuits Co., New Buffalo, Mich.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Optical Coating Laboratory, Inc., 977 Sebastopol Rd., Santa Rosa, Calif.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Charles Pettinos, Inc., 1 42nd St., New York, N. Y.
Polacoat, Inc., 9750 Conklin Rd., Blue Ash, Ohio
Simpson Optical Mfg. Co., 3200 W. Carroll Ave., Chicago, Ill.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.

COATINGS. FLUORESCENT
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Brooklyn Paint & Varnish Co., 50 Jay St., Brooklyn, N. Y.
Floquil Prods., Inc., Cobleskill, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Materials For Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
U. S. Radium Corp., Morristown, New Jersey
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

COATINGS. INSULATING ..... **Pgs. 505, 508**
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Amercoat Corp., 4808 Firestone Blvd., South Gate, Calif.
Aries Labs., Inc., 45–33 Davis Street, Long Island City, N. Y.
Atlas E–E Corp., 47 Prospect St., Woburn, Mass.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Brooklyn Paint & Varnish Co., 50 Jay St., Brooklyn, N. Y.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Columbia Technical Corp., 61–02 31st Ave., Woodside, N. Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Dow Corning Corp., Midland, Mich.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L. I., N. Y.
Electronic Chemical Corp., 813 Communipaw Ave., Jersey City, N. J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Insulating Materials Dept., Schenectady, New York
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Insl–X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Johns–Manville, 22 E. 40th St., New York, N. Y.
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis, Minn.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Norton Co., 1 New Bond St., Worcester, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Radar Relay, Inc., 2120 Pontius Ave., Los Angeles, Calif.
Rubbercraft Corp. of Calif. 1800 W. 220 St., Torrance, Calif.
Sparta Mfg. Co., Dover, Ohio
Sphere Co., Inc., The, 25 Amity St., Little Falls, N. J.
Stevenson Bros. & Co., 110 Race St., Philadelphia, Pa.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.
Varflex Corp., 512 W. Court St., Rome, N. Y.

COATINGS. PROTECTIVE ..... **Pg. 508**
Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Amercoat Corp., 4808 Firestone Blvd., South Gate, Calif.
American Solder & Flux Co., 19th & Willard Sts., Philadelphia, Pa.
Aries Labs., Inc., 45–33 Davis St., Long Island City, N. Y.
Atlas Mineral Products Co., Mertztown, Pa.
Bart Mfg. Corp., 227 Main St., Belleville, N. J.
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio

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Brooklyn Paint & Varnish Co., 50 Jay St., Brooklyn, N. Y.
Carboline Co., 32 Hanley Ind. Ct., St. Louis, Mo.
Celanese Corp. of America, Plastics Div., 744 Broad St., Newark, N. J.
Champion Bronze & Powder Co., 2101 Elston Ave., Chicago, Ill.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Columbia Technical Corp., 61–02 31st Ave., Woodside, N. Y.
Constad Labs., 85–02 162nd St., Jamaica, N. Y.
Daubert Chemical Co., 4700 S. Central Ave., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 61st Place, Summit, Ill.
Dixon Crucible Co., 167 Wayne St., Jersey City, N. J.
Dow Corning Corp., Midland, Mich.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L. I., N. Y.
Electronic Chemical Corp., 813 Communipaw Ave., Jersey City, N. J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Injectorall Co., 2081 Shore Parkway, Brooklyn, N. Y.
Insl–X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Krylon, Inc., Ford & Washington, Norristown, Pa.
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
Metal & Thermit Corp., Rahway, N. J.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N. J.
Micro–Circuits Co., New Buffalo, Mich.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis, Minn.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Morningstar–Paisley, Inc., 630 W. 51st St., New York, N. Y.
Nareco Resins & Coatings Co., 600 Victoria St., Costa Mesa, Calif.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Lead Co., 111 Broadway, New York, N. J.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
New York Testing Labs., Inc., 47 West St., New York, N. Y.
Norton Co., 1 New Bond St., Worcester, Mass.
Oakite Products, Inc., 79 Rector St., New York, N. Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Polymer Industries Inc., Springdale, Conn.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N. Y.
Sparta Mfg. Co., Dover, Ohio
Sphere Co., Inc., The, 25 Amity St., Little Falls, N. J.
Stevenson Bros. & Co., 110 Race St., Philadelphia, Pa.
Tempil Corp., 132 W. 22nd St., New York, N. Y.
Topper Mfg.Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.
Union Carbide Metals Div., Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

COATINGS. RADIOACTIVE

Amercoat Corp., 4808 Firestone Blvd., South Gate, Calif.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Mackay, A. D., Inc., 198 Broadway, New York 38, N. Y.
U. S. Radium Corp., Morristown, New Jersey

CODE & TAB MARKERS – SEE MARKERS. WIRE. CODE & TAB

CODERS. A–F

Babcock Radio Engrg., 1640 Monrovia Ave. – P. O. Box 344, Costa Mesa, Calif.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

CODERS. BEACON ..... Pgs. 824, 1104

Aeronica Mfg. Corp., Indus Res Labs. Div., Hilltop & Frederick, Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canoga Div. Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp. 43–22 Queens St., Long Island City, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Parsons, R. M. Co., Elctrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 824, 1104
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns, Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

CODERS. R–F ..... Pgs. 824, 1104

Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Parsons, R. M. Co., Elctrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 824, 1104
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

CODERS. TRANSPONDER ..... Pgs. 824, 1104

Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Ia.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Devices, Inc., P. O. Box 253 Princeton, N. J.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
Parsons, R. M. Co., Elctrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 824, 1104
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

COILS. A–F ..... Pgs. 521, 523, 785, 1009, 1077, 1123, 1133–35

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488 Ft. Lauderdale, Fla.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Better Coil & Transformer, Goodland, Ind.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Phila., Pa.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Coto–Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Bklyn., N. Y.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Transformer Co., 70 Washington St., Bklyn., N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Bklyn., N. Y.
Essex Electronics, Berkeley Heights, N. J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Bklyn., N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Bklyn., N. Y.
Johnson Electronics, Inc., P. O. Box 1675 Casselberry, Fla.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Bklyn., N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y., Pgs. 1133, 1134, 1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237 Sheridan, Wyo.
National Co., Inc., 61 Sherman St., Malden, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Renco Electronics Corp., 240–1 Old Country Rd., Hicksville, N. Y.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Sage–Craft, Inc., Norwich, N. Y.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Skysweeper, Inc., McHenry, Ill.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 521
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pg. 523
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westbury Electronics, Inc., 300 Shames Dr., Westbury, N. Y. – Pg. 1077
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.
Wirco Electronics Inc., 11680 Mc Bean Dr., El Monte, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

COILS. ANTENNA ..... Pgs. 532, 778, 785

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.

COILS. ANTENNA (continued)

Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Automatic Coil Co., 199 Sackett St., Bklyn., N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Coils–Electronics Co., 2939–49 N. 2nd St., Phila., Pa.
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Texas
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Delta Radio Co., 115 Worth St., New York, N. Y.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electrend Products Corp., St. Joseph, Mich.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
General Instrument Corp., Semiconductor Div., 65 Gouveneur St., Newark, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
JFD Electronics Corp., 1462 62nd St., Bklyn., N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E. F. Co., 1439 Second Ave., S.W., Waseca, Minn. – Pg. 532
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Bklyn., N. Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Munston Mfg. & Service Inc., Beech St., Islip, N. Y.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237 Sheridan, Wyo.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Ia.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Premax Products Div., Chisholm–Ryder Co., Niagara Falls, N. Y.
RayPar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Renco Electronics Corp., 240-1 Old Country Rd., Hicksville, N. Y.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage-Craft, Inc., Norwich, N. Y.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391-397 King St., Kitchener, Canada
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
South Haven Coil, Inc., 264-66 Broadway, So. Haven, Mich.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Tele-Coil Co., Inc. 275 Saunders St., Camden, N. J.
Telectro Industries Corp., 35-16 37th St., Long Island City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wirco Electronics Inc., 11680 McBean Dr., El Monte, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

COILS. ASSEMBLIES AND FORMS ..... **Pgs. 518, 519, 532, 568, 600, 785**

A-I Precision Products Co., 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
American Lava Corp., Cherokee Blvd. & Mfgrs. Rd., Chattanooga, Tenn.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
Bradford Components, Inc., 65 S. Avenue, Box 107, Salomanca, N. Y.
Caddell-Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y. – Pg. 518
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. – Pg. 519
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delevan Electronics Corporation, 77 Olean Rd., East Aurora, New York
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Grayhill Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 568
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, Ill.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E. F. Co., 1439 Second Ave., S W, Waseca, Minn. – Pg. 532
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NY-Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Moldite Co., 250 South St., Newark, N. J.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Quality Components, Inc., St. Marys, Pa.
Randall, Douglas Inc., 6 Pawcatuck Ave., Westerly, R. I.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Renco Electronics Corp., 240-1 Old Country Rd., Hicksville, N. Y.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Sage-Craft, Inc., Norwich, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Smallwood Ltd., 391-397 King St., Kitchener, Canada
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
South Haven Coil, Inc., 264-66 Broadway, So. Haven, Mich.
Speer Resistor Div., Speer Carbon Co., Bradford, Pa.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Sterling Mfg. Co., 7201 Wentworth, Cleveland, Ohio
Sturrup, Inc., 50 Silver St., Middletown, Conn.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Tur-Bo Jet Products Co. Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Wells Electronics Co., 1701 S. Main St., S. Bend, Ind.
Wirco Electronics Inc., 11680 McBean Dr., El Monte, Calif.

COILS. COLOR PURITY ..... **Pg. 778**

Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Penn-Tran Corp., Bellefonte, Pa.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.

COILS. CROSSOVER

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Better Coil & Transformer, Goodland, Ind.
Caddell-Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Coto-Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Deluxe Coils, Inc., Wabash, Ind.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Hammond Mfg. Co., Ltd., Guelph, Canada
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Warsaw Coil Co., Box 389, Warsaw, Ind.

COILS. DOPE INSULATION – SEE INSULATING COMPOUNDS

COILS. FIELD

Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.

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Coto-Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. S., San Leandro, Calif.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Tur-Bo Jet Products Co., Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

COILS. FOCUS ..... Pg. 520

A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coto-Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. S., San Leandro, Calif.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Jet Electronics Corp., 4426 San Fernando Rd., Glendale, Calif.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Menlo Park Engineering, 721 Hamilton Ave., Menlo Park, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Syntronic Instruments Inc., 100 Industrial Rd., Addison, Ill. – Pg. 520
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.

COILS. HEATING

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Hammond Mfg. Co., Ltd., Guelph, Canada
Heatron Co., 333 Eberts St., York, Pa.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Jet Electronics Corp., 4426 San Fernando Rd., Glendale, Calif.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
New York Coil Co., Phoenixville, Pa.
Precision, Inc., 4748 France Ave., N., Minneapolis, Minn.
Star-A Electric Mfg. Co., 269 Meserol St., Brooklyn, N. Y.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Trane Co., The, La Crosse, Wisc.

COILS. HIGH TEMPERATURE ..... Pgs. 785, 1077

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hway., Lees Summit, Mo.
Coto-Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dano Electric Co., Main St., Winsted, Conn.
Delevan Electronics Corporation, 77 Olean Rd., East Aurora, New York
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Eric Coil Co., 404 E. 17th St., Erie, Pa.
Essex Electronics, Berkeley Heights, N. J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Five Star Co., 10 W. Main St., Plantsville, Conn.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Leetronics, 30 Main Street, Brooklyn, N. Y.
Lisk Co., Clifton Springs, N. Y.
Magne Tec. Corp., The, 11785 W. Olympic Blvd., Los Angeles, Calif.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New York Transformer Co., Third Ave., Alpha, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Precision, Inc., 4748 France Ave., N., Minneapolis, Minn.
Randall, Douglas Inc., 6 Pawcatuck Ave., Westerly, R. I.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sturrup, Inc., 50 Silver St., Middletown, Conn.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Transonic, Inc., P.O. Box 59, 808 16th St., Bakersfield, Calif.
Tur-Bo Jet Products Co., Inc., 424 So. San Gabriel Blvd., San Gabriel, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York, – Pg. 1077
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.
Wirco Electronics, Inc., 11680 Mc Bean Dr., El Monte, Calif.

COILS. I–F ..... Pg. 778

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
All-Tronics, Inc., 43 Bond St., Westbury, L.I., N.Y.
Argonne Electronics Mfg., Corp., 165-11 South Rd., Jamaica, N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Coilcraft, Inc., Cary, Ill.
Coils–Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dare, Inc., Route 25, Troy, Ohio
Delta Coils, Inc., 1128 Madison Ave., Paterson, N.J.
Delta Radio Co., 115 Worth St., New York, N.Y.
Dwyer Engineering Co., Inc., P.O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Essex Electronics, Berkeley Heights, N. J.
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N.Y. – Pg. 778
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N.J.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N.Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Los Angeles Coil Co., 2528 W. 9th St., Los Angeles, Calif.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N.Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Co., Inc., 61 Sherman St., Malden, Mass.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N.Y.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N.Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N.J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P.O. Box 72, Thompsonville, Conn.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage–Craft, Inc., Norwich, N.Y.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Sickles, F.W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391–397 King St., Kitchener, Canada
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
South Haven Coil, Inc., 264–66 Broadway, So. Haven, Mich.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N.Y.
Summit Coil Co., 4 Claremont Rd., Bernardsville, N.J.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N.Y.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N.J.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N.J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D.C.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

COILS, I–F (continued)

Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.
Wirco Electronics Inc., 11680 Mc Bean Dr., El Monte, Calif.
Wright–Zimmerman, New Brighton, Minnesota

COILS, IGNITION

Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N.J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Coto–Coil Co., Inc., 65 Pavilion Ave., Providence, R.I.
Dano Electric Co., Main St., Winsted, Conn.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Five Star Co., 10 W. Main St., Plantsville, Conn.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N.J.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New York Coil Co., Phoenixville, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

COILS, MAGNET ..... Pg. 778

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. P. W. Co., 72 W. Main St., Rockaway, N.J.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N.J.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Atomic Labs. Inc., 3086 Claremont Ave., Berkeley, Calif.
Automatic Coil Co., 199 Sackett St., Brooklyn, N.Y.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Bell Products Co., 4251 Forest Park Ave., St. Louis, Mo.
Better Coil & Transformer, Goodland, Ind.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N.J.
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Coto–Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh 30, Pa.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dano Electric Co., Main St., Winsted, Conn.
Deluxe Coils, Inc., Wabash, Ind.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandor, Calif.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Eric Coil Co., 404 E. 17th St., Erie, Pa.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Essex Electronics, Berkeley Heights, N.J.
Five Star Co., 10 W. Main St., Plantsville, Conn.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Hammond Mfg. Co., Ltd., Guelph, Canada
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N.Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N.J.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Lee Electric, Inc., 566 52nd St., W. New York, N.J.
Leonard Electric Products, 67 34th St., Brooklyn, N.Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Lisk Co., Clifton Springs, N.Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N.J.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N.Y.
New York Coil Co., Phoenixville, Pa.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Phillips Control Corp., 50 W. Washington St., Joliet, Ill.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N.Y.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N.Y.
Sage–Craft, Inc., Norwich, N.Y.
Scientific Engineering Laboratory, 1510–6th St., Berkeley 10, Calif.
Skysweeper, Inc., McHenry, Ill.
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N.Y.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Telex, Telex Park, St. Paul, Minn.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Tur–Bo Jet Products Co., Inc., 424 So. San Gabriel Blvd., San Gabriel, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Winatic Corp., The, P.O. Box 240, Endicott, N.Y.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

COILS, METALLIZED GLASS

Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N.Y.
Metaplast Co., Inc., 34–51 56th St., Woodside, N.Y.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.

COILS, OSCILLATOR ..... Pgs. 522, 785

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N.J.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Automatic Coil Co., 199 Sackett St., Brooklyn, N.Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bradford Components, Inc., 65 So. Avenue, Box 107 Salomanca, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N.Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Coilcraft, Inc., Cary, Ill.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delevan Electronics Corporation, 77 Olean Rd., East Aurora, N. Y.
Delta Coils, Inc., 1128 Madison Ave., Paterson, N.J.
Delta Radio Co., 115 Worth St., New York, N.Y.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Essex Electronics, Berkeley Heights, N.J.
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N.Y.
Fugle–Miller Labs., Inc., Central Ave., Clark, N.J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Houlihan Co., T.J., 2510 W. Lawrence, Chicago 25, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
JFD Electronics Corp., 1462 62nd St., Brooklyn, N.Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N.Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Los Angeles Coil Co., 2528 W. 9th St., Los Angeles, Calif.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N.Y.
Mattson Electronics Corp., 11645–47 McBear Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
North Hills Elect., Co., Inc., 402 Sagamore Ave., Mineola, N.Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Ram Electronics Co., 600 Industrial Ave., Paramus, N.J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P.O. Box 72, Thompsonville, Conn.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Renco Electronics Corp., 240–1 Old Country Rd., Hicksville, N.Y.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage–Craft, Inc., Norwich, N.Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Skysweeper, Inc., McHenry, Ill.
Smallwood, Ltd., 391–397 King St., Kitchener, Canada
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
South Haven Coil, Inc., 264–66 Broadway, So. Haven, Mich.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N.Y.
Summit Coil Co., 4 Claremont Rd., Bernardsville, N.J.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N.Y.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torotal, Inc., 5512 East 110th St., Kansas City, Mo.
Transonic, Inc., P.O. Box 59 – 808 16th St., Bakersfield, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N.J. – Pg. 522
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., S. Bend, Ind.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.
Wirco Electronics Inc., 11680 McBean Dr., El Monte, Calif.

COILS, PICKUP

A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.

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Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Essex Electronics, Berkeley Heights, N. J.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Potter Aeronautical Corp., Route 22, Union, N. J.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage-Craft, Inc., Norwich, N. Y.
Skysweeper, Inc., McHenry, Ill.
Sturrup, Inc., 50 Silver St., Middletown, Conn.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Tur-Bo Jet Products Co. Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Whitewater Electronics, Inc., 136 W. Main Street, Whitewater, Wisc.

COILS, RELAY ..... **Pg. 778**

A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Automatic Electric Sales Corp., Northlake, Ill.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Bell Products Co., 4251 Forest Park Ave., St. Louis, Mo.
Better Coil & Transformer, Goodland, Ind.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Caddell-Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Coto-Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Dano Electric Co., Main St., Winsted, Conn.
Delevan Electronics Corporation, 77 Olean Rd., East Aurora, New York
Deluxe Coils, Inc., Wabash, Ind.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Eric Coil Co., 404 E. 17th St., Erie, Pa.
Five Star Co., 10 W. Main St., Plantsville, Conn.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Leetronics, 30 Main St., Brooklyn, N. Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y.
New York Coil Co., Phoenixville, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
Penn-Tran Corp., Bellefonte, Pa.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Precision, Inc., 4748 France Ave., No., Minneapolis, Minn.
Randall, Douglas Inc., 6 Pawcatuck Ave., Westerly, R. I.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Resistron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.
Sage-Craft, Inc., Norwich, N. Y.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Skysweeper, Inc., McHenry, Ill.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telex, Telex Park, St. Paul, Minn.
Tur-Bo Jet Products Co., Inc., 424 S. San Gabriel Blvd., San Gabriel, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wells Electronics Co., 1701 S. Main St., S. Bend, Ind.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.
Winatic Corp., The, P. O. Box 240, Endicott, N. Y.

COILS, R–F ..... **Pgs. 518, 526, 532, 778, 785, 952**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
All-Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Inc., 65 S. Avenue, Box 107, Salomanca, N. Y.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y. – Pg. 518
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Coils-Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delevan Electronics Corporation, 77 Olean Rd., East Aurora, New York
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Delta Radio Co., 115 Worth St., New York, N. Y.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Essex Electronics, Berkeley Heights, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle-Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jeffers Electronics Div., Speer Carbon Co., Hoover Ave., Dubois, Pa.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E. F. Co., 1439 Second Ave., S W, Waseca, Minn. – Pg. 532
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Los Angeles Coil Co., 2528 W. 9th St., Los Angeles, Calif.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Co., Inc., 61 Sherman St., Malden, Mass.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N.Y.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Otis Radio & Electric Corp., 700 Central Ave., Howarden, Iowa
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Ram Electronics Co., 600 Industrial Ave., Paramus, N.J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P.O. Box 72, Thompsonville, Conn.
Renco Electronics Corp., 240–1 Old Country Rd., Hicksville, N.Y.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage-Craft, Inc., Norwich, N.Y.
Sickles, F.W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391–397 King St., Kitchener, Canada
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
South Haven Coil, Inc., 264–66 Broadway, So. Haven, Mich.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Spellman High Voltage Co., 3029 Webster Ave., New York, N. Y. – Pg. 952
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N.Y.
Summit Coil Co., 4 Claremont Rd., Bernardsville, N.J.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N.Y.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N.J.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmant, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N.J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif. – Pg. 526
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, N.Y.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Welch, A. W. Mfg. Co., Inc., 509 E. 29th St., Indianapolis, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.
Wilco Corp., 546 Drover St., Indianapolis, Ind.
Wirco Electronics Inc., 11680 Mc Bean Dr., El Monte, Calif.

COILS, SATURABLE REACTOR .... **Pgs. 521, 524, 525, 629, 778, 1077, 1127, 1130, 1141**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Amplifier Corp. of America, 398 Broadway, New York, N.Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N.Y.

COILS. SATURABLE REACTOR (continued)
CGS Laboratories, Inc., Routes 7 And 35, Ridgefield, Conn.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Co. of America, Inc., 221 Washington St., Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control, Div. Magnetics, Inc., P. O. Box 391, Butler, Pa.
Coto–Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electro Engineering Works, Inc., 401 Freda St., So., San Leandro, Calif. – Pg. 1127
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pg. 1130
Fisher Engrg., Inc., 2060 U. S. 24th East, P. O. Box 327, Huntington, Ind.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl. Long Island City, N. Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Milro Controls Co., Park Ridge, N. J.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mic.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Penn–East Engrg. Corp., P. O. Box 240, Kutztown, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Precision, Inc., 4748 France Ave., No., Minneapolis, Minn.
Raytheon Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollowood, Calif.– Pg. 629
Sage–Craft, Inc., Norwich, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Toroidal Components Co., 1372–74 E. Walnut St., Pasadena, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 521
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Co., 150 Varick St., New York, N. Y. – Pg. 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.
Vari–L Co., Inc., 432 Fairfield Ave., Stamford, Conn. – Pgs. 524, 525
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Vibration Research Labs., Inc., 58 Marbledale Rd., Tuckahoe, New York
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York – Pg. 1077
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

COILS. SOLENOID
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.

COILS. TANK ..... Pgs. 532, 785
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Electrend Products Corp., St. Joseph, Mich.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Essex Electronics, Berkeley Heights, N. J.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Pulse Engrg., Inc., 2657 Spring St., Redwood City, Calif.
Sage–Craft, Inc., Norwich, N. Y.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Templeman, D. R., Co., 8 Park St., Plainville, Conn.

COILS. TELEPHONE ..... Pg. 1124
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Automatic Electric Sales Corp., Northlake, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Coto–Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Delevan Electronics Corp., 77 Olean Rd., East Aurora, N. Y.
Deluxe Coils, Inc., Wabash, Ind.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Sage–Craft, Inc., Norwich, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transonic, Inc., P. O. Box 59 – 808 16th St., Bakersfield, Calif.
Tur–Bo Jet Products Co., Inc., 424 So. San Gabriel Blvd., San Gabriel, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

COILS. TOROIDAL . . . Pgs. 466, 517, 521–523, 539, 629, 679, 778, 958, 1077, 1121–1124, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Alden Products Co., 146 N. Main St., Brockton, Massachusetts
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Maryland
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn. – Pg. 1121
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., P. O. Box 269, Route 143, Highland, Ill.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Boesch Mfg. Co., Inc., 45 River St., Danbury, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Pway., Pelham, N. Y. – Pg. 517
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Co. of America, Inc., 221 Washington St., Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coilcraft, Inc., Cary, Ill.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y. – Pg. 539
Coto–Coil Co., Inc., 65 Pavilion Ave., Providence, R. I.
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Double E. Products Co., 208 Standard St., El Segundo, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Engineering Specialties, 8115 Camargo Rd., Cincinnati, Ohio
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y. – Pg. 679
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leetronics, 30 Main St., Brooklyn, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.

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Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Milro Controls Co., Park Ridge, N. J.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
New York Transformer Co., Third Ave., Alpha, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
PCA Electronics, Inc., 16799 Schoenborn St., Sepulveda, Calif.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Precision, Inc., 4748 France Ave., No., Minneapolis, Minn.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Randall, Douglas, Inc., 6 Pawcatuck Ave., Westerly, R. I.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Renco Electronics Corp., 240–1 Old Country Rd., Hicksville, N. Y.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Torocoil Co., 2615 Bristol Rd., Columbus, Ohio
Toroidal Components Co., 1372–74 E. Walnut St., Pasadena, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 521
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 – 808 16th St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Co., 150 Varick St., New York, N. Y. – Pgs. 523, 1141
Universal Mfg. Co., Inc., 1168 Grove St., Irvington, N. J.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J. – Pg. 522
Vari–L Co., Inc., 432 Fairfield Ave., Stamford, Conn.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welch, A. W. Mfg. Co., Inc., 509 E. 29th St., Indianapolis, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York – Pg. 1077
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

COILS, TRANSDUCER ..... Pg. 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Coto–Coil Co., Inc., 65 Pavillion Ave., Providence, R. I.
Deltime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Milro Controls Co., Park Ridge, N. J.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Sturrup, Inc., 50 Silver St., Middletown, Conn.
Telex, Telex Park, St. Paul, Minn.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16th St., Bakersfield, Calif.
Tri–Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
Tur–Bo Jet Products Co., Inc., 424 So. San Gabriel Blvd., San Gabriel, Calif.
United Transformer Co., 150 Varick St., New York, N. Y. – Pg. 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

COILS, TRANSMITTING ..... Pgs. 532, 785

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Delta Radio Co., 115 Worth St., New York, N. Y.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Essex Electronics, Berkeley Heights, N. J.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.

COILS, TV, ALL TYPES ..... Pgs. 778, 1123

Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Coilcraft, Inc., Cary, Ill.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delevan Electronics Corp., 77 Olean Rd., East Aurora, New York
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Dunwell Mfg. Corp., 257 Queen Anne Rd., Bogota, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div. 65 Gouverneur St., Newark, N. J.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Los Angeles Coil Co., 2528 W. 9th St., Los Angeles, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Oaktron Electric Co., 17368 S. 68th Court, Tinley Park, Ill.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Philco Corp., Accessory Div., P. O. Box 3635, Philadelphia, Pa.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Renco Electronics Corp., 240–1 Old Country Rd., Hicksville, N. Y.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rogers Electronic Corp., 43–49 Bleeker St., New York, N. Y.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391–397 King St., Kitchener, Canada
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
South Haven Coil, Inc., 264–66 Broadway, So. Haven, Mich.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Tele–Coil Co., Inc., 275 Sauders St., Camden, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Warsaw Coil Co., P. O. Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend., Ind.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.

COILS, VARIABLE ..... Pgs. 517, 518, 523–526, 532, 778, 1123, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Inc., 65 So. Avenue, P. O. Box 107, Salomanca, N. Y.
Burnell & Co., Inc., Dept. O, 10 Pelham Paway., Pelham, N. Y. – Pg. 517
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y. – Pg. 518
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carson Mfg. Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L. I. N. Y.
Coilcraft, Inc., Cary, Ill.
Delevan Electronics Corp., 77 Olean Rd., East Aurora, New York
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Essex Electronics, Berkeley Heights, N. J.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Linell Engineering Corp., 447 South Blvd., Oak Park, Ill.
Los Angeles Coil Co., 2528 W. 9th St., Los Angeles, Calif.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.

COILS, VARIABLE (continued)
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Renco Electronics Corp., 240–1 Old Country Rd., Hicksville, N. Y.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Superex Electronics Corp., 4–6 Radford Pl., Yonkers, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Co., 150 Varick St., New York, N. Y. – Pgs. 523, 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif. – Pg. 526
Vari–L Co., Inc., 432 Fairfield Ave., Stamford, Conn. – Pgs. 524, 525
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.

COILS, VOICE
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I. N. Y.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Houlihan Co., T. J., 2510 W. Lawrence, Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Los Angeles Coil Co., 2528 W. 9th St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
New York Coil Co., Phoenixville, Pa.
Oaktron Electric Co., 17368 S. 68th Court, Tinley Park, Ill.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

COLORIMETERS
Beckman/Scientific Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Epic, Inc., 154 Nassau St., New York, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Instrument Development Labs, Inc., 67 Mechanic St., Attleboro, Mass.
Kruger, Harold Instruments, Box 164, San Gabriel, Calif.
Laboratory Equipment Corp., Lakeview & Hilltop Rd., St. Joseph, Mich.
Manufacturers Engrg. & Equipment Corp., York & Sunset Lane, Hatboro, Pa.
Minneapolis-Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
Perkin-Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photovolt Corp., 95 Madison Ave., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper Bl. 15-1, Camden, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

COLLIMATORS, INFRARED ..... Pg. 1118
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Barnes Engineering Co., 30 Commerce Road, Stamford, Conn.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway - P. O.&Bin. N., Pasadena, Calif.
Keuffel & Esser Co., Hoboken, N. J. – Pg. 1118
Optical Coating Laboratory, Inc., 977 Sebastopol Rd., Santa Rosa, California
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd St., Mt. Vernon, N. Y.

COLOR TV EQUIPMENT – SEE TELEVISION SYSTEMS

COLOR TV TEST EQUIPMENT
Admiral Corp., **Gov. Sales** Div., 3800 Cortland St., Chicago, Ill.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hycon Manufacturing Co., 1030 So. Arroyo Pkway - P. O.&Bin. N., Pasadena, Calif.
Hymac Corp., 4625 Leahy St., Culver City, Calif.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Kingston Electronic Corp., 35 North St., Medfield, Mass.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

COLUMBIUM – SEE METALS

COMM. SYSTEMS, AIRCRAFT
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Automation Management, Inc., Adams St., Westboro, Mass.
Bell & Gossett Co., 8200 N. Austin Ave., Morton Grove, Ill.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Daystrom Instrument, Archbald, Pa.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hoffman Labs Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway - P. O.&Bin. N., Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems, Inc., 22 Thomes St., New York, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Robertshaw-Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Spivey, James S., Inc., 4908 Hampden Lane, Washington, D. C.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

COMM. SYSTEMS, AIRPORT TRAFFIC CONTROL ..... Pg. 958
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Automation Management, Inc., Adams St., Westboro, Mass.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
National Co., Inc., 61 Sherman St., Malden, Mass.
National Elctrns. Labs., Sub. Thiokol Chem., 1713 Kalorama NW, Washington, D. C.
North Electric Co., 553 S. Market St., Galion, Ohio
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Stewart-Warner Elctrns., Div. Stewart-Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Technical Material Corp., The, 700 Feminore Rd., Mamaroneck, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, AMATEUR ..... Pg. 532
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Clegg, Inc., Clegg Laboratories, Div., Morristown, N. J.
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29-01 Borden Ave., L. I. City, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Vocaline Co. of America, Old Saybrook, Conn.

COMM. SYSTEMS, BROADCAST
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas, Texas

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Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Communico Co., 1020 E. Land Pl. Milwaukee, Wisc.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Television Utilities Co., 112-33 Colonial Ave., Corona, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

COMM. SYSTEMS. CARRIER CURRENT

Automatic Electric Sales Corp., Northlake, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Camden Electronics, Inc., 30 Irwin Ave., Collingwood, N. J.
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N. Y.
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Sage-Craft, Inc., Norwich, N. Y.
Talk-A-Phone Co., 1512 S. Pulaski Rd., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
Vocaline Co. of America, Old Saybrook, Conn.
Warren Mfg. Co., The, Littleton, Mass.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. CIVIL DEFENSE

Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bliss Electronic Corp., Box 366, Sussex, N. J.
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronics Design Co., 400 E. Cornell St., P. O. Box 401, Enid, Okla.
Falcon Alarm Co., Inc., 243 Broad St., Summit, N. J.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia , Pa.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. FACSIMILE

Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Automation Management, Inc., Adams St., Westboro, Mass.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Stewart–Warner Electrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
Telectro Industries Corp., 35–16 37th St., Long Island City, N.Y.
Times Facsimile Corp., 540 W. 58th St., New York, N.Y.
Western Union Telegraph Co., 60 Hudson St., New York, N.Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. F–M

Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronics Design Co., 400 E. Cornell St., P. O. Box 401, Enid, Okla.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
National Electrns. Labs., Sub. Thiokol Chem., 1713 Kalorama NW., Washington, D.C.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, BL. 15–1, Camden, N.J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., Long Island City, N.Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

COMM. SYSTEMS. INDUCTION

Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. INFRARED

Aerojet–General Corp., 6352 N. Irwindale Ave., Azusa, Calif.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Hycon Manufacturing Co., 1030 So. Arroyo Pway., P.O. & Bin N, Pasadena, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q. O. S. Corp., 621 E. 216th St., New York, N.Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N.Y.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. INTERCOM – SEE INTERCOMMUNICATION SYSTEMS

COMM. SYSTEMS, MARINE

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Babcock Radio Engrg., 1640 Monrovia Ave. – P.O. Box 344, Costa Mesa, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bell & Gossett Co., 8200 N. Austin Ave., Morton Grove, Ill.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N.J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N.Y.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Munston Mfg. & Service Inc., Beech St., Islip, N.Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Pearce–Simpson, Inc., 2295 N. W. 14th St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Sylvania Electric Products, Electrn. Systems Div., 100 1st Ave., Waltham, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Vocaline Co. of America, Old Saybrook, Conn.
Wright Radio Co., 11 Morton Pl., Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, MICROWAVE

ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L.I., N.Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Automatic Electric Sales Corp., Northlake, Ill.
Automation Dynamics Corp., 255 County Rd., Tenafly, N.J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Crown Engineering, 3821 Commercial N.E., Albuquerque, N. Mex.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.

COMM. SYSTEMS. MICROWAVE (continued)
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., Long Island City, N.Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Stavid Engineering, Inc., Route 22 Plainfield, N.J.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Sylvania Electric Products, Electrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Telectro Industries Corp., 35–16 37th St., Long Island City, N.Y.
Telephonics Corp., Park Ave., Huntington, N.Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P.O. Box 252, Menlo Park, Calif.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. MULTIPLEX
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N.Y.
Automatic Electric Sales Corp., Northlake, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Crosby Labs., Inc., 299 Robins Lane, Syosset, N.Y.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Federal Scientific Corp., 615 W. 131 St., New York, N.Y.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
National Electrns. Labs., Sub. Thiokil Chem., 1713 Kalorama N.W., Washington, D.C.
Northern Radio Co., Inc., 143–West 22nd St., New York, N.Y.
Palmer, M.V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. Of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., Long Island City, N.Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N.J.
Railway Communications, 9351 E. 59th St., Reytown, Mo.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Warren Mfg. Co., The, Littleton, Mass.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. SYSTEMS. PORTABLE
Adcrafters Co., 325 W. Huron St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bliss Electronic Corp., Box 366, Sussex, N.J.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500 Paramus, N. J.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N.J.
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Falcon Alarm Co., Inc., 243 Broad St., Summit, N.J.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N.Y.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791 Burbank, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pway. – P.O. & Bin N., Pasadena, Calif.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Electrns. Lans., Sub. Thiokol Chem., 1713 Kalorama N.W., Washington, D.C.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., Long Island City, N.Y.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Talk–A–Phone Co., 1512 S. Pulaski Rd., Chicago, Ill.
Telectro Industries Corp., 35–16 37th St., Long Island City, N.Y.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P.O. Box 1314, Gardena, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS. RAILROAD
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Automatic Electric Sales Corp., Northlake, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Tele–Dynamics, Inc., 5000 Parkside Ave., Philadelphia, Pa.
Television Utilities Co., 112–33 Colonial Ave., Corona, N.Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, SELECTIVE PAGING
Adcrafters Co., 325 W. Huron St., Chicago, Ill.
Autocall Co., 57 Mack Ave., Shelby, Ohio
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, N.J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N.Y.
Fisher–Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N.Y.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Private Tele–Communications, Inc., 1010 W. Diversey Pkway., Chicago, Ill.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rauland–Borg Corp., 3535 W. Addison St., Chicago, Ill.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., Long Island City, N.Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N.Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Talk–A–Phone Co., 1512 S. Pulaski Rd., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N.J.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, SINGLE–SIDEBAND
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Barker & Williamson, Inc., Canal St., & Beaver Dam Rd., Bristol, Pa.
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N.Y.
Daystrom Instrument, Archibald, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., P. O. Box 791, Burbank, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hoffman Labs Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

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COMM. SYSTEMS, SONAR

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
General Electric Co., Hvy, Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

COMM. SYSTEMS, SPECIAL ..... Pgs. 824, 1104

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Air–O–Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bell & Gossett Co., 8200 N. Austin Ave., Morton Grove, Ill.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Fla.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hycon Manufacturing Co., 1030 So. Arroyo Pway., P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Mechaneers Inc., Westport, Conn.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Elctrns. Labs., Sub. Thiokol Chem., 1713 Kalorama NW, Washington, D. C.
North Electric Co., 553 S. Market St., Galion, Ohio
Parsons, Ralph M. Co., Electron. Div., 151 S. De Lacey Ave., Pasadena, Calif.–Pg. 824, 1104
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Scatter Communications, Inc., 4923 St. Elmo Ave., Bethesda, Md.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, TELEMETERING ..... Pgs. 824, 1101, 1104–1106

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Advanced Electronics Corp., 2 Commercial St., Hicksville, L. I., N. Y.–Pg. 1101
Aircom, Inc., 354 Main St., Winthrop, Mass.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Applied Science Corp. Of Princeton, 45 Wallace Rd., Princeton, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Automation Dynamics Corp., 255 County Rd., Tenafly, N. J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Tex.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
Federal Scientific Corp., 615 W. 131 St., New York, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instrument Corp. Of Fla., P. O. Box 1226, Melbourne, Fla.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jem Electronics Corp., 743 Circle Ave., Forest Park, Ill.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Land–Air, Inc., Instr. & Electronic Div., 2135 Adams Ave., San Leandro, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Leupold & Stevens Instrs., Inc., 4445 N. E. Gilsan P. O. Box 5082, Portland, Ore.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Missiloonics Inc., Melbourne Airport, Melbourne, Fla.
Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Nems Clarke, Div. Vitro, Corp. Of America, 919 Jesup–Blair Dr., Silver Spring, Md.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Northern Radio Co., Inc., 143–West 22nd St., New York, N. Y.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Parsons, Ralph M. Co., Electro. Div., 151 S. De Lacey Ave., Pasadena, Calif.–Pg. 824, 1104
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Radiaphone Co., Inc., 600 E. Evergreen St., Monrovia, Calif.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif. – Pg. 1105
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servo Corp. Of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y.–Pg. 1106
Spivey, James S. Inc., 4908 Hampden Lane, Washington, D. C.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Streeter–Amet Co., Grayslake, Ill.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Tele–Dynamics, Inc., 5000 Parkside Ave., Philadelphia, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Thompson Ramo–Wooldridge, Tapco Grp., 23555 Euclid Ave., Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Vapor Recovery Systems Co., 2820 N. Alameda, Compton, Calif.
Warren Mfg. Co., The, Littleton, Mass.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, TELEPHONE ..... Pgs. 458, 464

A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Audiosears Corp., Shepherd Hill Rd., Roxbury, N. Y.–Pg. 458
Automatic Electric Sales Corp., Northlake, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bliss Electronic Corp., Box 366, Sussex, N. J.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Ericsson Corp., 100 Park Ave., New York, N. Y.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Murdock, William, 158 Carter St., Chelsea, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Private Tele–Communications, Inc., 1010 W. Diversey Pkway, Chicago, Ill.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Roanwell Corp., 180 Varick St., New York, N. Y.–Pg. 464
Roche, Paul Co., 11 Park Pl., New York, N. Y.
Scatter Communications, Inc., 4923 St. Elmo Ave., Bethesda, Md.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Secode Corp., 555 Minnesota St., San Francisco, Calif.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Warren Mfg. Co., The, Littleton, Mass.

COMM. SYSTEMS, TELETYPE ..... Pg. 583

A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.

COMM. SYSTEMS, TELETYPE (continued)
Jem Electronics Corp., 743 Circle Ave., Forest Park, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
Northern Radio Co., Inc., 143–West 22nd St., New York, N. Y.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Robertshaw–Fulton Controls, Aero, & Instr. Div., Anaheim, Calif.
Scatter Communications, Inc., 4923 St. Elmo Ave., Bethesda, Md.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J. – Pg. 583
Warren Mfg. Co., The, Littleton, Mass.
Western Union Telegraph Co., 60 Hudson St., New York, N. Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

COMM. SYSTEMS, TV ..... **Pgs. 528, 530, 531**
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
American Tv & Radio Co., 300 E. 4th St., St. Paul, Minn.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.–Pg. 528
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Colorado Research Corp., Broomfield Heights, Colo.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Precision Laboratory Inc., 63 Bedford Road, Pleasantville, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif. – Pg. 530
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International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.–Pg. 531
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Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Lambda–Pacific Eng., Inc., 14725 Arminta St., P. O. Box 70, Van Nuys, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Nems Clarke, Div. Vitro, Corp. Of America, 919 Jesup–Blair Dr., Silver Spring, Md.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sage–Craft, Inc., Norwich, N. Y.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Television Utilities Co., 112–33 Colonial Ave., Corona, N. Y.

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Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronics Design Co., 400 E. Cornell St., P. O. Box 401, Enid, Okla.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hycon Manufacturing Co., 1030 So. Arroyo Pway., P. O. Bin N, Pasadena, Calif.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Elctrns Labs., Sub. Thiokol Chem., 1713 Kalorama NW., Washington, D. C.
Pearce–Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
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Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N. J.
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N. J.
Elektro–Serv Co., 480 Johnson Ave., Brooklyn, N. Y.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kalbfell Electronix, 3434 Midway Dr., San Diego, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Midwest Molding & Mfg. Co., Gurnee, Ill.
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Mycalex Corp. Of America, 125 Clifton Blvd., Clifton, N. J.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Poly–Scientific Corp., P. O. Box 723, Blacksburg, Va.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
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California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Dytronics, P. O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
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Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dytronics, P. O. Box 3676, Columbus, Ohio
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 725 S.W., Macadam Ave., Portland, Ore.–Pg. 668
Freed Transformer Co. Inc., 1718–36 Weirfield St., Brooklyn, N. Y.–Pg. 678
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Inland Electronic Corp., 500 Rathbone Ave., Aurora, Ill.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Pennsylvania Testing Lab., Inc., Doylestown, Pa.–Pg. 739
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif.

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Dytronics, P. O. Box 3676, Columbus, Ohio
Freed Transformer Co. Inc., 1718–36 Weirfield St., Brooklyn, N. Y.–Pg. 678
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Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Inland Electronic Corp., 500 Rathbone Ave., Aurora, Ill.
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General Radio Company, 22 Baker Ave., W. Concord, Mass.
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Boonton Electronics Corp., Morris Plains, N. J.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
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Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Computer Co., Inc., 618 Maple St., Conshohoken, Pa.
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Julie Research Labs., Inc., 556 West 168th St., New York, N. Y.–Pg. 710
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Lavoie Laboratories, Inc., Morganville, N. J.–Pg. 716
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Non–Linear Systems, Inc., Del–Mar Airport––Box 728, Del–Mar, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Physics Research Labs., Inc., 507 Hempstead Turnpike, Box 555, Hempstead, N. Y.–Pg. 741
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Trio Laboratories, Inc., Plainview, L. I., N. Y.–Pg. 757
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Voltron Products, 1010 Mission St., So. Pasadena, Calif.–Pg. 758
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Librascope, Inc., 808 Western Ave., Glendale, Calif.

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American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N. Y.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway, Downey, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
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Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Dirigo Compass & Instrument Co., Boeing Field – Box 37, Seattle, Wash.
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
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Pfanstiehl Chemical Corp., 104 Lake View Ave., Waukegan, Ill.
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Wye Industries, 6 General Devine Way, Boston, Mass.

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American Solder & Flux Co., 19th & Willard Sts., Philadelphia, Pa.
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Chemical Electronic Engr., Inc., 283 Main St., P. O. Box 203, Matawan, N. J.
Clarkson Labs. Inc., 919 N. 9th St., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electroparts, P. O. Box 1137, Glendale, Calif.
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Harwald Co., Inc., 1245 Chicago Ave., Evanston, Ill.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
L & R Mfg. Co., 580 Elm St., Arlington, N. J.
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
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Morris, J. I. Co., 372 Elm St., Southbridge, Mass.
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Oakite Products Inc., 79 Rector St., New York, N. Y.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
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Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
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Adhesive Products Corp., 1660 Boone Ave., New York, N. Y.
Allied Chem. Corp., Plastics & Coal Chem. Div., 40 Rector St., New York, N.Y.–Pgs. 782, 783
Babbitt Chemical Co., 38 Prospect St., New Bedford, Mass.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Biwax Corp., 3444 Howard St., Skokie, Ill. – Pg. 507
Celanese Corp. Of America, Plastics Div., 744 Broad St., Newark, N. J.
Chemical Products Corp., King Phillip Rd., E. Providence, R. I.
Ciba Products Corp., Kimberton, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Durez Plastics, Div. Hooker Electrochemical, 1921 Walck Rd., N. Tonawanda, N. Y.
Electronet, Div. Of Rue Products, 1628 Venice Blvd., Venice, Calif.
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Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif.–Pg. 602
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric, Insulating Materials Dept., Schenectady, N. Y.
Hi–Test Chemical Corp., 722 64th St., Brooklyn, N. Y.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Insl–X Co., Inc., Water St., Ossining, N. Y.–Pg. 508
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Iscoyanate Products, Inc., P. O. Box 1681, Wilmington, Dela.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Nareco Resins & Coatings Co., 600 Victoria St., Costa Mesa, Calif.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nureco, Inc., 1100 Pontiac Ave., Cranston, R. I.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Polymer Industries Inc., Springdale, Conn.
Products Research Co., 3126 Los Feliz Blvd., Los Angeles, Calif.
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N. Y.
Rowe Engravers, 262 E. 16th St., Paterson, N. J.
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh, Pa.
Schenectady Varnish Co., Box 1046, Schenectady, N. Y.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Smooth–On Mfg. Co., 572 Communipaw Ave., Jersey City, N. J.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Stevenson Bros. & Co., 110 Race St., Philadelphia, Pa.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
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United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

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Autonetics, Div., North American Aviation, 9150 E. Imperial Hway, Downey, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
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Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
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Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
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Electromation Co., 1646 18th St., Santa Monica, Calif.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
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General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
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Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Statical Inst. Co., 330 Haven Ave., New York, N. Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
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Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
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Autonetics, Div., North American Aviation, 9150 E. Imperial Hway, Downey, Calif.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
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Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Cana.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chadwick–Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif.
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Tex.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Engrg. Assocs., 350 N. Halstead Ave., P. O. Box 5457, Pasadena, Calif.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
Control Circuits Inc., Box 279, East Hampton, Conn.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Davidson Electrn. Development, 1221 Peach St., Erie, Pa.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.

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Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
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Electronic Contractors, 2101 So. E. 6th, Portland, Ore.
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Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L. I. City, N. Y.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Heath Co., Benton Harbor, Mich.
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ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Kearfott Company, Inc., Little Falls, N. J.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
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Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
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Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
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Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
New London Instrument Co., Inc., 82 Union St. – Box 189, New London, Conn.
Northern Electronic & Vacuum Industries, St. Sauveur, Des Monts, Can.
Nuclear Products–Erco, Div. ACF Industries, Inc., P. O. Box 5, Riverdale, Md.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
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Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Streeter–Amet Co., Grayslake, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Texas Instruments, Inds. Insttation. Div., 3609 Buffalo Spdwy., Houston, Tex.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Electronic Co., 717 Dexter Ave., Seattle, Wash.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

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Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Aeronutronic Systems Inc., 1234 Airway, Glendale, Calif.
Alwac Computer Div., El–Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
Automation Management Inc., Adams St., Westboro, Mass.
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Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
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Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
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Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
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Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
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Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Daystrom Systems, Div. Daystrom, Inc., La Jolla, Calif.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass. – Pgs. 542, 543
Digitronics Corp., Albertson Ave., Albertson, L. I., N. Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Md.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L. I. City, N. Y.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
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Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
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Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
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Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
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Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Kearfott Company, Inc., Little Falls, N. J.
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Can.
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Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
National Cash Register Co., So. Main & K Sts., Dayton, Ohio
New London Instrument Co., Inc., 82 Union St., P. O. Box 189, New London, Conn.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
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Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Remington Rand, Div. Sperry Rand Corp., 315 Fourth Ave., New York, N. Y.
Royal Mcbee Corp., The, Westchester Ave., Port Chester, N. Y.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
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Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
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Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
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Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
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Technitrol Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
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Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
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Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
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Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
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Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.

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Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
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Di–An Controls, Inc., 40 Leon St., Boston, Mass.
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Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
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Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
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Colorado Research Corp., Broomfield Heights, Colo.
Computer Engg. Assocs., 350 N. Halstead Ave.—Box 5457, Pasadena, Calif.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Electronic Associates, Inc., Long Branch, N. J.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Northern Electronic & Vacuum Industries, St. Sauveur, Des Monts, Can.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
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Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

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Computer Control Co., Inc., 92 Broad St., Wellesley, Mass.
Computing Devices of Canada, Ltd., P. O. Box 508, Ottawa, Canada
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Datics Corp., The, P. O. Box 9128, 6000 Camp Bowie Blvd., Fort Worth, Tex.
General Kinetics, Inc., 555 23 St., S. Arlington, Va.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
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Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Minneapolis–Honeywell Regulator Co., Datamatic Div., Newton Highland, Mass.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Remington Rand, Div. Sperry Rand Corp., 315 Fourth Ave., New York, N. Y.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
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Systems Labs. Corp., 14852 Ventura, Sherman Oaks, Calif.

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Allied Industries, Inc., Box 119, Ogallala, Neb.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
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Cable Electric Products, 234 Dabell St., Providence, R. I.
Cannon Electric Co., 3208 Humbolt St., Los Angeles, Calif. – Pg. 562
Donmar Products, Inc., P. O. Box 8396, Denver, Colo.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill. – Pg. 578
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass.
Microdot Inc., 220 Pasadena Ave., S. Pasadena, Calif.–Pg. 571
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Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Pomona Electronics Co., Inc., 1126 W. 5th Ave.—P. O. Box 729, Pomona, Calif.
Sunbank Electronics, Inc., 515 S. Varney, Burbank, Calif.–Pg. 579
Switchcraft, Inc., 5553 Elstron Ave., Chicago, Ill.–Pg. 1099
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
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Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

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Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Allied Industries, Inc., Box 119, Ogallala, Nebr.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 557
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Avnet Interlock Sales, Sub. Avnet Elctrns Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Blake, Whitney Co., New Haven, Conn.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Chemical Electronic Engr., Inc., 283 Main St., P. O. Box 203, Matawan, N. J.
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Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
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Joy Mfg. Co., 333 Oliver Bldg., Pittsburgh, Pa.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
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Powell Co., 2102 Market St., Philadelphia, Pa.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Sherman, H. B. Mfg. Co., 22 Barney St., Battle Creek, Mich.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
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Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
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Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, Ill.
Industrial Hardware, Mfg. Corp., 109 Prince St., New York, N. Y.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jettron Products, Route 10, Hanover, N. J.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Monadnock Mills, 1977 First Ave., San Leandro, Calif.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.–Pg. 644

CONNECTORS, ANTENNA ..... **Pgs. 562, 567, 569, 570**
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Allied Industries, Inc., Box 119, Ogallala, Neb.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Baumker Mfg. Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 567
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Rf Fittings, Inc., 702 Beacon St., Boston, Mass.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Industrial Hardware, Mfg. Corp., 109 Prince St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller Industries, 1525 Marion, Grand Haven, Mich.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

CONNECTORS, AUDIO ..... **Pgs. 562, 566, 567, 570, 580, 581, 1099**
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Allied Industries, Inc., Box 119, Ogallala, Neb.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 566, 567
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Smith, Herman H. Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill.–Pg. 1099
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
Trimm, Inc., 400 Lake St., Libertyville, Ill.
U.S. Components, Inc., 454 E. 148th St., Bronx, N. Y.–Pgs. 580, 581
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Worthington Products Co., 2383 Linden Ave., Columbus, Ohio

CONNECTORS, BATTERY ..... **Pgs. 562, 569**
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Smith, Herman H. Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

CONNECTORS, CABLE ..... **Pgs. 557, 558, 562, 564, 567, 569, 570, 578, 580, 581, 1099**
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Alden Products Co., 146 N. Main St., Brockton, Mass.
Allied Industries, Inc., Box 119, Ogallala, Neb.
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 557

CONNECTORS. CABLE (continued)

Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.–Pg. 558
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blake, Whitney Co., New Haven, Conn.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.–Pg. 564
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Dero Electronics, 134 Nassau Rd., Roosevelt, N. Y.
Dossert Mfg. Corp., 249 Huron St., Brooklyn, N. Y.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 567
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill. – Pg. 578
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City Of Industry, Calif.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Javex, P. O. Box 646, Redlands, Calif.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Pax Electronics Co., 66–28 Mytle Ave., Glendale, N. Y.
Pyle–National Co., 1334 N. Kostner Ave., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rattan Mfg. Co., 10 Wall St., New Haven, Conn.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Smith, Herman H. Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
Specialties Mfg. Co., 12830 Linwood, Detroit, Mich.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.
Star–A Electric Mfg. Co., 269 Meserol St., Brooklyn, N. Y.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill.–Pg. 1099
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
Titeflex, Inc., Hendee St., Springfield, Mass.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
Utilities Service Co., 1 Pine St., Allentown, Pa.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

CONNECTORS. COAX CABLE ..... **Pgs. 561, 562, 564, 579, 571**

Aircraft Radio Corp., Boonton, N. J.
Allied Industries, Inc., Box 119, Ogallala, Neb.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Amphenol Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Automation Engrg. Corp., 8430 San Fernando Road, Sun Valley, Calif.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns Corp., 70 State St., Westbury, N. Y.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.–Pg. 561
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Connector Corp. Of America, 12959 Sherman Way, No. Hollywood, Calif.
Continental Connector Corp., Div. Dejur Amsco, 45–10 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.–Pg. 564
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Dow–Key Company, Inc., S. E. Highway 59, Thief River Falls, Minn.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.
Electrical & Physical Instrument Corp., 42–19 27th St., L. I. City, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Industrial Products Co., Div. Amphenol Elec., Thorpe St., Danbury, Conn.
Javex, P. O. Box 646, Redlands, Calif.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27 Jerrold Bldg., Phila., Pa.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Kings Electronics Co., 40 Marbeldale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.–Pg. 571
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Nugent Electronics Co., Inc., 802 E. 8th St., New Albany, Ind.
Omaton Div., Burndy Corp., Norwalk, Conn.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Robinson Machine Works, 802 E. 8 St., New Albany, Ind.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Smith, Herman H. Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Trimm, Inc., 400 Lake St., Libertyville, Ill.
Tru–Connector Corp., 416 Union St., Lynn, Mass.
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
Worthington Products Co., 2383 Linden Ave., Columbus, Ohio

CONNECTORS. FEED THRU ..... **Pgs. 519, 556, 557, 562, 564, 570, 580, 581, 771**

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pgs. 556, 557
Amphenol Western Div., Amphenol–Borg Elctrns, 9201 Independence, Chatsworth, Cal.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.–Pg. 519
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.–Pg. 564
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City Of Industry, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, Ill.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Javex, P. O. Box 646, Redlands, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Pyle–National Co., 1334 N. Kostner Ave., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Robinson Machine Works, 802 E. 8 St., New Albany, Ind.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
U.S. Components, Inc., 454 E. 148th St., Bronx, N. Y.–Pgs. 580, 581
U.S. Engrg Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Walsco Electronics Mfg. Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Zell Products Corp., 276–280 Main St. – Box 590, Norwalk, Conn.

CONNECTORS. HERMETICALLY SEALED ..... **Pgs. 558, 562–564, 570, 571**

Advanced Vacuum Prod., Div. General Ceramics, 430 Fairfield St., Stamford, Conn.
Allied Industries, Inc., Box 119, Ogallala, Neb.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.–Pg. 558
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, O.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Constantin, L. L. & Co., Route No. 46, Lodi, N. J.
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L.I.C., N.Y.–Pg. 563
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.–Pg. 564
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Frenchtown Porcelain Co., Frenchtown, N. J.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Glasseal Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hermetic Pacific Corp., 4232 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Joy Mfg. Co., 333 Oliver Bldg., Pittsburgh, Pa.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kings Electronics Co., 40 Marbeldale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
McCormick Selph Associates, Hollister, Calif.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.–Pg. 571
Omaton Div., Burndy Corporation, Norwalk, Conn.
Philips Electronics, Inc., Electrical Industries Div., Murray Hill, N. J.
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tru–Connector Corp., 416 Union St., Lynn, Mass.
U.S. Components, Inc., 454 E. 148th St., Bronx, N. Y.
U.S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Vibra Seal Corp., 2832 E. Grand Blvd., Detroit, Mich.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
Zell Products Corp., 276–280 Main St. – Box 590, Norwalk, Conn.

CONNECTORS. HIGH VOLTAGE ..... **Pgs. 557, 562, 567, 570, 580, 581, 771**

AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.

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Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Allied Industries, Inc., Box 119, Ogallala, Neb.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 557
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Continental Connector Corp., Div. Dejur Amsco, 45–10 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 567
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N. J.
Era Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
Frenchtown Porcelain Co., Frenchtown, N. J.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, Ill.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., L. I. City, N. Y.
Jettron Products, Route 10, Hanover, N. J.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.–Pg. 570
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
Titeflex, Inc., Hendee St., Springfield, Mass.
U.S. Components, Inc., 454 E. 148th St., Bronx, N. Y.–Pgs. 580, 581
U.S. Engrg Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

CONNECTORS, INTERLOCK ..... Pgs. 557, 562, 567

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.–Pg. 557
Avnet Interlock Sales, Sub. Avnet Elctrns Corp., 70 State St., Westbury, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.–Pg. 562
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 567
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hubbell, Inc., Interlock Div., State St. & Bostwick, Bridgeport, Conn.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y.
Vibra Seal Corp., 2832 E. Grand Blvd., Detroit, Mich.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

CONNECTORS, MICROPHONE ..... Pgs. 562, 569, 570, 578, 1099

Allied Industries, Inc., Box 119, Ogallala, Nebraska
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Automation Engrg. Corp., 8430 San Fernando Road, Sun Valley, Calif.
Avnet Interlock Sales , Sub. Avnet Elctrns Corp., 70 State St., Westbury, N. Y.
Barker Products Co., 3 Component Park,, West Bridgewater, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.
Electrocraft, Inc., 4432 N. Kedzie Ave., Chicago, Ill. – Pg. 578
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Jones, Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
Switchcraft, Inc., 5553 Elston Ave, Chicago, Ill. – Pg. 1099
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Waltham Horological Corp., 395 Lynnway, Lynn., Mass.

CONNECTORS, MiL ..... Pgs. 532, 557, 562, 564, 567, 570, 580, 581, 636

A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Allied Industries, Inc., Box 119, Ogallala, Nebraska
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pg. 557
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div.,Sidney, N. Y.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg 562
Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., Inc., 67 No. Second St., Beech Grove, Ind. – Pg. 564
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif .
Elco Corp., M St. below Erie Ave., Philadelphia, Pa. – Pg. 567
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn, N. Y. – Pg. 636
Garde Mfg. Co., 588 Eddy St., Providence, R.I.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Omaton Div. Burndy Corporation, Norwalk, Conn.
Pyle–National Co., 1334 N. Kostner Ave., Chicago, Ill.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Tru–Connector Corp., 416 Union St., Lynn,Mass.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk,Conn.

CONNECTORS, MINIATURE... Pgs. 466, 519, 556, 557, 562–564, 567, 569–571, 578, 580, 581, 636, 771, 1099

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Alden Products Co., 146 N. Main Street,Brockton, Massachusetts
Allied Industries, Inc., Box 119, Ogallala, Nebraska
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pgs. 556, 557
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
Automatic Metal Products Corp., 315–323 Berry St.,Brooklyn, N. Y.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns Corp., 70 State St., Westbury, N. Y.
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. – Pg. 519
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg..562
Circon Component Corp., Municipal Airport, Goleta, California
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Consolidated Electrodynamics Corp., 300 N.Sierra Madre Villa, Pasadena, Calif.
Continental Connector Corp., Div. DeJur Amsco, 45–10 Northern Blvd., L.I.C., N.Y. – Pg. 563
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind. – Pg. 564
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif..
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa. – Pg. 567
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill. – Pg. 578
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn, N. Y. – Pg. 636
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Garde Mfg., Co., 588 Eddy St., Providence, R. I.
General Cement Mfg., Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Jones Howard B. Div., Cinch Mfg., Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Methode Mfg., Corp., 7447 W. Wilson Ave., Chicago, Ill.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif. – Pg. 571
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Morse Co.,Frank W., 354 Congress St., Boston, Mass.
Nicholas Prods Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nugent Electronics Co., Inc., 802 E. 8th St., New Albany, Ind.
Omaton Div., Burndy Corporation, Norwalk, Conn..
Powell Co., 2102 Market St., Philadelphia, Pa.
Robinson Machine Works, 802 E. 8 St., New Albany, Ind.
Roflan Co., Rte. 1 & Camp Meeting Rd., Topsfield, Mass.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Switchcraft, Inc. 5553 Elston Ave., Chicago, Ill. – Pg.. 1099
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Thomas & Betts Co., 36 Butler St.,Elizabeth, N. J.
Titeflex, Inc., Hendee Street, Springfield, Mass.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I. N. Y.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

CONNECTORS, POLARIZED

Waltham Horological Corp., 395 Lynnway, Lynn, Mass.

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A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Alden Products Co., 146 N. Main St., Brockton, Massachusetts
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 558
Armel Electronics, Inc., 840 Fifth Ave., Brooklyn, N. Y.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Bleke, Whitney Co., New Haven, Conn.
Buchanan Electrical Products Corp., 260 U. S. 22 Hillside, N. J.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Circon Component Corp., Municipal Airport, Goleta, Calif.
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L.I.C., N.Y. – Pg. 563

CONNECTORS, POWER (continued)
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Danbury Knudson, Div. Amphenol Electric, Box 148 – Thorpe St., Danbury, Conn.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Jones Howard B. Div., Cinch Mfg., Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Leviton Mfg., Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Omaton Div. Burndy Corporation, Norwalk, Conn.
Pyle–National Co., 1334 N. Kostner Ave., Chicago, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
Utilities Service Co., 1 Pine St., Allentown, Pa.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

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Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Blake, Whitney Co., New Haven, Conn.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
McCormick Selph Associates, Hollister, Calif.
Methode Mfg., Corp., 7447 W. Wilson Ave., Chicago, Ill.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Powell Co., 2102 Market St., Philadelphia, Pa.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Tru–Connector Corp., 416 Union St., Lynn, Mass.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

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Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pg. 556
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 558
Armel Electronics, Inc., 840 Fifth Ave., Brooklyn, N. Y.
Camblock Corp., Div. Willor Mfg., Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 856
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L.I.C., N.Y. – Pg. 563
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa. – Pg. 567
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Garde Mfg., Co., 588 Eddy St., Providence, R. I.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City of Industry, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif.
Malco Tool & Mfg., Co., 4025 W. Lake St., Chicago, Ill.
Metoplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Methode Mfg., Corp., 7447 W. Wilson Ave., Chicago, Ill. – Pg. 572
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif. – Pg. 571
Molded Insulation Co., 335 E. Price St., Phila., Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Omaton Div., Burndy Corp., Norwalk, Conn.
Robinson Machine Works, 802 E. 8th St., New Albany, Ind.
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

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Alden Products Co., 146 N. Main St., Brockton, Massachusetts
Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pgs. 556, 557
Amphenol Western Div., Amphenol–Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 558
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Camblock Corp., Div. Willor Mfg., Corp., 825 Bronx River Ave., New York, N. Y.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind. – Pg. 564
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif.
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Elco Corp., M St. Below Erie Ave., Phila., Pa. – Pg. 567
Ercona Corp., Electr. Div., 16 W. 46th St., New York, N. Y.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City of Industry, Calif.
Gremar Mfg., Co., Inc., 7 North Ave., Wakefield, Mass.
Hallett Mfg., Co., 5910 Bowcroft St., Los Angeles, Calif.
Javex, P. O. Box 646, Redland, Calif.
Jones Howard B., Div., Cinch Mfg., Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Joy Mfg., Co., 333 Oliver Bldg., Pittsburgh, Pa.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
North Electric Co., 553 S. Market St., Galion, Ohio
Nugent Electronics Co., Inc., 802 E. 8th St., New Albany, Ind.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Ruckelshaus, John G. Labs., Inc., Madison, New Jersey
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Smith, E. C. Mfg. Co., Conshohocken, Pa.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thomas & Betts Co., 36 Butler St., Elizabeth 1, N. J.
Trico Fuse Mfg. Co., 2948 N. 5th, Milwaukee, Wisc.
Tru-Connector Corp., 416 Union St., Lynn, Mass.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pg. 580, 581
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Wiggins, E. B. Oil Tool Co., 3424 E. Olympic Blvd., Los Angeles, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

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Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pg. 557
Amphenol Western Div., Amphenol-Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Automatic Metal Products Corp., 315-323 Berry St., Brooklyn, N. Y.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 561
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Connector Corp. of America, 12959 Sherman Way, No. Hollywood, Calif.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind. – Pg. 564
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Don-Lan Electronics, Inc., 1101 Olympic Blvd., Santa Monica, Calif.
Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Industrial Products Co., Div. Amphenol Elec., Thorpe St., Danbury, Conn.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D, 27 Jerrold Bldg., Phila., Pa.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif. – Pg. 571
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif.
Ta-Mar, Inc., 11571 W. Jefferson Blvd.-Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Tru-Connector Corp., 416 Union St., Lynn, Mass.
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

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Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Allied Industries, Inc., Box 119, Ogallala, Nebraska
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Western Div., Amphenol-Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 558
Atlas E-E Corp., 47 Prospect St., Woburn, Mass. – Pg. 559
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Blonder-Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 561
Buchanan Electrical Products Corp., 260 U. S. 22, Hillside, N. J.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Central Porcelain Co., 511 Railroad St., Columbiana, Ohio
Chance A. B. Co., 210 N. Allen St., Centralia, Mo.
Continental Connector Corp., Div. Dejur Amsco, 45-01 Northern Blvd., L. I. C., N. Y.
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind.
Dante Electric Mfg. Co., Bantam, Conn.
Deutsch Co., The, 7000 Avalon Blvd., Los Angeles, Calif.
Dossert Mfg. Corp., 249 Huron St., Brooklyn, N. Y.
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N. Y.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa. – Pg. 567
Electrix Terminals & Conn., 990 E. 67 St., Cleveland, Ohio
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, Ill.
Hollingsworth Co., Solderless Terminal Div., P. O. Box 430, Phoenixville, Pa.
Holub Industries, Inc., 413 Dekalb Ave., Sycamore, Ill.
I. E. Manufacturing, 325 N. Hoyne Ave, Chicago, Ill.

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Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
Industrial Products Co., Div. Amphenol Elec., Thorpe St., Danbury, Conn.
Javex, P. O. Box 646, Redlands, Calif.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D, 27 Jerrold Bldg., Phila., Pa.
Johnson, E. F. Co., 1439 Second Ave., S W, Waseca, Minn. – Pg. 532
Jones, Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Kolton Electric Mfg. Co., 123 New Jersey R. R. Ave., Newark, N. J.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rattan Mfg. Co., 10 Wall St., New Haven, Conn.
Sherman, H. B. Mfg. Co., 22 Barney St., Battle Creek, Mich.
Star-A Electric Mfg. Co., 269 Meserol St., Brooklyn, N. Y.
Thomas & Betts Co., 36 Butler St., Elizabeth 1, N. J.
Titeflex, Inc., Hendee Street, Springfield, Mass.
Trico Fuse Mfg. Co., 2948 N. 5th, Milwaukee, Wisc.
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
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Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

CONNECTORS, SUBMINIATURE Pgs. 466, 556, 557, 562–564, 567, 570, 571, 580, 581, 771

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pg. 556, 557
Amphenol Western Div., Amphenol-Borg Elctrns., 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Automatic Metal Products Corp., 315-323 Berry St., Brooklyn, N. Y.
Automation Engrg. Corp., 8430 San Fernando Road, Sun Valley, Calif.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Avnet Interlock Sales, Sub. Avnet Elctrns. Corp., 70 State St., Westbury, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Circon Component Corp., Municipal Airport, Goleta, California
Continental Connector Corp., Div. Dejur Amsco, 45–01 Northern Blvd., L.I.C., N.Y. – Pg. 563
Dage Electric Co., 67 N. 2nd St., Beech Grove, Ind. – Pg. 564
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa. – Pg. 567
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
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Glasseal Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N. J.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Industrial Products Co., Div. Amphenol Elec., Thorpe St., Danbury, Conn.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y. – Pg. 570
Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Liquidometer Corp., The, 41-03 36th St., L. I. City, N. Y.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Microdot, Inc., 220 Pasadena Ave., South Pasadena, Calif. – Pg. 571
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nugent Electronics Co., Inc., 802 E. 8th St., New Albany, Ind.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Robinson Machine Works, 802 E. 8 St., New Albany, Ind.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
U. S. Components, Inc., 454 E. 148th St., Bronx, N. Y. – Pgs. 580, 581
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
Zell Products Corp., 276-280 Main St., Box 590, Norwalk, Conn.

CONNECTORS, UMBILICAL

Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.

CONNECTORS, WATERPROOF ..... Pgs. 558, 562, 570

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American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 558
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Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.
Equipment & Service Co., 7118 Envoy Ct., Dallas, Texas
Ercona Corp., Electro Div., 16 W. 46th St., New York, N. Y.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Gremar Mfg. Co., Inc., 7 North Ave., Wakefield, Mass.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Joy Mfg. Co., 333 Oliver Bldg., Pittsburgh, Pa.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, N. Y. – Pg. 570
Liquidometer Corp., The, 41-03 36th St., L. I. City, N. Y.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Powell Co., 2102 Market St., Philadelphia, Pa.
Pyle-National Co., 1334 N. Kostner Ave., Chicago, Ill.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
Tru-Connector Corp., 416 Union St., Lynn, Mass.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Waltham Horological Corp., 395 Lynnway, Lynn, Mass.

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Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
B. & M. Electronics Mfg. Co., 2516 Dodge Ave., Fort Wayne, Ind.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
General Electric Co., Indl. Elec. Div.-Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa.
Hammond Mfg. Co., Ltd., Guelph, Canada
Heath Co., Benton Harbor, Mich.
Holden-Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
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Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Penatron Dev. Div., Delta Broadcasting System, 941 Shedborne Ave., Dayton, Ohio
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37-06 36th St., L. I. City, N. Y.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
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Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
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United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Webster Electric Co., 1900 Clark St., Racine, Wisc.
White Aircraft Corp., Palmer, Mass.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

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Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Holden-Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio

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Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Leach Corp., 18435 Susana Rd. – P.O. Box 190, Compton, Calif.
Mack Electric Devices, Inc., 34 Glenside Ave., Wyncote, Pa.
Metro, Inc., 230 Toronto Ave., Providence, R.I.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Illinois
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Zenith Electric Co., 152 W. Walton St., Chicago, Ill.

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American Brass Co., 414 Meadow St., Waterbury, Conn.
Amphenol Western Div., Amphenol–Borg Elctrns, 9201 Independence, Chatsworth, Cal.
Anton Electronic Labs, 1226 Flushing Ave., Brooklyn, N.Y.
Bishop, J. H. Co., Platinum Works, Malvern, Pa.
Brainin C.S. Co., 320 Washington St., Mt. Vernon, N.Y.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Contacts, Inc., 1100 Silas Dean Hwy., P.O. Box 183, Wethersfield, Conn.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
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Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N.J.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Erca Tool–Die & Stamping Co., 19 Ash Street, Brooklyn 22, N.Y.
General Control Co., 1196 Soldiers Field., Boston, Mass.
General Findings & Supply Co., Inudstrial Div., Leach Bldg., Attleboro, Mass.
General Metals, Inc., 858 Goldsboro St., Greensboro, N.C.
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Johnson & Hoffman Mfg.Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N.Y.
Keystone Carbon Co., Inc., 1935 State St., St. Mary's, Pa.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
Mallory P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Mandex Mfg., Inc., 2614 W. 48th St., Chicago, Ill.
Metals & Controls Corp., General Plate Div., 31 Forest St., Attelboro, Mass.
Metro, Inc., 230 Toronto Ave., Providence, R.I.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N.Y.
Ohio Carbon Co., The, 12508 Berea Rd., Cleveland, Ohio
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
S.F. Metal Products Corp., 827 Bond St., Elizabeth, N.J.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N.J.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Sinclair Mfg. Co., Chartley, Mass.
Springfield Electrical Specs., 120 Wooster, New York, N.Y.
Stackpole Carbon Co., St. Marys, Penn.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N.Y.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N.J.
Tricon Mfg., Co., 8012 S. Wallace St., Chicago, Ill.
Tubular Rivet & Stud Co., Weston Ave., Wollaston, Mass.
U.S. Engrg Co., Components Div. Litton Ind., 5873 Rodeo Rd.,Los Angeles,Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.

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Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Koch, H. & Sons, Corte Madera, Calif.
Minneapolis-Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
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Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore 29, Md.
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Avien, Inc., 58-15 Northern Blvd., Woodside, N. Y.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Cadillac Gage Co., P. O. Box 3806, Detroit, Mich.
Central Dynamics, Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Colorado Research Corp., Broomfield Heights, Colo.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dare, Inc., Route 25, Troy, Ohio
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St. - Box 4372, Hamden, Conn.
Eclipse-Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1116
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Flight Research, Inc., P. O. Box 1F, Richmond, Va.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
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Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Lyndon Aircraft, Inc., 140 Clifford St., Newark, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moog Valve Co., Inc., Proner Airport, East Aurora, N. Y.
Pacific Scientific Co., P. O. Box 22109, Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Scaico Controls, P. O. Box 41, Cooper St., Delanco, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Thompson Ramo–Wooldridge, Tapco Grp.,Elctrns. Works,23555 Euclid Ave.,Cleveland, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Control Corp., 4540 Union Bay Pl., Seattle, Washington
United Electric Controls Co., 85 School St., Watertown, Mass.
Univox Corp., 102 Warren St., New York, N. Y.
Vapor Heating Corp., 80 E. Jackson Blvd., Chicago, Ill.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

CONTROLS, ALARM SYSTEM ..... **Pgs. 542, 849**
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Aerojet–General Corp., 6352 N. Irwindale Ave., Azusa, Calif.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
All American Engineering Co., Dupont Airport, Willmington, Del.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Assembly Products, Inc., 75 Wilson Mills Rd., Chesterland, Ohio
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brooks Rotameter Co., P. O. Box 432, Landsdale, Pa.
Chatham Controls Corp., 33 River Rd., Chatham, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Connecticut
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
Digital Equipment Corp., Maynard, Mass. – Pg. 542
Dunlap Electronics, 764 9th St., Des Moines, Iowa
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Fenwal, Inc., Ashland, Mass.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hammarlund Mfg., Co., Inc., 460 W. 34th St., New York, N. Y.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hays Mfg. Co., Automatic Controls Division, 801 West 12th St., Erie, Pa.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Metronix, Inc., Chesterland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Partrick & Wilkins Co., 51 N. 7th St., Philadelphia, Pa.
Philad. Scientific Glass Co., Rte. 1, P. O. Box 46C, Quakertown, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Piezo Products Co., Whitney St., Sherborn, Mass.
Scaico Controls, P. O. Box 41, Cooper St., Delanco, N. J.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Summit Electronics, Inc., 7 Industrial Pl., Summit, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J.
United Control Corp., 4540 Union Bay Pl., Seattle, Washington
United Electric Controls Co., 85 School St., Watertown, Mass.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, AUTOMATIC TUNING
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Eastern Industries, Inc., 100 Skiff St., P. O. Box 4372, Hamden, Conn.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.

CONTROLS, CAPACITANCE OPERATED ..... **Pg. 704**
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N. J. – Pg. 704
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.

CONTROLS, CHEMICAL
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada

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Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L. I. N. Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Kruger, Harold Instruments, P. O. Box 164, San Gabriel, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
U. S. Controls, Inc., 161 Grand St., New York, N. Y.
United Electric Controls Co., 85 School St., Watertown, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

CONTROLS, COMBUSTION

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co., of Canada, 146 Kendal Ave., Toronto, Canada
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
Electron–Radar Products, P. O. Box 50, Route 30, North Aurora, Ill.
Electronics Corp. of Amer., Combustion Div., 1 Memorial Dr., Cambridge, Mass.
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Penn Controls, Inc., Goshen, Inc.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
U. S. Controls, Inc., 161 Grand St., New York, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, COMPUTER ..... Pgs. 516, 542, 880, 1176

Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif.
Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Automation Management, Inc., Adams St., Westboro, Mass.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Control Co., Inc., 92 Broad St., Wellesley, Mass.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass. – Pg. 542
Digitran Co., 45 W. Union St., Pasadena, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Associates, Inc., Long Branch, N. J.
FAE Instruments Co., 42–61 Hunter St., L. I. City, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Controls Co., 801 Allen Ave., Glendale, Calif.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Kearfott Company, Inc., Little Falls, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., P. O. Box 550, Burbank, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Minneapolis–Honeywell, Indl. Div., Wayne & Windrim Aves., Philadelphia, Pa. – Pg. 1176
Moore Associates, Inc., 2628 Springs St., Redwood City, Calif.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn. – Pg. 880
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

CONTROLS, CONDUCTIVITY

Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N.J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Strandberg Engrg. Labs., Inc., 416 W. Market S., Greensboro, N.C.
Taylor Instrument Co., 95 Ames St., Rochester, N.Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N.J.

CONTROLS, COUNTING & SORTING ..... Pgs. 516, 540, 542, 612, 654, 655, 704, 1114

Automation, Inc., 212 Worcester St., Wellesley Hills, Mass.
Automation Management, Inc., Adams St., Westboro, Mass.
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa. – Pg. 654
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Computer Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 540
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Datascan, Inc., 48 Notch Road, Little Falls, N.J.
Deitz, S. J. Co., 9 E. Wesley St., S. Hackensack, N. J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass. – Pg. 542
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Products Labs., 4501–EM N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Industrial Components, Inc., 9651 S.W. Canyon Rd., Portland, Ore.
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N.J. – Pg. 704
Mechaneers, Inc., Westport, Conn.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Opad Electric Co., 69–12 Murray St., New York, N.Y.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Photobell Co., Inc., 43 Vesey St., New York, N.Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Ripley Co., Inc., Middletown, Conn. – Pg. 612
Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.
Sensory, Inc., 10 New St., Norristown, N.J.
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Taft–Peirce Mfg. Co., The, 32 Mechanic Ave., Woonsocket, R.I.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N.Y.
U.S. Controls, Inc., 161 Grand St., New York, N.Y.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif. – Pg. 516
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, DENSITY ..... Pgs. 612, 849

Avien, Inc., 58–15 Northern Blvd., Woodside, N.Y.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnatik Ohio
Bill Jack Scientific Instr. Co., P.O. Box C–3, Solano Beach, Calif.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N.J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Liquidometer Corp., The, 41–03 36th St., Long Island City, N.Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N.Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Ripley Co., Inc., Middletown, Conn. – Pg. 612
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Taylor Instrument Co., 95 Ames St., Rochester, N.Y.
Thompson Research & Mfg. Co., P.O. Box 116, Davenport, Fla.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, DIMENSION ..... Pgs. 703, 1114

Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich. – Pg. 703
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Joslyn–Hudson, Inc., Subs. Amelco, 2040 Colorado Ave., Santa Monica, Calif.
Link Aviation, Inc., Binghamton, N.Y.
Mechaneers, Inc., Westport, Conn.
Photobell Co., Inc., 43 Vesey St., New York, N.Y.
Sheffield Corp., The, Box 893, Dayton, Ohio
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.

CONTROLS, DOOR ..... Pg. 849

Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849

CONTROLS, DOOR (continued)
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Consolidated Productions, Inc., 3991 S.W. 12th Terrace, Fort Lauderdale, Fla.
De-Tec-Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N.Y.
Partrick & Wilkins Co., 51 N. 7th St., Philadelphia, Pa.
Perma Power Co., 3102 N. Elston, Chicago, Ill.
Photobell Co., Inc., 43 Vesey St., New York, N.Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Telectron Co., 3991 S.W., 12 Terrace, Fort Lauderdale, Fla.
Worner Electronic Devices, Rankin, Ill.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

CONTROLS, ELEVATOR LEVELING
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Milro Controls Co., Park Ridge, N.J.
North Electric Co., 553 S. Market St., Galion, Ohio
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N.Y.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

CONTROLS, FILM THICKNESS ..... **Pg. 849**
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Canadian Curtiss-Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Curtiss-Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N.J.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Research Indl. Lab. Of Electrn., Roslyn, Pennsylvania
Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.

CONTROLS, FLAME FAILURE ..... **Pg. 849**
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
De-Tec-Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electron-Radar Products, P.O. Box 50, Rte. 30, North Aurora, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Electronics Corp. of Amer., Combustion Div., 1 Memorial Dr., Cambridge, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Opad Electric Co., 69-12 Murray St., New York, N.Y.
Penn Controls, Inc., Goshen, Ind.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N.J.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N.J.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

CONTROLS, FLEXIBLE, MECHANICAL P-P ..... **Pg. 596**
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Conn.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y. – Pg. 596
Simmonds Aerocessories, Inc., Tarrytown, N.Y.
Stow Mfg. Co., 101 Shear St., Binghamton, N.Y.

CONTROLS, FLUID CONDUCTIVITY ..... **Pg. 849**
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Strandberg Engrg. Labs., Inc., 416 W. Market S., Greensboro, N.C.
Taylor Instrument Co., 95 Ames St., Rochester, N.Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, FLUID FLOW ..... **Pg. 849**
American Measurement & Control Co., 240 Calvert St., Watertown, Mass.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N.J.
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Avien, Inc., 58-15 Northern Blvd., Woodside, N.Y.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Brooks Rotameter Co., P.O. Box 432, Landsdale, Pa.
Cadillac Gage Co., P.O. Box 3806, Detroit, Mich.
Canadian Curtiss-Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General American Valve Co., P.O. Box 444, Corona Del Mar, Calif.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
Haledy Electronics Co., 57 William St., New York, N.Y.
Hays Mfg. Co., Automatic Controls Division, 801 West 12th St., Erie, Pa.
Hycon Manufacturing Co., 1030 So. Arroyo Pway. – P.O. & Bin N, Pasadena, Calif.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Manostat Corp., 20-26 N. Moore St., New York, N.Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N.Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moog Valve Co., Inc., Proner Airport, East Aurora, N.Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Penn Controls, Inc., Goshen, Ind.
Potter Aeronautical Corp., Route 22, Union, N.J.
Revere Corp. Of America, Wallingford, Conn.
Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.
Sensory, Inc., 10 New St., Norristown, N.J.
Systron Corp., 950 Galindo St., Concord, Calif.
Taylor Instrument Co., 95 Ames St., Rochester, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Thompson Research & Mfg. Co., P.O. Box 116, Davenport, Fla.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Waldorf Instr. Co., Div. F.C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Winterburn Mfg. Co., P.O. Box 386, Putnam, Conn.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, FREQUENCY ..... **Pgs. 516, 724, 849, 958**
Acromag, Inc., 22519 Telegraph Rd., Detroit 41, Mich.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N.W., Wash., D. C.
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N.J.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N.Y.
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn.
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Maxson, W. L., Corp., 475 Tenth Ave., New York, N.Y.
Milro Controls Co., Park Ridge, N.J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
Norrman Laboratories, Williams Bay, Wisc. – Pg. 724
North Electric Co., 553 S. Market St., Galion, Ohio
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Power Supplies, Inc., P.O. Box 269, Route 143, Highland, Ill.
Rantec Corp., 23999 Ventura Blvd., Calabasa, Calif.
Robinette, W. C., Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vectrol Engrg., Inc., P.O. Box 1089, Dept. M 59, Stamford, Conn.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

CONTROLS, GAS
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St., P. O. Box 4372, Hamden, Conn.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General American Valve Co., P. O. Box 444, Corona del Mar, Calif.
General Controls Co., 801 Allen Ave., Glendale, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Manostat Corp., 20-26 N. Moore St., New York, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Penn Controls, Inc., Goshen, Ind.
United Electric Controls Co., 85 School St., Watertown, Mass.

CONTROLS, HEAT TREATING
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago, Ill.
Fenwal Incorporated, Ashland, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
U. S. Controls, Inc., 161 Grand St., New York, N. Y.
United Electric Controls Co., 85 School St., Watertown, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, HUMIDITY ..... **Pg. 849**
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.

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Electron–Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Penn Controls, Inc., Goshen, Ind.
Philad. Scientific Glass Co., Rte. 1, P. O. Box 46C, Quakertown, Pa.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Electric Controls Co., 85 School St., Watertown, Mass.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, ILLUMINATION ..... Pg. 849

American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Autotron, Inc., 3629 N. Vermilion, P. O. Box 722, Danville, Ill.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bayside Timers, 45–25 162nd St., Flushing, N. Y.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fisher–Pierce Co., 170 Pearl St., South Braintree, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Worner Electronic Devices, Rankin, Ill.

CONTROLS, INSPECTION

Autotron, Inc., 3629 N. Vermilion, P. O. Box 722, Danville, Ill.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Link Aviation, Inc., Binghamton, N. Y.
Mechaneers, Inc., Westport, Conn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Sheffield Corp., The, P. O. Box 893, Dayton, Ohio
Slaughter Co., Piqua, Ohio
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Taft–Pierce Mfg. Co., The, 32 Mechanic Ave., Woonsocket, R. I.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, LIQUID LEVEL ..... Pgs. 849, 1172, 1173

Acoustica Associates, Inc., 26 Windsor Ave., Mineola, N. Y.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brooks Rotameter Co., P. O. Box 432, Landsdale, Pa.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Compact Controls Co., 1635 No. Halsted St., Chicago, Ill.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dietz, Henry G. Co., 12–16 Astoria Blvd., Long Island City, N. Y.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Fenwal Incorporated, Ashland, Mass.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Haledy Electronics Co., 57 William St., New York, N. Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Jo–Bell Products, Inc., 5456 W. 111th St., Oak Lawn, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y. – Pgs. 1172, 1173
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Penn Controls, Inc., Goshen, Ind.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Potter Aeronautical Corp., Route 22, Union, N. J.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Revere Corp. of America, Wallingford, Conn.
Schirmer-National Alarm Co. 20 Westside Ave., Bergenfield, N.J.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Simmonds Aerocessories, Inc., Tarrytown, N. Y.
Smith, E. C. Mfg., Co., Conshohocken, Pa.
Taylor Instrument Co., 95 Ames St., Rochester, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Transistor Devices, Div. Instr. Master, 11 Hamburg Tpke., Riverdale, N. J.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.
United Control Corp., 4540 Union Bay Pl., Seattle, Washington
United Electric Controls Co., 85 School St., Watertown, Mass.
Warrick, Charles F. Co., 1964 W. 11 Mile Rd., Berkeley, Mich.
Westinghouse Electric Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Worner Electronic Devices., Rankin, Ill.

CONTROLS, LOOP REGULATION

Brach Mfg., Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
GPE Controls, Inc., 240 E. Ontarion, St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Sensory Inc., 10 New St., Norristown, N. J.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P. O. Box 1314, Gardena, Calif.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
U. S. Controls Inc., 161 Grand St., New York, N. Y.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M. 59, Stamford, Conn.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, MACHINE, SAFETY ..... Pgs. 849, 1114

Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
Automation Management Inc., Adams St., Westboro, Mass.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Deitz, S.J. Co., 9 E. Wesley St., So. Hackensack, N.J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Products Labs., 4501–EM N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Industrial Components, Inc., 9651 S.W. Canyon Rd., Portland, Ore.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Mechaneers Inc., Westport, Conn.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N.J.
Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
Penn Controls, Inc., Goshen, Ind.
Photobell Co., Inc., 43 Vesey St., New York, N.Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N.J.
Photoswitch Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N.J.
Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P.O. Box 1314, Gardena, Calif.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
U.S. Controls Inc., 161 Grand St., New York, N.Y.
United Electric Controls Co., 85 School St., Watertown, Mass.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Winterburn Mfg., Co., P. O. Box 386, Putnam, Conn.
Worner Electronic Devices, Rankin, Ill

CONTROLS, MATERIALS THICKNESS ..... Pgs. 849, 1171

Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Branson Ultrasonic Corp., 15 Brown House Rd., Stamford, Conn. – Pg. 1171

CONTROLS. MATERIALS THICKNESS (continued)
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Curtiss–Wright Corp., Electr. Div. Instrs. Dept. 631 Central Ave., Carlstadt, N.J.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Electric Eye Equip. Co., Box 609, Danville, Ill.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Minneapolis–Honeywell Industrial Div. Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N.Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N.J.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Sheffield Corp., The, Box 893, Dayton, Ohio
Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Worner Electronic Devices, Rankin, Ill.

CONTROLS. MECHANICAL. OVERLOAD
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Assembly Products, Inc., 75 Wilson Mills Rd., Chesterland, Ohio
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Revco, Inc., 1900 Lyndale Ave., S., Minneapolis, Minn.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
United Electric Controls Co., 85 School St., Watertown, Mass.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

CONTROLS. MECHANICAL. SWITCH ..... Pg. 849
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
United Electric Controls Co., 85 School St., Watertown, Mass.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

CONTROLS. MOISTURE ..... Pg. 849
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Electric Eye Equip. Co., P. O. Box 609, Danville, Ill.
Epic, Inc., 154 Nassau St., New York, N. Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Laucks Laboratories, Inc., 1201 Poplar Pl., Seattle, Wash.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moisture Register Co., 1510 W. Chestnut St., P. O. Box 910, Alhambra, Calif.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Strandberg Engrg. Labs., Inc., 416 W. Market St., Greensboro, N. C.

CONTROLS. MOTORS & GENERATORS ..... Pgs. 585, 629, 1075
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisc.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Research & Mfg., Co., 920 Halpine Ave., Rockville, Maryland
Automatic Switch Co., 50–56 Hanover Rd., Florhan Park, N. J.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick ,N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
CGS Laboratories, Inc., Rte. 7 & 35, Ridgefield, Conn.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Carson Mfg. Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dales, Franklin Co., 180 E. Mill St., Akron, Ohio
Datascan, Inc., 48 Notch Rd., Little Falls, N. J.
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electro–Devices, Inc., 4–6 Godwin Ave., Paterson, N. J.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Ideal Electric & Mfg., Co., 300 E. First St., Mansfield, Ohio

See YELLOW SECTION for local sales offices, telephones, etc.

Ideas, Inc., 214 Ininson Ave., Laramie, Wyo.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., P. O. Box 128, Vandalia, Ohio
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl. Montrose, Calif.
Milro Controls Co., Park Ridge, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1075
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Power Supplies, Inc., P. O. Box 269, Rte. 143, Highland, Ill.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Strandberg Engrg. Labs., Inc., 416 W. Market S., Greensboro, N. C.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
U. S. Controls, Inc., 161 Grand St., New York, N. Y.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

CONTROLS, NAVIGATION ..... Pg. 1101
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Avion, Div. A. C. F. Industries, Inc., 7 Park Pl., Paramus, N. J. – Pg. 1101
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dare, Inc., Rte. 25, Troy, Ohio
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wright Radio Co., 11 Morton Pl., Scituate Harbor, Mass.

CONTROLS, OSCILLATOR ..... Pg. 658
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Centronix, Inc., 4000 N. W. 28th St., Miami Fla.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
General Controls Co., 801 Allen Ave., Glendale, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.

CONTROLS. OXYGEN
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Linde Co., Crystals Dept. – Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Sierra Engineering Co., 123 E. Montecito Ave., Sierra Madre, Calif.
United Electric Controls Co., 85 School St., Watertown, Mass.

CONTROLS. PH
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Lamotte Chemical Products Co., Chestertown, Md.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, PHOTOELECTRIC ..... Pgs. 585, 612, 703, 849, 852, 1001, 1058
All American Engineering Co., Dupone Airport, Willmington, Del.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Automation, Inc., 212 Worcester St., Wellesley Hills, Mass.
Automation Management, Inc., Adams St., Westboro, Mass.
Autotron, Inc., 3629 N. Vermilion, P. O. Box 722, Danville, Ill.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Rd., Little Falls, N. J.

Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electric Eye Equip. Co., P. O. Box 609, Danville, Ill.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Machine Parts, 204–206 Lafayette St., New York, N. Y.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fisher–Pierce Co., 170 Pearl St., South Braintree, Mass.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Haledy Electronics Co., 57 William St., New York, N. Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill. – Pg. 1058
Hughey & Phillips, Inc., 3200 N. San Fernando Blvd., Burbank, Calif.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich. – Pg. 703
Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y. – Pg. 852
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.
Miltronics Co., 3733 N. 7th St., Milwaukee, Wisc.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Ransom Research, P. O. Box 269 – 323 W. 7th St., San Pedro, Calif.
Ripley Co., Inc., Middletown, Conn. – Pg. 612
Robotron Corp., 21300 W. 8 Mile Rd., P. O. Box 4885, Detroit, Mich.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Sensory, Inc., 10 New St., Norristown, N. J.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 1001
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wilson G. C. & Co., 1915 8th Ave., P. O. Box 5525, Huntington, W. Va.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, PHOTOGRAPHIC EXPOSURE

Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo P'way., P. O. Bin N, Pasadena, Calif.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Pantek Co., P.O. Box 212, El Segundo, Calif.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photocon Research Products, P. O. Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

CONTROLS, POSITIONING ..... Pgs. 585, 703, 842, 1114, 1116

Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Automation Management, Inc., Adams St., Westboro, Mass.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cadillac Gage Co., P. O. Box 3806, Detroit, Mich.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E., 152nd St., Cleveland, Ohio
Data Systems, Norden Div. United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St., P. O. Box 4372, Hamden, Conn.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1116
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. At 238th, Bronx, N. Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hillyer Instr. Co., Inc., 331 Centennial Ave., Cranford, N. J.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hughes Products – Hughes Aircraft, Semiconductor Div., Intl. Apt., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo P'way., P. O. Bin N, Pasadena, Calif.
Induction Motors of Calif., 6058 Walker Ave., Maywood, Calif.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich. – Pg. 703
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Minn.
Minneapolis–Honeywell, Transistor Div., 2753 4th Ave., S., Minneapolis, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Thompson Ramo–Wooldridge, Tapco Grp., 23555 Euclid Ave., Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.
United Control Corp., 4540 Union Bay Pl., Seattle, Washington
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Station, N. Y.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Wang Laboratories, Inc., 37 Hurley St., Cambridge, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, POWER LEVEL

American Research & Mfg. Co., 920 Halpine Ave., Rockville, Maryland
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
United Electric Controls Co., 85 School St., Watertown, Mass.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, PRESSURE ..... Pg. 1116

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Cadillac Gage Co., P. O. Box 3806, Detroit, Mich.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Connecticut
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Dietz, Henry G. Co., 12–16 Astoria Blvd., Long Island City, N. Y.
Eastern Industries, Inc., 100 Skiff St., P. O. Box 4372, Hamden, Conn.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1116
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Indikon Co., 76 Coolidge Hill Rd., Watertown, Mass.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N.J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Manostat Corp., 20-26 N. Moore St., New York, N. Y.
McQuay-Norris Mfg. Co., 2320 Marconi St., St. Louis, Mo.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.

See YELLOW SECTION for local sales offices, telephones, etc.

CONTROLS. PRESSURE (continued)
Milburn, Alexander, Inc., 403 Penn St., Baltimore, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Penn Controls, Inc., Goshen, Ind.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Taylor-Emmett Controls, Inc., 445 E. Turkeyfoot Lake Rd., Akron, Ohio
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Ultradyne, Inc., Post Office Box 3308, Albuquerque, New Mexico
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Control Corp., 4540 Union Bay Place, Seattle, Washington
United Electric Controls Co., 85 School St., Watertown, Mass.
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Illinois
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS. PRINTING
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N. Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Central Dynamics, Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Electric Eye Equip. Co., Box 609, Danville, Ill.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Ransom Research, Box 269- 323 W. 7th St., San Pedro, Calif.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.

CONTROLS. REACTION. NUCLEAR
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Curtiss-Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Daystrom Instrument, Archbald, Pa.
Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
Ford Instrument Co., Div. Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Jordan Electronics, Div. Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Milro Controls Co., Park Ridge, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nuclear-Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Thompson Ramo-Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS. REGISTER ..... Pg. 612
Automation, Inc., 212 Worcester St., Wellesley Hills, Mass.
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
De-Tec-Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Electric Eye Equip. Co., Box 609, Danville, Ill.
Electronic Machine Parts, 204-206 Lafayette St., New York, N. Y.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.
Machine O Matic, 2045 N. Hoyne Ave., Chicago 47, Ill.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Ripley Co., Inc., Middletown, Conn. – Pg. 612
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tri-Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.

CONTROLS. REMOTE ..... **Pgs. 596, 843, 986, 987, 993, 997, 1008, 1106**
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Arkay Products Mfg. Co., 4111-13 W. Jefferson Blvd., Los Angeles, Calif.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Automation Engrg. Corp., 8430 San Fernando Road, Sun Valley, Calif.
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas, Texas
Crown Controls Co., Inc., 40-44 S. Washington St., New Bremen, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dare, Inc., Route 25, Troy, Ohio
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okla.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
Eclipse-Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville, Tenn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Gilfillan Bros. Inc., 1815 Venice Blvd., Los Angeles, Calif.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.
Jansen Electronics Mfg., 2285 University Ave., St. Paul, Minn.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kearfott Company, Inc., Little Falls, N. J.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y. – Pg. 596
Kurman Electric Co., Div. Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Milro Controls Co., Park Ridge, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moore Associates, Inc., 2628 Spring St., Redwood City, Calif.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Opad Electric Co., 69-12 Murray St., New York, N. Y.
Pantek Co., Box 212, El Segundo, Calif.
Perma Power Co., 3102 N. Elston, Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ries Camera Co., 6610 Santa Monica Blvd., Hollywood, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Servo-Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Ta-Mar, Inc., 11571 W. Jefferson Blvd., Box 1217, Culver City, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
United Electric Controls Co., 85 School St., Watertown, Mass.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Vocaline Co. of America, Old Saybrook, Conn.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Warren Mfg. Co., The, Littleton, Mass.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J. – Pg. 1008
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

CONTROLS. SERVO **Pgs. 546, 585, 604, 605, 714, 715, 723, 725, 755, 843, 1036, 1101, 1176**
Acme Industrial Co., 200-222 N. Laffin St., Chicago, Ill.
Acromag, Inc., 22519 Telegraph Rd., Detroit 41, Mich.
Advance Instrument Corp., 1109 Sixth Ave., Neptune, N. J.
Advanced Research Associates, Inc., Box 68, 4130 Howard Ave., Kensington, Md.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Autotronics, Inc., Route 1, Box 812, Florissant, Mo.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J. – Pg. 1101
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Belock Instrument Corp., 112-03 14th Ave., College Point 56, N. Y.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bowmar Instrument Corp., 400 Northern Blvd., Great Neck, N. Y.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cadillac Gage Co., P. O. Box 3806, Detroit, Mich.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Central Dynamics, Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.
Colorado Research Corp., Broomfield Heights, Colo.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut

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Data Systems, Norden Div., United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Daystrom Instrument, Archbald, Pa.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Digitran Co., 45 W. Union St., Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
Eclipse-Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electro-Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
FAE Instruments Co., 42-61 Hunter St., L. I. City, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Ford Instrument Co., Div. Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N. Y.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N. Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
GAP Instrument Corp., 116 Merrick Rd., Freeport, L. I., N. Y. – Pgs. 604, 605
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hoffman Labs Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Induction Motors of Calif., 6058 Walker Ave., Maywood, Calif.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Kearfott Company, Inc., Little Falls, N. J.
Kelsey-Hayes Co., 3600 Military, Detroit, Mich.
Ketay Dept., Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., Box 550, Burbank, Calif.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Link Aviation, Inc., Binghamton, N. Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Milro Controls Co., Park Ridge, N. J.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa. – Pgs. 723, 1176
Minneapolis-Honeywell, Transistor Div., 2753 4th Avenue, S., Minneapolis, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Moog Valve Co., Inc., Proner Airport, East Aurora, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y. – Pg. 725
Orbit Instrument Corp., 656 Main St., Westbury, N. Y.
Oster John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Rockwell Engineering Co., 2143 East 45th St., Indianapolis, Ind.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Servo Systems Co., 14 Carmer Avenue, Belleville, New Jersey
Servo-Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Canada, Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Special Instruments Lab, Inc., 312 W. Vine Ave., Knoxville, Tenn.
Spectrol Electronics Corp., 1704 S. Del Mar Ave., San Gabriel, Calif. – Pg. 1036
Standard Controls, Inc., 1130 Poplar Pl., Seattle, Wash.
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Teller Co., Box 989, Butler, Pa.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Thermal Dynamic Prod., Div. Waltham Precision, 38 W. 53rd St., New York, N. Y.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J. – Pg. 755
Thompson Ramo-Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.
Warren Mfg. Co., The, Littleton, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Weston Hydraulics, Ltd., 10918 Burbank Blvd., No. Hollywood, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.

CONTROLS, SIGNAL

Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.
North Electric Co., 553 S. Market St., Galion, Ohio
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Weston Hydraulics, Ltd., 10918 Burbank Blvd., No. Hollywood, Calif.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, SMOKE AND COMBUSTION–ELECTRONIC ..... Pgs. 849, 1053

Autotron, Inc., 3629 N. Vermilion – P. O. Box 722, Danville, Ill.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
De-Tec-Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electron-Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronics Corp. of Amer., Combustion Div., 1 Memorial Dr., Cambridge, Mass.
Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Victory Engrg. Corp., P. O. Box 373, Union, N. J. – Pg. 1053
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, SOUND SYSTEM ..... Pg. 1025

Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Federal Electronics Sales Div., Fedtro Inc., Rockville Centre, N. Y. – Pg. 1025
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

CONTROLS, SPECIFIC GRAVITY ..... Pg. 660

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Blonder-Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 660
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brooks Rotameter Co., P. O. Box 43, Landsdale, Pa.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Communication Co., 677 Beacon St., Boston, Mass.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS, SPEED ..... Pgs. 585, 745, 958, 1114, 1137

Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Automation Management Inc., Adams St., Westboro, Mass.
Autotronics, Inc., Route 1, Box 812, Florissant, Mo.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
CGS Laboratories, Inc., Routes 7 & 35, Ridgefield, Conn.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Curtis Develop. & Mfg. Co., 3278 N. 33rd St., Milwaukee, Wisc.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eastern Industries, Inc., 100 Skiff St., – Box 4372, Hamden, Conn.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Products Labs., 4501-EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.

CONTROLS. SPEED (continued)

Miltronics Co., 3733 N. 7th St., Milwaukee, Wisc.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Transistor Div., 2753 4th Avenue, S., Minneapolis, Minn.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.
Norrman Laboratories, Williams Bay, Wisc.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Potter Aeronautical Corp., Route 22, Union, N. J.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Revco, Inc., 1900 Lyndale Avenue, S., Minneapolis, Minn.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Sensory Inc., 10 New St., Norristown, N. J.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 745
Servomechanisms, Canada, Ltd., Rexdale Blvd. & Kipling Ave., Toronto, Canada
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio – Pg. 1137
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Uniwave, Inc., 109 Marine St., Farmingdale, New York
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldorf Instr. Co. Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

CONTROLS. STRAIN ..... **Pg. 703**

Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Good Electronic, Box 2706, West Palm Beach, Florida
Industrial Electronics, 8060 Wheeler St., Detroit, Mich. – Pg. 703
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Canada
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

CONTROLS. TELEMETERING ..... **Pgs. 824, 993, 1104, 1116, 1177**

Acromag, Inc., 22519 Telegraph Rd., Detroit, Mich.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Automation Dynamics Corp., 255 County Rd., Tenafly, N. J.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1116
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moore Associates Inc., 2628 Spring St., Redwood City, Calif.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Parsons, R. M., Co., Electronics Div., 151 S. De Lacey, Pasadena, Calif. – Pgs. 824, 1104
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Westinghouse Electric. Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

CONTROLS, TEMPERATURE–ELECTRONIC ..... **Pgs. 585, 586, 629, 663, 849, 1045, 1046, 1048, 1053, 1107, 1115**

Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Appalachian Electronic Instruments, 810 West Monroe Ave., Ronceverte, W. Va.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Assembly Products, Inc., 75 Wilson Mills Road, Chesterland, Ohio
Atlas Electric Products Co., P. O. Box 1591, Erie, Pa.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bar–Ray Products, Inc., 209 25th St., Brooklyn, N. Y.
Barber–Colman Co., Dept. F., 1410–7 Rock St., Rockford, Ill.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Can.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Chatham Controls Corp., 33 River Rd., Chatham, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Colorado Research Corp., Broomfield Heights, Colo.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Crown Controls Co., Inc., 40–44 S. Washington St., New Bremen, Ohio
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J. – Pg. 663
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Electro Products Labs., 4501–Em N. Ravenswood Ave., Chicago, Ill. – Pg. 1115
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Processes Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fenwal Incorporated, Ashland, Mass.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Fox Products Co., 4720 N. 18th St., Philadelphia, Pa.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hill, E.V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Indikon Co., 76 Coolidge Hill Rd., Watertown, Mass.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minn.
Manostat Corp., 20–26 N. Moore St., New York, N. Y.
Milro Controls Co., Park Ridge, N. J.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
Minneapolis–Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Philad. Scientific Glass Co., Rte. No. 1, Box 46C, Quakertown, Pa.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Piezo Products Co., Whitney St., Sherborn, Mass.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N. J.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Stevens Mfg. Co., P. O. Box 1007, Mansfield, Ohio – Pg. 1107
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Temperature Engrg Corp., U. S. Highway No. 130, Riverton, N. J.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Therm–O–Disc, Inc., Mansfield, Ohio
Thermo Electric Co., Inc., Saddle Brook, N. J.
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Control Corp., 4540 Union Bay Pl., Seattle, Wash.
United Electric Controls Co., 85 School St., Watertown, Mass.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vapor Heating Corp., 80 E. Jackson Blvd., Chicago, Ill.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Victory Engrg. Corp., P. O. Box 373, Union, N. J. – Pgs. 1045, 1046, 1048, 1053
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa. – Pg. 586
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.
Yellow Springs Instrument Co. Inc., Box 106, Yellow Springs, Ohio

CONTROLS, TENSION ..... **Pgs. 585, 932, 933, 937, 939**

Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Dial Products Co., 9 Avenue E., Bayonne, N. J.
Electric Eye Equip. Co., Box 609, Danville, Ill.
Electro–Mechanical Div., General Riverters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Jordan Co., Inc., 3225 W. Hampton Ave., Milwaukee, Wisc.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Transistor Div., 2753 4th Ave., S., Minneapolis, Minn.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

CONTROLS, THYRATRON GRID ..... **Pgs. 585, 932, 933, 937, 939**

Dunlap Electronics, 764 9th St., Des Moines, Iowa
Electro–Devices, Inc., 4–6 Godwin Ave., Paterson, N. J.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.

See YELLOW SECTION for local sales offices, telephones, etc.

Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J. – Pgs. 932, 933, 937, 939
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.–Pg. 585

CONTROLS, TIMING ..... Pgs. 516, 843, 849, 993, 1002, 1003

Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Automation Management Inc., Adams St., Westboro, Mass.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif.–Pg. 849
Bayside Timers, 45–25 162 St., Flushing, N. Y.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Compact Controls Co., 1635 No. Halsted St., Chicago, Ill.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dietz, Henry G. Co., 12–16 Astoria Blvd., L. I. City, N. Y.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Processes Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N. J.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio–Pg. 843
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.–Pg. 993
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Ingraham Co., The, Bristol, Conn.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lektra Lab., 154 11th Ave., New York, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Miller–Harris Instrument Co., 601 E. Ogden Ave., Milwaukee, Wisc.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Pantek Co., Box 212, El Segundo, Calif.
Paragon Electric Co., 1600–12th St., Two Rivers, Wisc.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Photoswitch Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Pomona Electronics Co., Inc., 1126 W. 5th Ave. – P. O. Box 729, Pomona, Calif.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Robotron Corp., 21300 W., 8 Mile Rd. – Box 4885, Detroit, Mich.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Taylor–Emmett Controls Inc., 445 E. Turkeyfoot Lake Rd., Akron, Ohio
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.–Pgs. 1002, 1003
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Textran Corp., Box 9207, Austin, Tex.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
U.S. Controls Inc., 161 Grand St., New York, N. Y.
Ulanet, George Co., 413 Market St., Newark, N. J.
Vacuum Tube Prods. Co., 2020 Short St., P. O. Box 810, Oceanside, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif.–Pg. 516
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.
Wilson G. C. & Co., 1915 8th Ave. – Box 5525, Huntington, W. Va.

CONTROLS, TORQUE–ELECTRONIC ..... Pg. 585

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Livermont, Inc., Myrtle & Maple Aves., Monrovia, Calif.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Teller Co., Box 989, Butler, Pa.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.–Pg. 585
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

CONTROLS, TOWER LIGHTING

Autotron, Inc., 3629 N. Vermilion – P. O. Box 722, Danville, Ill.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Hughey & Phillips, Inc., 3200 N. San Fernando Blvd., Burbank, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Stainless, Inc., 3rd St., North Wales, Pa.
Worner Electronic Devices, Rankin, Ill.

CONTROLS, TRAFFIC

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

CONTROLS, TURBIDITY

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co. Of Canada, 146 Kendal Ave., Toronto, Can.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.

CONTROLS, ULTRASONIC ..... Pgs. 1172–1174

Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Blackstone Corp. Ultrasonics, 1111 Allen St., Jamestown, N. Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J.–Pg. 1174
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y.–Pgs. 1172, 1173
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.

CONTROLS, VACUUM

Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dietz, Henry G. Co., 12–16 Astoria Blvd., L. I. City, N. Y.
Electronic Research Labs., 85 Surrey St., Brighton, Mass.
Ellison Draft Gage Co. Inc., 548 W. Monroe St., Chicago, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
Gpe Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General American Valve Co., P. O. Box 444, Corona Del Mar, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Hull–Standard Corp., Davisville Rd., Hatboro, Pa.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Manostat Corp., 20–26 N. Moore St., New York, N. Y.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Penn Controls, Inc., Goshen, Ind.
Philad. Scientific Glass Co., Rte. No. 1, Box 46C, Quakertown, Pa.
Process & Instruments, 15 Stone Ave., Brooklyn, N. Y.
Research Indl. Lab. of Elctrn., Roslyn, Pa.
Scientific Engineering Laboratory, 1510–6th St., Berkeley, Calif.
Ultradyne, Inc., Post Office Box 3308, Albuquerque, N. Mex.
United Electric Controls Co., 85 School St., Watertown, Mass.
Vacuum Tube Prods. Co., 2020 Short St., P. O. Box 810, Oceanside, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

CONTROLS, VENTILATING

Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Carson Mfg. Co., Inc., 2624 E. 55th St., Indianapolis, Ind.

CONTROLS. VENTILATING (continued)
Colorado Research Corp., Broomfield Heights, Colo.
Curtis Develop. & Mfg. Co., 3278 N. 33rd St., Milwaukee, Wisc.
Dietz, Henry G. Co., 12–16 Astoria Blvd., L. I. City, N. Y.
Fenwal Incorporated, Ashland, Mass.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Penn Controls, Inc., Goshen, Ind.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Worner Electronic Devices, Rankin, Ill.

CONTROLS. VOLTAGE REGULATING ..... **Pgs. 585, 1058**
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N. Y.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Assembly Products, Inc., 75 Wilson Mills Rd., Chesterland, Ohio
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St.W., Montreal, Can.
Carson Mfg. Co. Inc., 2624 E. 55 St., Indianapolis, Ind.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Rd., Little Falls, N. J.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
G–C Electronics Mfg., Div. GC–Textron, Inc., 400 S. Wyman St., Rockford, Ill.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hill, E.V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.–Pg. 1058
Holt Instrument Lab., Ocanto, Wisc.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Can.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Milro Controls Co., Park Ridge, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Peschel Electronics, Inc., Towners, Rfd 1, Patterson, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.
Regulator Equipment Corp., 52 Iowa Ave., Paterson, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn. – Pg. 585
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

CONTROLS. VOLUME & TONE ..... **Pgs. 1025, 1027**
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Eastern Jewel Corp., Rego Park, N. Y.
Federal Electronics Sales Div., Div. Fedtro Inc., Rockville Centre, N. Y.–Pg. 1025
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.

CONTROLS. WEIGHT ..... **Pg. 849**
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Management Inc., Adams St., Westboro, Mass.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif.–Pg. 849
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Exact Weight Scale Co., 944 W. 5 Ave., Columbus, Ohio
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Can.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Richardson Scale Co., Van Houten Ave., Clifton, N. J.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Toledo Scale Co., 1027 Telgraph Rd., Toledo, Ohio
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.
Worner Electronic Devices, Rankin, Ill.

See YELLOW SECTION for local sales offices, telephones, etc.

CONTROLS, WELDING ..... **Pgs. 585, 966**
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Ewald Instruments, Route No. 7–R, Kent, Conn.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Linde Co., Crystals Dept. – Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Milburn, Alexander Inc., 403 Penn St., Baltimore, Md.
Miller Electric Mfg. Co., 718 S. Bounds, Appleton, Wisc.
Peer, Inc., P. O. Box 697, Benton Harbor, Mich.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Robotron Corp., 21300 W. 8 Mile Rd. – Box 4885, Detroit, Mich.
Taylor–Winfield Corp., 1056 Mahonig, N. W., Warren, Ohio
Vacuum Tube Prods. Co., 2020 Short St., P. O. Box 810, Oceanside, Calif.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.–Pg. 585
Weldmatic, Div. Unitek Corp., 375 N. Halstead Ave., Pasadena, Calif.–Pg. 966
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

CONTROLS, X–RAY
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bracke–Seib X–Ray Co., Inc., 16 Pelham Bay Pk, W., Pelham Manor, N. Y.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
General Electric Co., X–Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Picker X–Ray Corp., 25 S. Broadway, White Plains, N. Y.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Triplett & Barton, Inc., 831 N. Lake St., Burbank, Calif.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric, X–Ray & Ind. Elctrns Div., 2519 Wilkins, Baltimore, Md.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

CONVERTERS, AMATEUR
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Electronics Design Co., 400 E. Cornell St., P. O. Box 401, Enid, Okla.
Industrial Development Engrg Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Johnson, E. F. Co., 1439 Second Ave., S W, Waseca, Minn.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Radio Mfg. Engineers, Inc., Div. Electro–Voice, Inc., Buchanan, Mich.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Terado Co., 1068 Raymond St., St. Paul, Minn.

CONVERTERS, ANALOG TO DIGITAL ..... **Pgs. 536, 550, 666, 674, 711, 1021, 1176**
Adage, Inc., 292 Main St., Cambridge, Mass.
Adcon Corp., 1117 Commonwealth Ave., Boston, Mass.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Baldwin Piano Co., The, 1806 Gilbert Ave., Cincinnati, Ohio – Pg. 536
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
CGS Laboratories, Inc., Routes 7 & 35, Ridgefield, Conn.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.
Coleman Engineering Co., Inc., 3500 Torrance Blvd., Torrance, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Data Systems, Norden Div. United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Datex Corp., 1307 So. Myrtle Ave., Monrovia, Calif.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Daystrom Systems, Div. Daystrom, Inc., La Jolla, Calif.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dychro Corp., 125 Mt. Vernon St., Watertown, Mass.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.–Pg. 666
Electro–Mec Lab., Inc., 47–51 33rd St., L. I. City, N. Y.–Pg. 1021
Electro Precision Corp., Arkadelphia, Ark.
Electronic Associates, Inc., Long Branch, N. J.
Electronic Computer Co., Inc., 618 Maple St., Conshohoken, Pa.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Fireye Div., Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L. I. City, N. Y.
Franklin Electronics, Inc., Bridgeport, Pa.–Pg. 674
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hoover Electronics Co., 110 West Timonium Rd., Timonium, Md.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.

Instrument Development Labs, Inc., 67 Mechanic St., Attleboro, Mass.
Inter-Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.–Pg. 711
Kearfott Company, Inc., Little Falls, N. J.
Kin Tel Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Macleod & Hanopol, Inc., 10 Roland St., Charlestown, Mass.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.–Pg. 1176
Minneapolis-Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.–Pg. 550
Non-Linear Systems, Inc., Del-Mar Airport—Box 728, Del-Mar, Calif.
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Production Research Corp., Thornwood, N. Y.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Special Instruments Lab. Inc., 312 W. Vine Ave., Knoxville, Tenn.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systron Corp., 950 Galindo St., Concord, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wang Laboratories, Inc., 37 Hurley St., Cambridge, Mass.
Wayne-George Corp., 1117 Commonwealth Ave., Boston, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

CONVERTERS, CARD TO TAPE ..... Pg. 769

Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp. Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mosley F. L. Co., 409 N. Fair Oaks Ave., Pasadena, Calif.–Pg. 769
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Remington Rand, Div. Sperry Rand Corp., 315 Fourth Ave., New York, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N. Y.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.

CONVERTERS, DIGITAL TO ANALOG ..... Pgs. 550, 655, 666, 711, 1176

Adage, Inc., 292 Main St., Cambridge, Mass.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.–Pg. 655
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Coleman Engineering Co., Inc., 3500 Torrance Blvd., Torrance, Calif.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Data Systems, Norden Div. United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.–Pg. 666
Electronic Associates, Inc., Long Branch, N. J.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Ford Instrument Co., Div. Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N. Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hoover Electronics Co., 110 West Timonium Rd., Timonium, Md.
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.–Pg. 711
Kearfott Company, Inc., Little Falls, N. J.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.–Pg. 1176
Nacimco Prods., P. O. Box 248, Old San Diego Sta., San Diego, Calif.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.–Pg. 550
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Shepard Laboratories, Inc., Broad St., Summit, N. J.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systems Labs. Corp., 14852 Ventura, Sherman Oaks, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N. Y.
Teller Co., Box 989, Butler, Pa.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

CONVERTERS, FREQUENCY SHIFT KEYING

Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Crosby Labs, Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29-01 Borden Ave., L. I. City, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Northern Radio Co., Inc., 143 West 22nd St., New York, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Stelma, Inc., 190 Henry St., Stamford, Conn.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.

CONVERTERS, FREQUENCY, TEST ..... Pgs. 655, 902, 903

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electric Motor & Specialties, Inc., King & Hamsher Sts., Garrett, Ind.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Opad Electric Co., 69-12 Murray St., New York, N. Y.
Potter Aeronautical Corp., Route 22, Union, N. J.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robertshaw-Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.

CONVERTERS, HIGH FREQUENCY ..... Pgs. 725, 812, 902, 903, 906, 1103, 1176

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Electric Motor & Specialties, Inc., King & Hamsher Sts., Garret, Ind.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hewlett-Packard Co., 4801R Pane Mill Rd., Palo Alto, Calif. – Pg. 812
Hobart Bros., Hobart Square, E. Troy, Ohio
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Massa Labs, Inc., 5 Fottler Rd., Hingham, Mass.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.

CONVERTERS, INSTRUMENTS, ELECTRONIC ..... Pgs. 725, 906, 1103, 1176

Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eldorado Electronics Co., 2821-10th St., Berkeley, Calif.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Indikon Co., 76 Coolidge Hill Rd., Watertown, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Phila, Pa. – Pg. 1176
North Atlantic Industries, 603 Main St., Westbury, N. Y. – Pg. 725
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systron Corp., 950 Galindo St., Concord, Calif.

CONVERTERS. INSTRUMENTS. ELECTRONIC (continued)
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

CONVERTERS. LOW FREQUENCY ..... **Pgs. 830, 902, 903, 906, 1103, 1176**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electric Motor & Specialties, Inc., King & Hamsher Sts., Garrett, Ind.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Hobart Bros., Hobart Square, E. Troy, Ohio
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1176
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

CONVERTERS. MICROWAVE ..... **Pgs. 830, 906, 1103**
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Kearfott Company, Inc., Little Falls, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Microwave Associates, Inc., Burlington, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Waveline, Inc., Box 718, W. Caldwell, N. J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.

CONVERTERS. POWER FREQUENCY. ELECTRONIC .... **Pgs. 743, 899, 906, 951, 955, 956, 1036, 1037, 1103**
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Communication Measurements Labs, Inc., 350 Leland Ave., Plainfield, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J. – Pg. 899
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Pesco Prod. Div., Western Br., Borg-Warner Corp., 3310 Vanowen, Burbank, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radiart Corp., The, 2900 Columbia Ave., Indianapolis, Ind.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J. – Pg. 743
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn. – Pg. 951
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spectrol Electronics Corp., 1704 S. Del Mar Ave., San Gabriel, Calif. – Pgs. 1036, 1037
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J. – Pg. 955
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Tung-Sol Electric Co., 95 8th Ave., Newark, N. J. – Pg. 956
United Control Corp., 4540 Union Bay Place, Seattle, Washington
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

CONVERTERS. POWER FREQUENCY. ROTARY ..... **Pgs. 902, 903, 906, 1103**
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Carter Motor Co., 2733 W. George St., Chicago 18, Ill.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electric Specialty Co., 300 South St., Stamford, Conn.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Great Lakes Elect. Mfg. Co., 17 S. Desplaines St., Chicago, Ill.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Pesco Prod. Div., Western Br., Borg-Warner Corp., 3310 Vanowen, Burbank, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

CONVERTERS. POWER FREQUENCY. VIBRATOR
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Radiart Corp., The, 2900 Columbia Ave., Indianapolis, Ind.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Standard Electric Time Co., The, 89 Logan St., Springfield 2, Mass.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Terado Co., 1068 Raymond St., St. Paul, Minn.

CONVERTERS. R–F ..... **Pgs. 830, 906, 1103**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Electronics Co., 1203-05 Bryant Ave., New York, N. Y.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Johnson, E. F., Co., 1439 Second Ave., S.W., Waseca, Minn.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Knight, Ewan Corp., 206 A St., Needham, Mass.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., Long Island City, N.Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.

CONVERTERS. ROTARY ..... **Pgs. 902, 903, 906, 1103**
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bill Jack Scientific Instr. Co., P.O. Box C–3, Solano Beach, Calif.
Carter Motor Co., 2733 W. George St., Chicago 18, Ill.
Data Systems, Norden Div. United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electric Specialty Co., 300 South St., Stamford, Conn.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Great Lakes Elect. Mfg. Co., 17 S. Desplaines St., Chicago, Ill.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Katolight Corp., Mankato, Minn.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Pesco Prod. Div., Western Br., Borg–Warner Corp., 3310 Vanowen, Burbank, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

CONVERTERS. SINGLE SIDEBAND RECEIVER
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N.Y.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., Long Island City, N.Y.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N.Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Palmer, M.V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div. 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Mfg. Engineers, Inc., Div. Electro–Voice, Inc., Buchanan, Mich.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

CONVERTERS. TAPE TO CARD ..... **Pg. 769**
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.

See YELLOW SECTION for local sales offices, telephones, etc.

Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digitronics Corp., Albertson Ave., Albertson, L.I., N.Y.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Mosley, F. L., Co., 409 N. Fair Oaks Ave., Pasadena, Calif. – Pg. 769
Remington Rand, Div. Sperry Rand Corp., 315 Fourth Ave., New York, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.

CONVERTERS, TELEVISION ..... Pg. 660
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Blonder-Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 660
Community Engineering Corp., State College, Pa.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Jerrold Electronics, Indl.Prod. Div., Dept. T E D 27, Jerrold Bldg., Phila., Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.

CONVERTERS, UHF TO VHF ..... Pg. 660
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Blonder-Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 660
Community Engineering Corp., State College, Pa.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N.J.
Granco Products, Inc., 36-17 20th Ave., Long Island City, N.Y.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27, Jerrold Bldg., Phila., Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.

CONVEYORS
Apex Machine Co., 14-13 118th St., College Point, N.Y.
Commercial Filters Corp., 2 Main St., Melrose, Mass.
Feiner, P. & Sons, 522 W. 45th St., New York, N.Y.
Forter-Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
Jeffery Mfg. Co., 803 N. 4th St., Columbus, Ohio
Lamson Corp., Lamson St., Syracuse, N.Y.
Mechaneers, Inc., Westport, Conn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
New London Engineering Co., 1700 Division St., New London, Wisc.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.
Reltron Corp., 26 Nosman St., Newton, Mass.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N.Y.

COOKING EQUIPMENT, ELECTRONIC
Fireye Div., Electronics Corp. of America, One Memorial Dr., Cambridge, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Raytheon Mfg., Co., Microwave Heating Products Ddpt., Waltham, Mass.

COPPER – SEE METALS

COPPER CLAD LAMINATES – SEE LAMINATES, METAL CLAD

CORDS, DIAL CORDS & CABLES ..... Pg. 1190
Ampco Mfg. Co., 9 Kiver St., Morristown, N.J.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Colman Elctrn. Prod., Inc., P.O. Box 7026, Amarillo, Texas
Consolidated Wire & Asso. Companies, 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hackensack Cable Corp., 110 Orchard St., Hackensack, N.J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
National Multi-Prods., Co., 5049 N. Clark St., Chicago, Ill.
New England Electrical Works, Inc., Lisbon, N.H.
North Electric Co., 553 S. Market St., Galion, Ohio
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Smith, Herman H, Inc., 2326 Nostrand Ave., Brooklyn, N.Y.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Telex, Telex Park, St. Paul, Minn.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R.I.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

CORDS, LINE & SET ..... Pgs. 1179-1183, 1186, 1187, 1189-1191, 1206
Alden Products Co., 146 N. Main Street, Brockton, Mass.
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179, 1180, 1181, 1182, 1183
Ampco Mfg. Co., 9 Kirver St., Morristown, N.J.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y. – Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1191
Cadre Industries Corp., Box 150, Endicott, N.Y.
Circle Mfg. Co., 720 Monmouth St. – P.O. Box 591, Trenton 4, N.J.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Asso. Companies, 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Cornish Wire Co., 50 Church St., New York, N.Y.
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N.Y.
Electric-Cord Mfg. Co., 2554 E. 18th St., Brooklyn, N.Y.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Fisch Mfg. Co., Inc., Bedford Hills, N.Y.
Gem Electric Mfg. Co., 233-37th St., Brooklyn, N.Y.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
General Insulated Wire Works, 69 Gordon Ave., Providence, R.I.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Kasson Die & Motor Corp., 34-08 Northern Blvd., Long Island City, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Miller Electric Co., 120 Main St., Pawtucket, R.I.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
National Multi-Prods., Co., 5049 N. Clark St., Chicago, Ill.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N.Y.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Royal Electric Corp., Electronic Cable Div., 94 Grand Ave., Pawtucket, R.I.
Rye Sound Corp., 145 Elm St., Mamaroneck, N.Y.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N.Y. – Pg. 1206
Sperti-Faraday, Inc., Adrian, Mich.
Star-A Electric Mfg. Co., 269 Meserol St., Brooklyn, N.Y.
Superior, Insulated Wire Co., Washburns La., Stony Point, N.Y.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R.I.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

CORDS, LINE, RESISTANCE ..... Pgs. 1186, 1187, 1189, 1190
Ampco Mfg. Co., 9 Kiver St., Morristown, N.J.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y. – Pgs. 1186, 1187
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Asso. Companies, 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Miller Electric Co., 120 Main St., Pawtucket, R.I.

CORDS, PATCH ..... Pgs. 466, 574, 575, 648, 1186, 1187, 1189, 1191, 1207
AMP, Inc., Eisenhower Blvd., Harrisburg, Pa.
Air-O-Tronics Engrg. Co., P.O. Box 31, Lancaster, Calif.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Ampco Mfg. Co., 9 Kiver St., Morristown, N.J.
Andrew California Corp., 941 S. Maryland Ave., Claremont, Calif.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N.Y.
Associated Engineering Corp., 65 Kent St., Brookline, Mass. – Pg. 648
Audio Accessories, 279 Broadway, Amityville, N.Y.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y. – Pgs. 1186, 1187
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1191
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Empire Electronics Co., Inc., 166 River St., Paterson, N.J.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N.Y.
Fisch Mfg. Co., Inc., Bedford Hills, N.Y.
Gavitt Wire & Cable Co., Div. Of Amerace Corp., Brookfield, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, N. Y.
Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Miller Electric Co., 120 Main St., Pawtucket, R.I.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, Ill.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Pomona Electronics Co., Inc., 1126 W. 5th Ave.--P.O. Box 729, Pomona, Calif. – Pgs. 574, 575
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Rye Sound Corp., 145 Elm St., Mamaroneck, N.Y.
Smith, Herman H., Inc., 2326 Nostrand Ave., Brooklyn, N.Y.
Standard Electric Time Co., The, 89 Logan St., Springfield 2, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Trimm, Inc., 400 Lake St., Libertyville, Ill.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D.C.

CORDS, RETRACTILE ..... Pg. 1205
Ampco Mfg. Co., 9 Kiver St., Morristown, N.J.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Blake, Whitney Co., New Haven, Conn.
Electro-Products, Inc., 15050 Schaefer Hwy., Detroit, Mich.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Fisch Mfg. Co., Inc., Bedford Hills, N.Y.
Gavitt Wire & Cable Co., Div. Of Amerace Corp., Brookfield, Mass.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
General Insulated Wire Works, 69 Gordon Ave., Providence, R.I.
Koiled Kords, Inc., Box K, New Haven, Conn.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Miller Electric Co., 120 Main St., Pawtucket, R.I.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Roanwell Corp., 180 Varick St., New York, N.Y.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Trimm, Inc., 400 Lake St., Libertyville, Ill.

CORDS & TAPES, LACING ..... Pgs. 785, 1179-1184, 1191, 1192
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179, 1180, 1181, 1182, 1183
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Bentley-Harris Mfg. Co., Conshohocken, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Eby Sales Co., 130 Lafayette St., New York, N.Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 1191
Gudebrod Bros., Silk Co., Inc., 225 W. 34th St., New York, N.Y.
Heminway & Bartlett Mfg. Co., 500 Fifth Ave., New York, N.Y.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
Illumitronic Engg., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Plymouth Rubber Co., Inc., Canton, Mass.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl 15-1, Camden, N.J.
Taylor Electric Co., Inc., 15400 Dale Ave., Detroit, Mich.
Varflex Corp., 512 W. Court St., Rome, N.Y.

CORES, CERAMIC ..... Pg. 779
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.

CORES. CERAMIC (continued)
Carborundum, Co., The, P.O. Box 337, Niagara Falls, N.Y.
Du-Co Ceramics Co., Box 587, Butler, Pa.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Ferroxcube Corp. Of America, 125 E. Bridge St., Saugerties, N.Y.
Frenchtown Porcelain Co., Frenchtown, N.J.
General Ceramics Corp., Keasbey, N.J. – Pg. 779
Gladding McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N.J.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N.J.
Maryland Lava Co., Ceramic Dept – Box 205, Bel Air, Md.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Norton Co., 1 New Bond St., Worcester, Mass.
Radio Corp. Of America, Electron Tube Div., 415 S. Fifth St., Harrison, N.J.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga 1, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N.J.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.
Wisconsin Porcelain Co., Sun Prairie, Wis.

CORES, CUT. C. E. O & U ..... Pg. 598
Arnold Engineering Co., The, P.O. Box G, Marengo, Ill. – Pg. 598
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Carstedt Research, Inc., 2501 E. 68th St., Long Beach, Calif.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Thomas & Skinner, Inc., 1100 E. 23rd St., Indianapolis, Ind.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.

CORES, DELAY LINE – SEE DELAY LINES

CORES, FERRITE ..... Pg. 779
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N.J.
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Fair-Rite Products Corp., P.O. Box 358, Wallkill, N.Y.
Ferroxcube Corp. Of America, 125 E. Bridge St., Saugerties, N.Y.
General Ceramics Corp., Keasbey, N.J. – Pg. 779
General Electric Co., Hvy. Military Elect. Dept., Court St. Plant, Syracuse, N.Y.
Intelex Systems, Inc., 22 Thames St., New York, N.Y.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Krystinel Corp., Fox Island Rd., Port Chester, N.Y.
Magnetic Core Corp., John St., P.O. Box 368, Newburgh, N.Y.
National Moldite Co., 250 South St., Newark, N.J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Stackpole Carbon Co., St. Marys, Penn.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Superex Electronics Corp., 4–6 Radford Pl., Yonkers, N. Y.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.

CORES, HIGH PERMEABILITY MAGNETIC ..... Pg. 598
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Arnold Engineering Co., The, P. O. Box –, Marengo, Ill. – Pg. 598
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Ceramet Corp., 5905 Broadway, New York, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Magnetic Core Corp., John St., P. O. Box 368, Newburgh, N. Y.
Magnetic Metals Co., Hayes Ave., 21st St., Camden, N. J.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
National Moldite Co., 250 South St., Newark, N. J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q. O. S. Corp., 621 E. 216th St., New York, N. Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Specialty Transformer Dept., P. O. Box 231, Greenville, Pa.

CORES, IRON ..... Pg. 598
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Arnold Engineering Co., The, P. O. Box G, Marengo, Ill. – Pg. 598
Carstedt Research, Inc., 2501 E. 68th St., Long Beach, Calif.
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
National Moldite Co., 250 South St., Newark, N. J.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q. O. S. Corp., 621 E. 216th St., New York, N. Y.
Research Dev. Mfgr., Inc., 429 E. Collom St., Philadelphia, Pa.
Stackpole Carbon Co., St. Marys, Penn.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

CORES, LAMINATED
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Carstedt Research, Inc., 2501 E. 68th St., Long Beach, Calif.
Franklin Fibre-Lamitex Co., P. O. Box 1768, Wilmington, Dela.
G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden, N. J.
Magnetic Metals Co., Hayes Ave., 21st St., Camden, N. J.
Nareco Resins & Coatings Co., 600 Victoria St., Costa Mesa, Calif.

CORES, MEMORY UNIT ..... Pg. 779
Alden Products Co., 146 N. Main St., Brockton, Massachusetts
Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
CK Components, 101 Morse St., Watertown, Mass.
General Ceramics Corp., Keasbey, N. J. – Pg. 779
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Remington Rand, Div. Sperry Rand Corp., 315 Fourth Ave., New York, N. Y.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N. Y.

CORES, POWDERED IRON ..... Pg. 598
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Arnold Engineering Co., The, P. O. Box G, Marengo, Ill. – Pg. 598
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
International Powder Metallurgy Co., 439 W. Main St., Ridgway, Pa.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Magnetic Core Corp., John St., P. O. Box 368, Newburgh, N. Y.
National Moldite Co., 250 South St., Newark, N. J.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q. O. S. Corp., 621 E. 216 St., New York, N. Y.
Quality Components, Inc., St. Marys, Pa.
Radio Cores, Inc., 9540 Tulley Ave., Oak Lawn, Ill.

CORES, SLUG TUNING UNITS
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Pl., L. I., N. Y.
Magnetic Core Corp., John St., P. O. Box 368, Newburgh, N. Y.
National Moldite Co., 250 South St., Newark, N. J.
Quality Components, Inc., St. Marys, Pa.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

CORES, TAPE WOUND ..... Pg. 598
Alden Products Co., 146 N. Main St., Brockton, Massachusetts
Arnold Engineering Co., The, P. O. Box G, Marengo, Ill – Pg. 598
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Magnetic Metals Co., Hayes Ave., 21st St., Camden, N. J.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Thomas & Skinner, Inc., 1100 E. 23rd St., Indianapolis, Ind.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Specialty Transformer Dept., P. O. Box 231, Greenville, Pa.

CORES, TOROIDAL ..... Pg. 598
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Arnold Engineering Co., The, P. O. Box G, Marengo, Ill. – Pg. 598
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Carstedt Research, Inc., 2501 E. 68th St., Long Beach, Calif.
Connolly, Wallace E. & Co., P. O. Box 295, Menlo Park, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden, N. J.
General Ceramics Corp., Keasbey, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Magnetic Core Corp., John St., P. O. Box 368, Newburgh, N. Y.
Magnetic Metals Co., Hayes Ave., 21st St., Camden, N. J.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
National Moldite Co., 250 South St., Newark, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q. O. S. Corp., 621 E. 216th St., New York, N. Y.
Radio Cores, Inc., 9540 Tulley Ave., Oak Lawn, Ill.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Thomas & Skinner, Inc., 1100 E. 23rd St., Indianapolis, Ind.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Specialty Transformer Dept., P. O. Box 231, Greenville, Pa.

CORK – SEE INSULATION MATERIAL

CORRECTOR, APERTURE
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.

COUNTERMEASURES, ELECTRONIC – ALSO SEE JAMMING EQUIPMENT
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
CGS Laboratories, Inc., Rte. 7 and 35, Ridgefield, Conn.
Chesapeake Instrument Corp., Shadyside, Md.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dare, Inc., Rte. 25, Troy, Ohio
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. At 238th, Bronx, N. Y.
Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Gibbs Mfg. & Research Corp., 454 N Main St., Janesville, Wis.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N.Y.
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, New York
Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Maxon, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Microtech, Inc., 2975 State Street, Hamden, Conn.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Microwave Radiation Co., 19223 S.Hamilton St., Gardona, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Missiloonics Inc., Melbourne Airport, Melbourne, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photobell Co. Inc., 43 Vesey St., New York, N.Y.
Polarad Electronics Corp., 43–20 34th St., L.I. City, N.Y.
Radiation, Inc., P.O. Box 37, Melbourne, Fla.

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Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N.H.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Textran Corp., Box 9207 Austin, Texas
Thompson Ramo-Wooldridge, Tapco GP., Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.

COUNTERS, DIRECTIONAL ..... Pg. 1106

Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Intimex Corp., 8416 Georgia Ave., Silver Spring, Md.
Kearfott Company, Inc., Little Falls, N.J.
Ransom Research, P. O. Box 269 – 323 W. 7th St., San Pedro, Calif.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

COUNTERS, ELECTRO-MAGNETIC ..... Pgs. 963, 1000

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing, Mich.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
American Designed Components, Inc., Jericho, N.Y.
Automation Management Inc., Adams St., Westboro, Mass.
Bill Jack Scientific Instr. Co., P.O. Box C-3, Solano Beach, Calif.
Boesch Mfg. Co., Inc., 45 River St., Danbury, Conn.
CK Components, 101 Morse St., Watertown, Mass.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Digitac, Inc., 143 So. Cedros, Solana Beach, Calif.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Durant Mfg. Co., 1958 No. Buffum St., Milwaukee, Wis.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eagle Signal Corp., 202-20th St., Moline, Ill.
Electro-Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N.Y.
Epic, Inc., 154 Nassau Street, New York, N.Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Hoffman Labs Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Intimex Corp., 8416 Georgia Ave., Silver Spring, Md.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Landis & GYR, Inc., 45 W. 45th St., New York, N. Y.
Mueller Laboratories, 1052 N. Allen Ave., Pasadena, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N.Y.
Presin Co., 2014 Broadway, Santa Monica, Calif. – Pg. 963
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N.J.
Sensory Inc., 10 New St., Norristown, N.J.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 1000
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

COUNTERS, ELECTRONIC .... Pgs. 510, 516, 540, 546, 550, 647, 655, 672, 680, 690, 702, 812, 813, 849

AD-YU Electronics Lab., Inc., 249-259 Terhune Ave., Passaic, N.J – Pg. 647
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Automation Management Inc., Adams St., Westboro, Mass.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Boesch Mfg., Co., Inc., 45 River St., Danbury, Conn.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Burroughs Corp., Electronic Tube Div., P.O. Box 1226, Plainfield, N.J.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix Inc., 4000 N.W. 28th St., Miami, Fla.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 540
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Davidson Electrn. Development, 1221 Peach St., Erie, Pa.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Deltime, Inc., 608 Fayette Ave., Mamaroneck, N.Y.
DI-AN Controls, Inc., 40 Leon St., Boston, Mass.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Durant Mfg. Co., 1958 N. Buffum St., Milwaukee, Wisc.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldorado Electronics Co., 2821 10th St., Berkeley, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electro-Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672
Electronic Associates, Inc., Long Branch, N. J.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 510
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y. – Pg. 680
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.– Pgs. 690,812,813
Hunter Mfg. Co., 108 N. Linn St., Iowa City, Ia.
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lavoie Laboratories, Inc., Morganville, N. J.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nuclear-Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Pantek Co., P. O. Box 212, El Segundo, Calif.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Potter Aeronautical Corp., Rte. 22, Union, N. J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Power Supplies, Inc., P. O. Box 269, Rte. 143, Highland, Ill.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ransom Research, P. O. Box 269 – 323 W. 7th St., San Pedro, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
S-R Electronics, 3200 First Ave., S., Seattle, Wash.
Scientific Engineering Laboratory, 1510 6th St., Berkeley, Calif.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., P. O. Box 13058, Houston, Tex.
Standard Electric Time Co., The, 89 Logan St., Springfield, Mass.
Stelma, Inc., 190 Henry St., Stamford, Conn.
Systron Corp., 950 Galindo St., Concord, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Victor Adding Machine Co., 3900 N. Rockwell St., Chicago, Ill.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

COUNTERS, FREQUENCY ..... Pgs. 516, 540, 546, 647, 655, 672, 690, 702, 812, 813

AD-YU Electronics Lab., Inc., 249-259 Terhune Ave., Passaic, N.J. – Pg 647
Airpax Products Co., Central Engr. Div. P.O.Box 8488, Ft. Lauderdale, Fla.
Automation Management Inc., Adams St., Westboro, Mass.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Beckman/Berkely Div, 2200 Wright Ave., Richmond, Calif. – pg. 655
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 540
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N.Y.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electro-Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.– Pgs. 690, 812, 813
Hoffman H.L. & Co., 3403 Garrison Blvd., Baltimore, Md.
I-L-S Instrument Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Magnetics Research Co., 255 Grove St., White Plains, N.Y.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nuclear-Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Oxford Eng Rg. Co., 47A River St., Wellesley Hills, Mass.
Pantek Co., Box 212, El Segundo, Calif.
Potter Aeronautical Corp., Route 22, Union, N.J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N.H.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St.Claire St., Dayton, Ohio
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif. – Pg. 516

COUNTERS, GEIGER

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Amperex Electronic Corp., P.O. Box 418 230 Duffy Ave., Hicksville, L.I., N.Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Atomic Acessories, Inc., 244-02 Jamaica Ave., Bellerose 26, N.Y.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Heath Co., Benton Harbor, Mich.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Leighton, H.W. Labs., Sunset La & York Rd., Hatboro, Pa.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Nuclear-Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N.J.
Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo.
Nuclear-Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.

COUNTERS, GEIGER (continued)
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

COUNTERS, IMPULSE, ELECTRONIC ..... **Pgs. 510, 516, 540, 546, 550, 647, 680, 690, 702, 742, 812, 813, 1000**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
AD–YU Electronics Lab., Inc., 249–259 Terhune Ave., Passaic, N.J. – Pg. 647
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
American Designed Components, Inc., Jericho, N.Y.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Boesch Mfg. Co., Inc., 45 River St., Danbury, Conn.
Bowmar Instrument Corp., 400 Northern Blvd., Great Neck, N.Y.
Burroughs Corp., Electronic Tube Div., P.O. Box 1226, Plainfield, N.J.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Colorado Research Corp., Broomfield Heights, Colo.
Computer–Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 540
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
DI–AN Controls, Inc., 40 Leon St., Boston, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 510
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y. – Pg. 680
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N.Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 690, 812, 813
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N.Y.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Moedlectric Products Corp., 1500 Bangs Ave., Asbury Park, N.J.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N.H.
Oxford Eng. Rg. Co., 47A River St., Wellesley Hills, Mass.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Peschell Electronics, Inc., Towners, RFD 1, Patterson, N.Y. – Pg. 742
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Potter Aeronautical Corp., Route 22, Union, N.J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 1000
Strandberg Engrg. Labs., Inc., 416 W. Market S., Greensboro, N.C.
Streeter–Amet Co., Grayslake, Ill.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Uniwave, Inc., 109 Marine St., Farmingdale, New York
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

COUNTERS, MECHANICAL ..... **Pg. 963**

American Designed Components, Inc., Jericho, N. Y.
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Automation Management, Inc., Adams St., Westboro, Mass.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Boesch Mfg. Co., Inc., 45 River St., Danbury, Conn.
Bowmar Instrument Corp., 400 Northern Blvd., Great Neck, N. Y.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Durant Mfg. Co., 1958 No. Buffum St., Milwaukee, Wis.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Epic, Inc., 154 Nassau St., New York, N. Y.
Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Intimex Corp., 8416 Georgia Ave., Silver Spring, Md.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., P. O. Box 550, Burbank, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photocon Research Products, P. O. Box 5485, 421 N. Altadena Dr., Pasadena, Calif.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Presin Co., 2014 Broadway, Santa Monica, Calif. – Pg. 963
Richardson Scale Co., Van Houten Ave., Clifton, N. J.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

COUNTERS, PHOTOELECTRIC ..... **Pgs. 655, 680, 702, 703, 963**

Automation Management, Inc., Adams St., Westboro, Mass.
Autotron, Inc., 3629 N. Vermilion, P. O. Box 722, Danville, Ill.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Durant Mfg. Co., 1958 No. Buffum St., Milwaukee, Wis.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y. – Pg. 680
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Industrial Electronics, 8060 Wheeler St., Detroit, Mich. – Pg. 703
Intimex Corp., 8416 Georgia Ave., Silver Spring, Md.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Pantek Co., P. O. Box 212, El Segundo, Calif.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Potter Aeronautical Corp., Rte. 22, Union, N. J.
Presin Co., 2014 Broadway, Santa Monica, Calif. – Pg. 963
Ransom Research, P. O. Box 269, 323 W. 7th St., San Pedro, Calif.
Ripley Co., Inc., Middletown, Conn.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Servo–Tex Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Streeter–Amet Co., Grayslake, Ill.
Taller & Cooper Co., 75 St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.

COUNTERS, PROPORTIONAL
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Atomic Accessories, Inc., 244–02 Jamaica Ave., Bellerose, N. Y.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isotopes Specialties Co., P. O. Box 688, Burbank, Calif.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira, N. Y.
Wood, N. E. Counter Laboratory, 1525 E. 53rd St., Chicago, Ill.

COUNTERS, RADIATION ..... **Pg. 848**

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 848
Atomic Accessories, Inc., 244–02 Jamaica Ave., Bellerose, N. Y.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Franklin Electronics, Inc., Bridgeport, Pa.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Heath Co., Benton Harbor, Mich.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isotopes Specialties Co., P. O. Box 688, Burbank, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Landis & Gyr, Inc., 45 W. 45th St., New York, N. Y.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
S–R Electronics, 3200 First Ave., S. Seattle, Wash.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Tung–Sol Electric, Inc., Newark, N. J.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Westinghouse Electric Corp., Electronic Tube Div., P. O. Box 284, Elmira, N. Y.
Wood, N. E. Counter Laboratory, 1525 E. 53rd St., Chicago, Ill.

COUNTERS, REVOLUTION ..... **Pgs. 516, 655, 680, 702, 750, 963**

Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Deltime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.

See YELLOW SECTION for local sales offices, telephones, etc.

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Digitran Co., 45 W. Union St., Pasadena, Calif.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Durant Mfg. Co., 1958 No. Buffum St., Milwaukee, Wisc.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eagle Signal Corp., 202 20th St., Moline, Ill.
Epic, Inc., 154 Nassau St., New York, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y. – Pg. 680
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Industrial Winding Machinery Corp., 120 Wall St., New York, N. Y.
Intimex Corp., 8416 Georgia Ave., Silver Spring, Md.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Perfomance Measurements Co., 15301 W. McNichols, Detroit, Mich.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Photocon Research Products, P. O. Box 5485–421 N. Altadena Dr., Pasadena, Calif.
Potter Aeronautical Corp., Route 22, Union, N. J.
Presin Co., 2014 Broadway, Santa Monica, Calif. – Pg. 963
Richardson Scale Co., Van Houten Ave., Clifton, N. J.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., P. O. Box 13058, Houston, Tex.
Standard Electric Time Co., The, 89 Logan St., Springfield, Mass.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y. – Pg. 750
Strandberg Engrg. Labs., Inc., 416 W. Market St., Greensboro, N. C.
Streeter–Amet Co., Grayslake, Ill.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Veeder–Root, Inc., 28 Sargeant St., Hartford, Conn.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

COUNTERS, SCINTILLATION

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Franklin Electronics, Inc., Bridgeport, Pa.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isotopes Specialties Co., P. O. Box 688, Burbank, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Pilot Chemicals, Inc., 36 Pleasant St., Watertown, Mass.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Royco Instruments, Inc., 874 Fabian Way, Palo Alto, Calif.
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Wood, N. E. Counter Laboratory, 1525 E. 53rd St., Chicago, Ill.

COUPLERS, ANTENNA ..... Pgs. 527, 793, 803, 804

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y. – Pg. 527
Arkay Products Mfg. Co., 4111–13 W. Jefferson Blvd., Los Angeles, Calif.
B. & M. Electronics Mfg. Co., 2516 Dodge Ave., Fort Wayne, Ind.
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Channel Master Corp., Ellenville, N. Y.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Crown Controls Co., Inc., 40–44 S. Washington St., New Bremen, Ohio
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. – Pg. 803
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hycon Eastern, Inc., 75 Cambridge P'kway., Cambridge, Mass.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Javex, P. O. Box 646, Redlands, Calif.
Jerrold Electronics, Indl. Prod. Div., Dept. T. E. D., 27 Jerrold Bldg., Phila., Pa.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kay–Towns Antenna Co., 1511 Dean Ave., Rome, Ga.
Kearfott Company, Inc., Little Falls, N. J.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York, N. Y.
Ram Electronics Co., 600 Indusxrial Ave., Paramus, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage–Craft, Inc., Norwich, N. Y.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Vidaire Electronics Mfg. Corp., 44 Church St., Baldwin, New York
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

COUPLERS, DIRECTIONAL ... Pgs. 712, 748, 749, 793, 796, 798–800, 804, 808, 810, 811, 816, 818, 820–822, 831, 834, 837

ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Amtron Corp., 17 Felton St., Waltham, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y. – Pg. 796
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Demornay–Bonardi Corp., 780 S. Arroyo P'kway., Pasadena, Calif. – Pgs. 798, 799
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Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
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Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
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Uniwave, Inc., 109 Marine St., Farmingdale, New York
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Waveline, Inc., P. O. Box 718, W. Caldwell, N. J. – Pg. 837
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.

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Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
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Anchor Products Co., 2712 W. Montrose Ave., Chicago, Ill.
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Javex, P. O. Box 646, Redlands, Calif.
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Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Sage–Craft, Inc., Norwich, N. Y.
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Pan–Electronics Corp., Box 584, Griffin, Ga.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Premier Research Labs., Inc., 89 7th Ave., New York, N.Y.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
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Reeves–Hoffman Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
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Texas Crystals, Div. Westronix Corp., 8538 W. Grand Ave., River Grove, Ill.
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Microwave Associates, Inc., Burlington, Mass.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, L. I., N. Y.
Sylvania Electric Prod., Special Tube Ops., 500 Evelyn Ave., Mountain View, Cal. – Pg. 832
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Trans–Sil Corp., 55 Honeck St., Englewood, N. J.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
U.S. Semi–Cond. Prod., Div. U.S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz. – Pgs. 978, 979

CRYSTALS, FILTERS – SEE FILTERS, CRYSTAL

CRYSTALS, FREQUENCY CONTROL ..... Pgs. 587–589, 591, 594, 595
Bliley Electric Co., Union Station Bldg., Erie, Pa. – Pg. 588
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y. – Pg..587
C–W Manufacturing Co., Box 2065, El Monte, Calif.
Clark Crystal Co., Farm Rd., Marlboro, Mass.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Edison Electronic Co., 1902 N. Third, Temple, Texas
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N. Y.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Hunt Corp., The, 453 Lincoln St., Carlisle, Pa. – Pg..591
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Knights, James K. Co., The, 101 E. Church St., Sandwich, Ill.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
Nebel, R. E. Laboratory, 1634 E. 12th St., Brooklyn, N. Y.
Northern Engineering Labs., Inc., 372 Wilmot Ave., Burlington, Wisc.
Pan–Electronics Corp., Box 584, Griffin, Ga.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa..
Precision Crystal Lab., 2223 Warwick Ave., Santa Monica, Calif.
Precision Piezo Service, 427 Mayflower St., Baton Rouge, La.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J..
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
Scientific Radio Service, 4301 Sheridan St., University Park, Md.
Texas Crystals, Div. Westronix Corp., 8538 W. Grand Ave., River Grove, Ill.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595
Wright Electronics, Inc., 2537 Grand Avenue, Kansas City, Mo.

CRYSTALS, GALENA
Educational Electronics, 1227 W. Loyola Ave., Chicago, Ill.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Mackay, A.D. Inc., 198 Broadway, New York, N. Y.
Philmore Mfg. Co., Inc., 130–01 Jamaica Ave., Richmond Hill, N. Y.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.

CRYSTALS, GERMANIUM
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mackay, A. D. Inc., 198 Broadway, New York, N. Y.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

CRYSTALS, MIXERS – SEE MIXERS, CRYSTAL

CRYSTALS, MOUNTS – SEE MOUNTS, CRYSTAL

CRYSTALS, OVENS – SEE OVENS, CRYSTAL

CRYSTALS, PRODUCING EQUIPMENT ..... Pg. 962
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Hull Corp., Dansville Rd., Hatboro, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg..962
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Palmer Instruments, 1028 Mission St., So. Pasadena, Calif.

CRYSTALS, QUARTZ, FREQUENCY CONTROL ..... Pgs. 587–589, 591, 593–595
Bassett, Rex, Inc., 1314 N. E. 17th Court – P. O. Box 7127, Fort Lauderdale, Fla.
Bliley Electric Co., Union Station Bldg., Erie, Pa. – Pg. 588
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y. – Pg. 587
C–W Manufacturing Co., Box 2065, El Monte, Calif.
Clark Crystal Co., Farm Rd., Marlboro, Mass.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Edison Electronic Co., 1902 N. Third, Temple, Texas
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.. – Pg. 589
Hunt Corp., The, 453 Lincoln St., Carlisle, Pa. – Pg. 591
Intelex Systems Inc., 22 Thames St., New York, N. Y.
International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.
Keystone Electronics Co., 65 Seventh Ave., Newark, N. J.
Knights, James K.Co., The, 101 E. Church St., Sandwich, Ill.
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles, Calif.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif. – Pg. 593
National Co., Inc., 61 Sherman St., Malden, Mass.
Northern Engineering Labs., Inc., 372 Wilmot Ave., Burlington, Wisc.
Palmer Instruments, 1028 Mission St., So. Pasadena, Calif.
Pan–Electronics Corp., P. O. Box 584, Griffin, Ga.
Petersen Radio Co., Inc., 2800 W. Broadway, Council Bluffs, Ia.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Precision Crystal Lab., 2223 Warwick Ave., Santa Monica, Calif.
Precision Piezo Service, 427 Mayflower St., Baton Rouge, La.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.
Texas Crystals, Div. Westronix Corp., 8538 W. Grand Ave., River Grove, Ill.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595
Wright Electronics, Inc., 2537 Grand Avenue, Kansas City, Mo.

CRYSTALS, QUARTZ, TRANSDUCER ..... Pgs. 587–589, 593, 595, 777
Bliley Electric Co., Union Station Bldg., Erie, Pa.. – Pg. 588
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y. – Pg. 587
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J.
Clark Crystal Co., Farm Rd., Marlboro, Mass.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dell Optics Co. Ltd., 327 55 St., West New York, N. J. – Pg. 777
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.. – Pg. 589
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Knights, James K. Co., The, 101 E. Church St., Sandwich, Ill.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif. – Pg. 593
Northern Engineering Labs., Inc., 372 Wilmot Ave., Burlington, Wisc.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Precision Crystal Lab., 2223 Warwick Ave., Santa Monica, Calif.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Texas Crystals, Div. Westronix Corp., 8538 W. Grand Ave., River Grove, Ill.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595
Wright Electronics, Inc., 2537 Grand Avenue, Kansas City, Mo.

CRYSTALS, RAW
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Jonas, Dr. F., Co., 55 W. 42nd Street, New York, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Pan–Electronics Corp., Box 584, Griffin, Ga.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
U. S. Semi–Conductor Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.

CRYSTALS, ROCHELLE SALTS
American Lava Corp., Cherokee Blvd. & Mfgrs.. Road, Chattanooga, Tenn.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland, Ohio
Delta Chemical Works, 21 W. 60th St., New York, N. Y.

CRYSTALS, ROCHELLE SALTS (continued)
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.

CRYSTALS, SAPPHIRE
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Linde Co., Crystals Dept. – Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Mackay, A. D. Inc., 198 Broadway, New York, N. Y.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.

CRYSTALS, SCINTILLATION COUNTER
American Tradair, Sub. Ecko Electronics, Ltd., 34–01 30th St., L. I. City, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Isomet Corp., 118 Union St., Palisades Park, N. J.
Jonas, Dr. F., Co., 55 W. 42nd Street, New York, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Pilot Chemicals, Inc., 36 Pleasant St., Watertown, Mass.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.

CRYSTALS, SILICON ..... **Pg. 1058**
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Columbus Electronics Corp., 1010 Saw Mill River Rd., Yonkers, New York
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill. – Pg. 1058
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mackay, A.D., Inc., 198 Broadway, New York, N. Y.
Materials for Elctrns, Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Microwave Associates, Inc., Burlington, Mass.
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, L. I., N. Y.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn.
Trans–Sil Corp., 55 Honeck St., Englewood, N. J.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
U. S. Semi–Conductor Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.

CRYSTALS, TOURMALINE ..... **Pg. 595**
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595

CRYSTALS, TOURMALINE, FREQUENCY CONTROL ..... **Pg. 595**
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595

CRYSTALS, TRANSDUCER ..... **Pgs. 588, 595**
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bliley Electric Co., Union Station Bldg., Erie, Pa. – Pg. 588
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Branson Ultrasonic Corp., 15 Brown House Rd., Stamford, Conn.
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland, Ohio
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Telex, Telex Park, St. Paul, Minn.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595

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C–W Manufacturing Co., Box 2065, El Monte, Calif.
Clark Crystal Co., Farm Rd., Marlboro, Mass.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Isomet Corp., 118 Union St., Palisades Park, N. J.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
Nebel, R. E. Laboratory, 1634 E. 12th St., Brooklyn, N. Y.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
U. S. Semi–Conductor Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass. – Pg. 595
Wright Electronics, Inc., 2537 Grand Avenue, Kansas City, Mo.

CUTTERS, HOLE ..... **Pg. 1113**
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Hardware Co., 80 White St., New York, N. Y.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif. – Pg. 1113

CUTTERS, WIRE ..... **Pg. 641**
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Hardware Co., 80 White St., New York, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kelsey-Hayes Co., 3600 Military, Detroit, Mich.
Klein & Sons, 7200 McCormick Rd., Chicago, Ill.
Morris, J. I. Co., 372 Elm St., Southbridge, Mass. – Pg. 641
Owatonna Tool Co., The, Owatonna, Minn.
Proto Tool Co., 2209 Santa Fe Ave., Los Angeles, Calif.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Thomas & Betts Co., 36 Butler St., Elizabeth 1, N. L.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

DATA RECORDERS ..... **Pgs. 654, 655, 690, 765–767, 769, 770, 852, 970, 971**
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Adage, Inc., 292 Main St., Cambridge, Mass.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif. – Pgs. 970, 971
Antlab Incorporated, 6330 Proprietors Road, Worthington, Ohio
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Automation Management, Inc., Adams St., Westboro, Mass.
Avien, Inc., 58-15 Northern Blvd., Woodside, N. Y.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa. – Pg. 654
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Berndt-Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla. – Pg. 765
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Datex Corp., 1307 So. Myrtle Ave., Monrovia, Calif.
Davidson Electrn. Development, 1221 Peach St., Erie, Pa.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edin, Div. Epsco, Inc., 207 Main Street, Worcester, Mass.
Electric Tachometer Corp., 68th and Upland St., Philadelphia, Pa.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Flight Research, Inc., P. O. Box 1F, Richmond, Va.
General Kinetics, Inc., 555 23 St., S. Arlington, Va.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 690
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Kelk, George, Limited, 130 Willowdale Ave., Willowdale, Canada
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leach Corp., 18435 Susana Rd. - P. O. Box 190, Compton, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y. – Pg. 852
Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif.
Magnecord Div., Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moseley, F. L. Co., 409 N. Fair Oaks Ave., Pasadena, Calif. – Pg. 769
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Producers Sales Corp., 2704 West Olive Ave., Burbank, Calif.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Streeter-Amet Co., Grayslake, Ill.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Tally Register Corp., 5300 14th Ave., N. W., Seattle, Wash.

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Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Texas Instruments, Inds. Instrtation. Div., 3609 Buffalo Spdwy., Houston, Texas
Varian Assoc., 611 Hansen Way, Palo Alto, Calif. – Pg. 770
Victor Adding Machine Co., 3900 N. Rockwell St., Chicago, Ill.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.
Wayne-George Corp., 1117 Commonwealth Avenue, Boston, Mass.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

DATA REDUCTION SYSTEMS ..... **Pgs. 542, 543, 546, 547, 550, 687, 1102, 1106**
Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif.
Adage, Inc., 292 Main St., Cambridge, Mass.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Automation Management, Inc., Adams St., Westboro, Mass.
BJ Electronics, Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Berndt-Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
CGS Laboratories, Inc., Routes 7 and 35, Ridgefield, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Coleman Engineering Co., Inc., 3500 Torrance Blvd., Torrance, Calif.
Computer Control Co., Inc., 92 Broad St., Wellesley, Mass.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computing Devices of Canada, Ltd., P. O. Box 508, Ottawa, Canada
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Data Systems, Norden Div., United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Datex Corp., 1307 So. Myrtle Ave., Monrovia, Calif.
Datran Elctr., Div. Mid-Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass. – Pgs. 542, 543
Digitran Co., 45 W. Union St., Pasadena, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldorado Electronics Co., 2821-10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro-Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Electronic Associates, Inc., Long Branch, N. J.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fense, Fedrick & Miller, Inc., 12820 Panama St., Los Angeles, Calif.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Ford Instrument Co., Div. Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N. Y.
Fourdee, Inc., 704 W. Fairbanks Ave., Winter Park, Fla.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hanson-Gorrill-Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hoover Electronics Co., 110 West Timonium Roan, Timonium, Maryland
ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
Kin Tel Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Ransom Research, Box 269, 323 W. 7th St., San Pedro, Calif. – Pg. 553
Remington Rand, Div. Sperry Rand Corp., 315 Fourth Ave., New York, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Systron Corp., 950 Galindo St., Concord, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Tally Register Corp., 5300 14th Ave., N. W., Seattle, Wash.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Vapor Recovery Systems Co., 2820 N. Alameda, Compton, Calif.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.
Wayne-George Corp., 1117 Commonwealth Avenue, Boston, Mass.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

DECADE BOXES, CAPACITANCE ..... **Pgs. 523, 669, 679, 705**
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Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Condenser Research Corp., P. O. Box 161, 715 S. Oesting St., Seymour, Ind.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro-Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Ore. – Pg. 669
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y. – Pg. 679
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N. J. – Pg. 705
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Simmonds Aerocessories, Inc., Tarrytown, N. Y.
Sullivan, H. W., Ltd., Dept. ZY1299, 80 Shore Rd., Pt. Washington, N. Y.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pg. 523
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J.

DECADE BOXES, INDUCTANCE ..... **Pgs. 679, 1140, 1141**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y. – Pg. 679
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Sullivan, H. W., Ltd., Dept. ZY1299, 80 Shore Rd., Pt. Washington, N. Y.
Torocoil Co., 2615 Bristol Rd., Columbus, Ohio
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Universal Mfg. Co., Inc., 1168 Grove St., Irvington, N. J.

DECADE BOXES, RESISTANCE ..... **Pgs. 669, 686, 705, 752, 764, 1014, 1016, 1080**
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Cinema Engrg., Div. Aerovox Corp., 110 Chestnut St., Burbank, Calif. – Pgs. 1014, 1080
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Consolidated Resistance Co., Of America, Inc., 44 Prospect St., Yonkers, N. Y. – Pg. 1016
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dmeter Mfg. Co., Inc., 22-24 Larkin Plaza, Yonkers, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro-Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Ore. – Pg. 669
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, Ill.
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Heath Co., Benton Harbor, Mich.
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N. J. – Pg. 705
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Physics Research Labs., Inc., 507 Hempstead Turnpike, Box 555, Hempstead, N. Y.
Pimex, Inc., 18 East 60th St., New York, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sullivan, H. W., Ltd., Dept. ZY1299, 80 Shore Road, Pt. Washington, N. Y. – Pg. 752
Tech Laboratories, Inc., Palisades Park, N. J.
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Weinschel Engineering Co., Kensington, Md. – Pg. 1080
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764

DECALCOMANIA ..... **Pgs. 602, 1188**
American Decalcomania Co., 4334 Fifth Ave., Chicago, Ill.
Brady, W. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc. – Pg. 1188
Decimeter Products Co., 730 Hooker St., Denver, Colo.
Electronic Prod. and Dev., Inc., 138 Nevada St., El Seguno, Calif. – Pg. 602
National Decalcomania Corp., 236 N. 60 St., Philadelphia, Pa.
New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.
Stanpat, 150-42 12th Rd., Whitestone, N. Y.
Tekni-Labels Co., 232 N. Glenoaks Blvd., Burbank, Calif.
Topflight Corp. 160 E. 9th Ave., York, Pa.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

DECODERS, A-F
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.

DECODERS, PULSE ..... **Pgs. 681, 1177**
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N.J.
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Bendix Aviation Corp., York Div., York, Pa.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.

DECODERS, PULSE (continued)

Burroughs Corp., Electronic Tube Div., P. O. Box 1226, Plainfield, N. J.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles., Calif.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.– Pg. 681
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Land –Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro., Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Solid State Electronics Co., Dept. E., 8158 Orion Ave., Van Nuys, Calif.– Pg. 1177
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns. Div., Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Topp Industries, Inc., 5221 W. 102 , Los Angeles, Calif.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.

DECODERS, VIDEO

Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Brubaker Electronics 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Stewart –Warner Elctrns. Div., Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.

DEGAUSSERS – SEE MAGNETIZERS AND DEMAGNETIZERS

DEHUMIDIFIERS

Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Dampp–Chaser, Inc., Hendersonville, N.C.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Eastern Industries, Inc., 100 Skiff St. – P. O. Box 4372, Hamden, Conn.
Electric Hotpack Co., Cottman Ave., & Melrose St., Philadelphia, Pa.
Electro Chemical Co., 230 E. 127th St., New York, N. Y..
Ellis & Watts Products, Inc., P.O. Box 33, Cincinnati, Ohio
G. M. Mfg. Co , 134 W. 26th St., New York, N. Y.
Hankison Corp., College & Pike, Canonsburg, Pa.
International Radiant Corp., 111 New York Ave., Westbury, N. Y.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y..
Pittsburgh Lectrodryer Div., McGraw Edison, 300 32nd St., Pittsburgh, Pa.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y..

DEHYDRATORS

Andrew California Corp., 941 S. Maryland Ave., Claremont, Calif.
Applied Dynamics Corp., 32 N. Main St. Natick, Mass.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Eastern Industries, Inc., 100 Skiff St. – P. O. Box 4372 Hamden, Conn.
Electro Chemical Co., 230 E. 127th St.,New York, N. Y.
Ellis & Watts Products, Inc., P. O. Box 33, Cincinnati, Ohio
Hankison Corp. , College & Pike, Canonsburg, Pa.
International Raadiant Corp.,111 New York Ave., Westbury, N. Y.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Islnd City, N. Y.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Pittsburgh Lectrodryer Div., McGraw Edison, 300 32nd St., Pittsburgh, Pa.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Selas Corp. of America, Dresher, Pa.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

DEHYDRATORS, AUTOMATIC

Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Applied Dynamics Corp., 32 N. Main St., Natick, Mass.
Eastern Industries, Inc., 100 Skiff St., – Box 4372, Hamden, Conn.
Electro Chemical Co., 230 E. 127 St., New York, N. Y.
Ellis & Watts Products, Inc., P.O. Box 33 , Cincinnati, Ohio
International Radiant Corp., 111 New York Ave., Westbury, N. Y.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lewyt Mfg. Corp., 43–22 Queens St., Long Islnd City, N. Y.
Pittsburgh Lectrodryer Div., McGraw Edison, 300 32nd St., Pittsburgh, Pa.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Selas Corp. of America, Dresher, Pa.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

DELAY LINES, CABLE TYPE

All–Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Brew, R. D. & Co., Inc., Concord, N. H.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Columbia Technical Corp., 61–02 31st. Ave., Woodside, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electrical & Physical Instrument Corp., 42–19 27th St., Long Island City, N. Y.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
JFD Electronics Corp., 1462 62nd St. Brooklyn, N. Y.
Microsonics, Inc., Hingham Industrial Center, Rte. 3A, Hingham, Mass.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.

DELAY LINES, COAX CABLE TYPE

Andersen Laboratories, Inc., 501 New Park Ave., West Hartford, Conn.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Columbia Technical Corp., 61–02 31st. Ave., Woodside, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electrical & Physical Instrument Corp., 42–19 27th St., Long Island City, N. Y.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
JFD Electronics Corp. 1462 62nd St., Brooklyn, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

DELAY LINES, COLOR TV ..... Pgs. 537, 778

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allen Mfg. Co., 87 Rosewood Dr., Atherton, Calif.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Bel Fuse, Inc., 198 Van Vorst St., Jersey City, N. J. – Pg. 537
Brew, R. D. & Co., Inc., Concord, N. H.
Columbia Technical Corp., 61–02 31st Ave., Woodside, N.Y.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Philco Corp., Govt. & 8nd. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wisc.

DELAY LINES, CORES METALLIZED

Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Columbia Technical Corp., 61–02 31st Ave., Woodside, N. Y.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, 1, Tenn.

DELAY LINES, DIGITAL ..... Pgs. 544, 687, 1102

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Brew, R. D. & Co., Inc. Concord, N. H.
Computer Control Co., Inc., 92 Broad St., Wellesley, Mass.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Curtiss–Wright Corp., Electr. Div., Comp. Dept., 620 Passaic Ave., W. Caldwell, N. J.
Deltime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.
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Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp. , 5150 Church St., Skokie, Ill.
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ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
El–Rad Mfg.Co., 2800 Cullom Ave., Chicago, Ill.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.– Pg. 544
Gudeman Co., The, 340 W. Huron St., Chicago., Ill.
Hallamore Elctrns. Co., Div. Siegler Corp., 8352 Brookhurst, Anaheim, Cal. – Pgs. 687, 1102
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Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
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Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
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Allen Mfg. Co., 87 Rosewood Dr., Atherton, Calif.
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Brew, R. D. & Co., Inc., Concord, N. H.
Budd–Stanley Co., 4301 22nd St., Long Island City, N. Y. – Pg. 796
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Carad Corp., 2850 Bay Rd., Redwood City, Calif.
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Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbia Technical Corp., 61–02 31st Ave., Woodside, N. Y.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.– Pgs. 539, 621
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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Developmental Electronics Corp., 4213 S. Broadway, Los Angeles, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
ESC Corp. , 534 Bergen Blvd., Palisades Park, N. J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
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Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
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General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
International Telemeter Co., 2000 Stoner Ave., Los Angeles, Calif.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y. – Pg. 499
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
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Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
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ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
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ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
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Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
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Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
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Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
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NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
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Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pgs. 554, 555
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Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
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Bliley Electric Co., Union Station Bldg., Erie, Pa.
Brew, R. D. & Co., Inc., Concord, N. H.
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J.
Columbia Technical Corp., 61-02 31st Ave., Woodside, N. Y.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
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Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Microsonics, Inc., Hingham Industrial Center, Route 3A, Hingham, Mass.
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Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
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Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City 15, Utah
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
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Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
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Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Research, 3160 W. El Segundo Blvd., Hawthorne, Calif. – Pg. 721
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Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.
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Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Northern Radio Co., Inc., 143 West 22nd St., New York, N. Y.
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Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
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Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
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Ten Bosch, M., Inc., 80 Wheeler Ave., Pleasantville, N. Y. – Pg. 1076
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
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Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.

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Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
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Pilot Radio Corp., 37-06 36th St., L. I. City, N. Y.
Tele-Dynamics, Inc., 5000 Parkside Ave., Philadelphia, Pa.

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Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
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G. M. Mfg. Co., 134 W. 26 St., New York, N. Y.
Lektra Lab., 154 11th Ave., New York, N. Y.
Liquidometer Corp., The, 41-03 36th St., L. I. City, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Photovolt Corp., 95 Madison Ave., New York, N. Y.
Poole Instruments, Inc., 150 Express St., Dallas, Texas
Quantametric Devices, Inc., Box 1107, Binghamton, N. Y.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.

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Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Harris Transducer Corp., Woodbury, Conn.
Massa Labs, Inc., 5 Fottler Rd., Hingham, Mass.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Pye Corp. of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N. J.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

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Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Admittance-Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
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General Radio Company, 22 Baker Ave., W. Concord, Mass.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microlab, 71 Okner Pkway., Livingston, N. J.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. – Pg. 821
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

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Admittance-Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electron-Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y. – Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 811
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philmore Mfg. Co., Inc., 130-01 Jamaica Ave., Richmond Hill, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Schutter Carl W. Co., Inc., 80 E. Montauk Pkwy., Lindenhurst, N. Y.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

DETECTORS, FLAW & DEFECT, ELECTRONIC ... **Pgs. 658, 742, 748, 834, 1114, 1171**
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Branson Ultrasonic Corp., 15 Brown House Rd., Stamford, Conn. – Pg. 1171
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dice, J. W. Co., 16 Highwood Ave., Englewood, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro Products Labs., 4501-EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Irwin Laboratories, 1238 S. Gerhart Ave., Los Angeles, Calif.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y. – Pg. 742
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radar Engineers, 4719 Brooklyn, Seattle, Wash.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 748
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas

DETECTORS, FLAW, ULTRASONIC ..... Pg. 1171
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.
Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain, Mass.
Branson Ultrasonic Corp., 15 Brown House Rd., Stamford, Conn. – Pg. 1171
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dice, J. W. Co., 16 Highwood Ave., Englewood, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Sperry Products, Inc., Shelter Rock Rd., Danbury, Conn.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.

DETECTORS, GAS
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Gow-Mac Instrument Co., 100 Kings Rd., Madison, N. J.
Heath Co., Benton Harbor, Mich.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Johnson-Williams, Inc., 2625 Park Blvd., Palo Alto, Calif.
Kruger, Harold Instruments, Box 164, San Gabriel, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Universal Winding Co., 1655 Elmwood Avenue, P. O. Box 1605, Cranston, R. I.

DETECTORS, IMPEDANCE ..... **Pgs. 668, 706**
All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
Electro-Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. – Pg. 706
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N.Y.

DETECTORS, INFRARED ..... **Pgs. 849, 852, 960**
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N.J.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Barnes Engineering Co., 30 Commerce Road, Stamford, Conn.
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Fireye Div., Electronics Corp. Of America, One Memorial Dr., Cambridge, Mass.
Flame Research, Inc., P.O. Box 10502, Pittsburgh, Pa.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Hycon Manufacturing Co., 1030 So. Arroyo Pway., P.O. & Bin N, Pasadena, Calif.
ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N.Y.
Isomet Corp., 118 Union St., Palisades Park, N.J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N.Y. – Pgs. 852, 960
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photoswitch, Div. Electronics Corp. Of America, 1 Memorial Dr., Cambridge, Mass.
Radiation Electronics Corp., 8241 N. Kimbell Ave., Skokie, Ill.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Single Crystal Corp. Of America, Saxonburg Blvd., Saxonburg, Pa.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
U. S. Semi–Conductor Prod., Div. U.S. Elctrns. Dev., 3536 W. Osborn, Phoenix, Ariz.
Westinghouse Electric Corp., Air Arm Div., P. O. Box 746, Baltimore, Md.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.

DETECTORS, LEAK
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Beckman/Scientific Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.
Blacklight Corp. Of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Black Light Eastern Corp., 201–04 Northern Blvd., Bayside, N.Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.

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Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Highside Chemicals, Inc., 11 Colfax Ave., Clifton, N.J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Linde Co., Crystals Dept., Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Poole Instruments, Inc., 150 Express St., Dallas Tex.
Potter Aeronautical Corp., Route 22, Union, N.J.
Scientific Engineering Laboratory, 1510 6th St., Berkeley, Calif.
Veeco Vacuum Corp., 86 Denton Ave., New Hyde Park, N.Y.

DETECTORS, LIGHT INTENSITY ..... Pgs. 849, 1118

Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Deitz, S. J., Co., 9 E. Wesley St., So. Hackensack, N.J.
Dynamic Electronics, N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Keuffel & Esser Co., Hoboken, N.J. – Pg. 1118
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.

DETECTORS, MAGNETIC

Acromag, Inc., 22519 Telegraph Rd., Detroit 41, Mich.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Automation, Inc., 212 Worcester St., Wellesley Hills, Mass.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N.J.
Devol Research Co., Brookside Dr., Greenwich, Conn.
DI–AN Controls, Inc., 40 Leon St., Boston, Mass.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Irwin Laboratories, 1238 S. Gerhart Ave., Los Angeles, Calif.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas

DETECTORS, METAL, ELECTRONIC ..... Pg. 1114

Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Brilmayer, E. W. Labs., Inc., 86 Fulton St., New York, N.Y.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dice, J. W. Co., 16 Highwood Ave., Englewood, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Harworth Mfg. Co., 409 El Camino Real, Manlo Park, Calif.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Potter Aeronautical Corp., Rte. 22, Union, N. J.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.
Stearns Magnetic Products, 635 S. 28 St., Milwaukee, Wisc.
Stratocon Corp., Box 10, Morristown, N.J.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

DETECTORS, NULL ..... Pgs. 654, 661, 668, 676, 677, 706, 725, 839

Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa. – Pg. 654
Boonton Electronics Corp., Morris Plains, N.J. – Pg. 661
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 668
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y. – Pgs. 676,677
General Radio Company, 22 Baker Ave., W. Concord, Mass.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Industrial Test Equipment Co., 55 E. 11th St., New York, N.Y. – Pg. 706
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Millitest Corp., Sub. Computer Instr. Corp., 88 Madison Ave., Hempstead, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
North Atlantic Industries, Inc., 603 Main St., Westbury, N.Y. – Pg. 725
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Shallcross Mfg. Co., Preston St., Selma, N.C.
Slaughter Co., Piqua, Ohio
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Tempo Instrument, Inc., Commercial St., P.O. Box 338, Hicksville, N.Y.
Theta Instrument Corp., 48 Pine St., E. Paterson, N.J.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Weinschel Engrg., Kensington, Md. – Pg. 839
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

DETECTORS, RADIATION ..... Pg. 848

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N.Y. – Pg. 848
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Barnes Engineering Co., 30 Commerce Road, Stamford, Conn.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isomet Corp., 118 Union St., Palisades Park, N.J.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Radiac, Inc., 475 Washington St., Newark, N.J.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Development Lab., P.O. Box 7034, Kansas City, Mo.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Pacific Transducer Corp., 11836 W. Pico Blvd., Los Angeles, Calif.

Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N.Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Electronics Corp., 8241 N. Kimbell Ave., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halsted St., Chicago 36, Ill.
Riggs Nucleonics Corp., 717 N. Victory Blvd., Burbank, Calif.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Specialty Engrg. Div., Specialty Assembl & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Universal Winding Co., 1655 Elmwood Ave., P.O. Box 1605, Cranston, R.I.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

DETECTORS, RADIATION, NUCLEAR RADIAC ..... Pg. 848

Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N.Y. – Pg. 848
Atomic Accessories, Inc., 244–02 Jamaica Ave., Bellerose 26, N.Y.
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isomet Corp., 118 Union St., Palisades Park, N.J.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
National Radiac, Inc., 475 Washington St., Newark, N.J.
Nuclear Corp. Of America, 2 Richwood Pl., Denville, N.J.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Riggs Nucleonics Corp., 717 N. Victory Blvd., Burbank, Calif.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tektronix, Inc., P.O. Box 831, Portland, Oreg.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Tung–Sol Electric, Inc., Newark, N.J.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio

DETECTORS, RESISTANCE ..... Pgs. 654, 668, 706

Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa. – Pg. 654
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Dytronics, P.O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Electro–Measurements, Inc., 7524 S.W. Macadam Ave., Portland, Oreg. – Pg. 668
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N.J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N.Y. – Pg. 706
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
PAX Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.

DETECTORS, R–F ..... Pgs. 661, 712, 796, 804

Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Boonton Electronics Corp., Morris Plains, N.J. – Pg. 661
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y. – Pg. 796
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27 Jerrold Bldg., Phila., Pa.
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn. – Pg. 712
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.

DETECTORS, SCINTILLATION

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Goldake Co., 1544 W. Glen Oaks Blvd., Glendale, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.

DETECTORS, SCINTILLATION (continued)
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Pilot Chemicals, Inc., 36 Pleasant St., Watertown, Mass.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

DETECTORS, SMOKE ..... Pg. 849
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Basic Controls Corp., 4023 Irving Pl., Culver City, Calif. – Pg. 849
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronics Corp. of Amer, Combustion Div., 1 Memorial Dr., Cambridge, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Hoffman Electronics Corp.,Semiconductor Div., 930 Pitner Ave, Evanston, Ill.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N.J.
Leeds & Northrup Co., 4970 Stenton Ave, Philadelphia, Pa.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N.J.
Photoswitch Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Ripley Co. Inc., Middletown, Conn.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Tele–Smoke Corp., 15 Ward St., Bloomfield, N. J.
Worner Electronic Devices, Rankin, Ill.

DETECTORS, STANDING WAVE ..... Pgs. 712, 796, 798, 799, 804, 809, 820, 834
Aircom, Inc., 354 Main St., Winthrop, Mass.
All Products Company, Electronic Div., P. O. Box 110, Mineral Wells, Texas
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y. – Pg. 796
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
FXR Inc., 26–12 Borough Pl., Woodside, N.Y. – Pg. 804
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 809
Jones, M.C. Electronics Co. Inc., 185 N. Main St., Briston, Conn. – Pg. 712
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pg. 820
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Polytechnic Res & Dev. Co., Inc., 202 Tillary St., Brooklyn, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N.Y., – Pg. 834
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N.Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Waveline, Inc., P. O. Box 718, W. Caldwell, N. J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

DETECTORS, VIBRATION ..... Pg. 1114
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Craig Electronics, 3455 Meier St., Los Angeles, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Products Labs., 4501–EM N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
General Electric Co., Apparatus Sales Div., 1 River Dr., Schenectady, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Instrol Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kahn & Co. Inc., 541 Windsor St., Hartford, Conn.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Massa Labs Inc., 5 Fottler Rd., Hingham, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Optron Corp., 335 So. Salinas, Santa Barbara, Calif.
Philips Electronics Inc., 750 S. Fulton Ave., Mt. Vernon, N.Y.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N.J.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Texas Instruments, Inds. Instrtation. Div., 3609 Buffalo Spdwy., Houston, Texas

DETECTORS, VIDEO ..... Pg. 809
Amperex Electronic Corp., P.O. Box 418 230 Duffy Ave., Hicksville, L.I., N.Y.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 809
Leonard Electric Products, 67 34th St., Brooklyn, N.Y.
Miratel Inc., 1080 Dionne St., St. Paul, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.

DETECTORS, VOLTAGE ..... Pgs. 661, 725, 742
Boonton Electronics Corp., Morris Plains, N.J. – Pg. 661
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
North Atlantic Industries, Inc., 603 Main St., Westbury, N.Y. – Pg. 725
Peschel Electronics Inc., Towners RFD 1, Patterson, N.Y. – Pg. 742
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Vickers Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Wacline Inc., 35 S. St.Claire St., Dayton, Ohio

DETECTORS, WATER LEAK
Dytronics, P.O. Box 3676, Columbus, Ohio
Gates, George W. & Co., Hempstead Tpke & Lucille Ave., Franklin Square, N.Y.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Menlo Research Lab, 538 Whelan Ave., San Jose, Calif.
Potter Aeronautical Corp., Route 22, Union, N.J.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N.J.

DETECTORS, WAVEGUIDE ..... Pgs. 796, 804, 816, 820, 821, 834
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L.I., N.Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y. – Pg. 796
Central Electronic Mfrs. Inc., 2 Richwood Pl., Denville, N.J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N.Y. – Pg. 804
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N.J.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N.Y – Pg. 816
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 821
Omega Laboratories, Inc., Box 308 Rowley, Mass.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N.Y. – Pg. 834
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Victor R.F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

DEVELOPERS, CHEMICAL
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Belock Instrument Corp., 112–03 14th Ave., College Point 56, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N.Y.
Hunt Philip A. Co., Palisades Park, N.J.
Octagon Process, Inc., 64 Bank St., Staten Island, N.Y.
Peerless Photo Products, Inc., Shoreham, N.Y.
Southwest Products, Inc., Route 4, Box 90, San Antonio, Tex.

DEVELOPMENT SERVICES – SEE SERVICES, CONSULTING

DIALS, INSTRUMENT, METAL ..... Pgs. 532, 604, 605, 644, 1025, 1096, 1188
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Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Allied Products Div. Hamilton Watch Co., Lancaster, Pa.
American Emblem Co. Inc., P.O. Box 116, Utica, N.Y.
American Laubscher Corp., 250 W. 57th Street, New York, N.Y.
Bach–Simpson Ltd., 1225 Brydges St., London, Canada
Brady, W.H. Co., 710 W. Glendale Ave., Milwaukee, Wisc. – Pg. 1188
Buckbee Mears Co., 4th & Rosabel Sts., St. Paul, Minn.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N.Y.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Dietz, Henry G. Co., 12–16 Astoria Blvd., Long Island City, N.Y.
Dura Plastics of N.Y., Inc., 303–5th Ave., New York, N.Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N.J.
Etched Products Corp., 39–01 Queens Blvd., Long Island City, N.Y.
Etching Co. of Calif. Q Circuits, Div., 1208 Howard St., San Francisco, Calif.
Federal Electronics Sales Div. Fedtro Inc., Rockville Centre, N.Y. – Pg. 1025
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
GAP Instr. Corp., 116 E. Merrick Rd., Freeport, N. Y. – Pgs. 604, 605
General Meters, Inc., P.O. Box 1701, Grand Junction, Colo.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N.Y.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N.Y.
JBT Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 1096
Johnson, E. F. Co., 1439 2nd Ave., S. W., Wasela, Minn. – Pg. 532
Kilo Engineering, 2121 Third St., Laverne, Calif.
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N. Y.
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Maryland Etching Co. Inc., Andewood Lane, Towson, Md.
Master Mechanics Mfg. Co. Inc., 541 Sixth Ave., New York, N.Y.
Matthews & Co., James H., 3832 Forbes Ave., Pittsburgh, Pa.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave. E., New York 68, N.Y.
Metalphoto Corp., 6811 Superior Ave., Cleveland, Ohio
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., El Monte, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Nameplates, Inc., 421 East 101st St., Brooklyn, N.Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Northern Engraving & Mfg. Co., Fourth & Vine Sts., La Crosse, Wisc.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y.
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N.J.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N.Y.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N.Y.
Supreme Process Corp., 44 Bond St., Westbury, N.Y.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
U.S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
U.S. Radium Corp., Morristown, N.J.
Vemaline Prods. Co., P.O. Box 222, Hawthorne, N.J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Waterbury Companies, Inc., Waterbury, Conn.

DIALS, PRECISION ..... Pgs. 604, 605, 644, 744, 791, 1039
Ackerman Engravers, 458 Broadway, New York, N.Y.
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.

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Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
Asquith Company, S.A., 427 W. Chevy Chase Dr., Glendale, Calif.
Bodnar Industries, Inc., 238 Huguenot St., New Rochelle, N.Y.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Buckbee Mears Co., 4th & Rosabel Sts., St. Paul, Minn.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N.Y.
Chicago Dial Co., 29th At La Salle St., Chicago, Ill.
Chicago Thrift & Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Circuit Instruments, Inc., P.O. Box 11628, St. Petersburg, Fla.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Dura Plastics Of N.Y., Inc., 303–5th Ave., New York, N.Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N.J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Etched Products Corp., 39–01 QueensBlvd., Long Island City, N.Y.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
GAP Instr. Corp., 116 E. Merrick Rd., Freeport, N. Y. – Pgs. 604, 605
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gurley, W. & L. E., 514 Fulton St., Troy, N.Y.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N.Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Kilo Engineering, 212 Third St., Laverne, Calif.
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N.Y.
Maryland Etching Co., Inc., Andewood Lane, Towson, Md.
Mechanners, Inc., Westport, Conn.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N.Y.
Metalphoto Corp., 6811 Superior Ave., Cleveland, Ohio
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Panel Controls Co., 3105 Madison Ave., S.E., Grand Rapids, Mich.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y.
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N.J.
Reeves Instrument Corp., East Gate Blvd., Garden City, N.Y.
Rogan Bros., 8031 N. Monticello Ave., Skokie, Ill.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N.Y. – Pg. 744
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N.Y.
Simpson Electric Co., 5200 W. Knizie St., Chicago, Ill.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N.Y.
Supreme Process Corp., 44 Bond St., Westbury, N.Y.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
U. S. Radium Corp., Morristown, N.J.
Vemaline Prods. Co., P.O. Box 222, Hawthorne, N.J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Waterbury Companies, Inc., Waterbury, Conn.

DIALS, TELEPHONE ..... Pg. 1106
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Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
PAX Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Schrack Electrical Sales, 45 W. 81 St., New York, N.Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N.Y. – Pg. 1106
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Supreme Process Corp., 44 Bond St., Westbury, N.Y.
Waterbury Companies, Inc., Waterbury, Conn.

DIALS, TURNS COUNTING ..... Pgs. 791, 1027
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
International Resistance Co., 401 N. Broad St., Phila., Pa. – Pg. 1027
Kilo Engineering, 2121 Third St., Laverne, Calif.

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Chemical & Power Products, Inc., 11 Broadway, New York, N.Y.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N.J.
Dura Plastics Of N.Y., Inc., 303–5th Ave., New York, N.Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Flexonics Corp., 1315 S. 3rd Ave., Maywood, Ill.
Garlock Packing Co., The, Palmyra, N.Y.
Linear, Inc., State Rd. And Levick St., Philadelphia, Pa.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N.J.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N.Y.
Transducers, Inc., 2957 Honolulu Ave., La Crescenta, Calif.
U. S. Rubber Co., 1230 Ave. Of The Americas, New York, N.Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Welsh, Wm. H. Co., Inc., 2241 Indiana Ave., Chicago, Ill.

DIATHERMY ACCESSORIES
American Cystescope Makers, Inc., 8 Pelham Pky., Pelham Manor, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Mooradian High Frequency Labs., 13 W. Fort Lee Rd., Bogota, N.J.
Saine H.T. Equipment Lab., Rt. 2 Box 407 E. Main Ave., Morgan Hill, Calif.

DIATHERMY EQUIPMENT
American Cystescope Makers Inc., 8 Pelham Pky., Pelham Manor, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Merit Short Wave Diathermy Co., 2758 Whittier Blvd., Los Angeles, Calif.
Mooradian High Frequency Labs., 13 W. Fort Lee Rd., Bogota, N.J.
Rubbercraft Corp. of Calif., 1800 W. 220th St., Torrance, Calif.
Saine H.T. Equipment Lab., Rt. 2 Box 407 E. Maine Ave., Morgan Hill, Calif.
Western Coil & Electrical Co., 215 State St., Racine, Wisc.

DIELECTRIC HEATING EQUIPMENT ..... Pg. 505
Allied Chemical, General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Birnbach Radio Co., Inc., 145 Hudson Street, New York, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Processes, Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Erdco Engineering Corp., Addison, Ill.
Girdler Process Equip. Div., Chemetron Corp., P.O. Box 43, Louisville, Ky.
Hoffman H.L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Induction Heating Corp., 181 Wythe Ave., Brooklyn, N. Y.
Industron Corp., 55 Needham St., Newton Highlands, Mass.
Merit Short Wave Diathermy Co., 2758 Whittier Blvd., Los Angeles, Calif.
Peeco Corp., 2760 Whittier Blvd., Los Angeles, Calif.
Plastic Welding Corp., 780 Freylinghuysen Ave., Newark, New Jersey
Reeve Electronics, Inc., 609 W. Lake St., Chicago, Ill.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Robotron Corp., 21300 W. 8 Mile Rd., P. O. Box 4885, Detroit, Mich.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Young Bros. Co., 1843 Columbus Rd., Cleveland, Ohio

DIELECTRIC, GAS
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DIELECTRICS, LIQUID
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Dow Corning Corp., Midland, Mich.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric Co., Silicone Products Dept., Waterford, N. Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.

DIES & TAPS ..... Pgs. 641, 1111
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Blvd., Hollywood, Calf.
Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago, Ill.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Circon Component Corp., Municipal Airport, Goleta, Calif.
Erikson Specialized Tool Co., P. O. Box 424, Pico, Calif. – Pg. 1111
Firth Sterling, Inc., 3113 Forbes St., Pittsburgh, Pa.
Masonite Corp., 111 W. Washington St., Chicago, Ill.
Morris, J. I. Co., 372 Elm St., Southbridge, Mass. – Pg. 641
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N. J.
Precision Supply, Inc., 292 Belmont Ave., Paterson, N. J.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

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American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Cartriseal Corp., 3515 W. Touhy Ave., Lincolnwood, Ill.
Clevite Transistor Prod., Clevite Corp., 241–257 Crescent St., Waltham, Mass.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Tube Sales, Inc., 74 Cortland St., New York, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Finney Co., 34 W. Interstate St., Bedford, Ohio
Gahagan, Inc., Waterman Ave., Esmond, R. I.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J. – Pg. 1057
General Transistor Corp., 91–27 138 Place, Jamaica, N. Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Hughes Prods., Hughes Aircraft, Semi–Cond. Div., Intl. Apt., Los Angeles, Calif. – Pg. 1059
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
International Electrns., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kemtron Electron Products, 14 Prince Pl., Newburyport, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
Nucleonic Products Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
Philco Corp., Accessory Div., P. O. Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Qutronic Semi–Conductor Corp., 525 Broadway, New York, N. Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
Warren Components Div., El–Tronics, Inc., Warren, Pa.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.

DIODES, MICROWAVE MIXER ..... Pgs. 832, 977
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electronic Devices, Inc., Rectifier Div., 429 12th St., Brooklyn, N. Y.
Electronic Tube Sales, Inc., 74 Cortland St., New York, N. Y.
Finney Co., 34 W. Interstate St., Bedford, Ohio
Gahagan, Inc., Waterman Ave., Esmond, R. I.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif. – Pg. 977
Kemtron Electron Products, 14 Prince Pl., Newburyport, Mass.
Microwave Associates, Inc., Burlington, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif. – Pg. 832

DIODES, MICROWAVE PARAMETRIC ..... Pgs. 1059, 1062
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Hughes Prods., Hughes Aircraft, Semi–Cond. Div., Intl. Apt., Los Angeles, Calif. – Pg. 1059
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062

DIODES, SELENIUM – SEE RECTIFIERS, SELENIUM

DIODES, SILICON .... Pgs. 977–981, 1057–1059, 1062, 1063, 1065, 1068, 1070, 1145, 1149, 1162
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Audio Devices, Inc., Rectifier Div., 620 E. Dyer Rd., Santa Ana, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bomac Laboratories, Salem Rd., Beverly, Mass. – Pgs. 1145, 1149
Cartriseal Corp., 3515 W. Touhy Ave., Lincolnwood, Ill.
Clevite Transistor Prod., Clevite Corp., 241–257 Crescent St., Waltham, Mass.
Columbus Electronics Corp., 1010 Saw Mill River Rd., Yonkers, New York
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.

DIODES. SILICON (continued)
Electronic Tube Sales, Inc., 74 Cortlandt St., New York, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Finney Co., 34 W. Interstate St., Bedford, Ohio
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J. – Pg. 1057
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill. – Pg. 1058
Hughes Prods., Hughes Aircraft, Semi–Cond. Div., Intl. Apt., Los Angeles, Calif. – Pg. 1059
International Rectifier Corp., 1521 E. Grand Ave , El Segundo, Calif. – Pg. 977
Kemtron Electron Products, 14 Prince Pl., Newburyport, Mass.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Motorola, Inc., Semi–Cond. Prods. Div., 5005 E. McDowell Rd., Phoenix, Ariz. – Pg. 1063
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Philco Corp., Accessory Div., P. O. Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind. – Pg. 980
Semicon, Inc., 258 East St., Lexington, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Shockley Transistor Corp., 1117 California Ave., Palo Alto, Calif.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, N. Y. – Pg. 1065
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Syntron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Texas Instruments, Inc., Semiconductor Comp. Div., P. O. Box 312, 13500 N. Central Epwy., Dallas, Texas – Pg. 1068
Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn.
Trans–Sil Corp., 55 Honeck St., Englewood, N. J.
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
Tung–Sol Electric, Inc., Newark, N. J.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
U. S. Semi–Conductor Prod., Div. U. S. Elec. Dev., 3536 W. Osborne, Phoenix, Ariz. – Pgs. 978, 979
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. – Pg. 981

DIODES. ZENER ..... **Pgs. 976, 978, 1058, 1063, 1068, 1070**
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill. – Pg. 1058
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.
Int'l. Telephone & Telegraph Corp., Comp. Div., P. O. Box 412, Clifton, N. J. – Pg. 976
Motorola, Inc., Semi–Cond. Prod. Div., 5005 E. McDowell Rd., Phoenix, Ariz. – Pg. 1063
Texas Instruments, Inc., Semiconductor Components Div., P. O. Box 312, 13500 N. Central Expy., Dallas, Texas – Pg. 1068
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
U.S. Semi–Cond. Prod., Div. U.S. Elec. Dev., 3536 W. Osborne, Phoenix, Ariz. – Pg. 978

DIPLEXER–EQUIPMENT – SEE RECEIVERS. TRANSMITTERS. ETC.

DIRECTION FINDERS
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L. I., N. Y.
Aircraft Radio Corp., Boonton, N. J.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dare, Inc., Route 25, Troy, Ohio
Daystrom Instrument, Archbald, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Heath Co., Benton Harbor, Mich.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jefferson, Ray, Inc., 40 E. Merrick Rd., Freeport, N. Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Munston Mfg. & Service, Inc., Beech St., Islip, N. Y.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Sonar Radio Corp., 3050 W. 21st St., Brooklyn, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wright Radio Co., 11 Morton Pl., Scitute Harbor, Mass.

DIRECTIONAL COUPLERS – SEE COUPLERS, DIRECTIONAL

DISCRIMINATORS ..... **Pgs. 592, 629, 687, 830, 1102, 1124, 1150, 1177**
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bomac Labs., Salem Rd., Beverly, Mass. – Pg. 1150
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Data Controls Systems, Inc., 39 Rose St., Danbury, Conn.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Hycon Eastern, Inc., 75 Cambridge Pkwy., Cambridge, Mass. – Pg. 592
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Philco Corp., Accessory Div., P. O. Box 3635, Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif.– Pg. 1177
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.

DISCS. BLANK RECORDING
Audio Devices, Inc., 444 Madison Ave., New York, N. Y.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey
Reeves Soundcraft Corp., Great Pasture Rd., Danbury, Conn.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.

DISCS. MAGNETIC
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.

DISPLAY BOARDS – SEE BOARDS. PLOTTING

DISSIPATORS. HEAT – ALSO SEE TUBE HEAT DISSIPATORS AND TRANSISTOR HEAT DISSIPATORS ..... **Pgs. 477–479, 972, 1157–1159**
Audio Devices, Inc., Rectifier Div., 620 E. Dyer Rd., Santa Ana, Calif. – Pg. 972
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
International Electronic Research, 145 W. Magnolia, Burbank, Calif. – Pgs. 1157–1159
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J. – Pg. 477
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J. – Pgs. 478, 479
Trane Co., The, La Crosse, Wisc.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.

DIVIDER. ANGULAR ..... Pg. 755
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J. – Pg. 755

DIVIDERS. POWER. MICROWAVE ..... **Pgs. 673, 792, 793, 795, 800, 817, 818, 837**
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond, Westbury, N. Y. – Pgs. 792, 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y. – Pg. 795
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Don–Lan Electronics, Inc., 1101 Olympic Blvd., Santa Monica, Calif.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner P'kway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Omega Laboratories, Inc., P. O. Box 308, Rowley, Mass.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
T. E. M., Inc., 71 Okner Pkwy., Livingston, N. J. – Pg. 817
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waveline, Inc., P. O. Box 718, W. Caldwell, N. J. – Pg. 837

DIVIDERS. VOLTAGE ALSO SEE TRANSFORMERS. VOLTAGE DIVIDING .. **Pgs. 669, 686, 689, 693, 710, 1016, 1017, 1034**
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y. – Pg. 1016
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg. – Pg. 669
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Gertsch Products, Inc., 3211 S. La Cienaga Blvd., Los Angeles, Calif.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 689, 693
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y. – Pg. 710
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. At 35th St., Phila., Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Physics Research Labs., Inc., 507 Hempstead Turnpike, P. O. Box 555, Hempstead, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precise Measurements Co., Millbrook Place, Rd. 1, Flemington, N. J.
Resistance Prod. Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Shallcross Mfg. Co., Preston St., Selma, N. C.

See YELLOW SECTION for local sales offices, telephones, etc.

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Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

DOLLIES – ALL TYPES ..... Pg. 689
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Artisan Metal Works Co., 11400 Madison Ave., Cleveland, Ohio
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Christianson, C. B., Co., 164 Pennington St., Newark, N. J.
Consolidated Diesel, Electric Corp., Ludlow & Canal St., Stamford, Conn.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Massachusetts
Equipto Div., Aurora Equipment Co., Aurora, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 689
Houston–Fearless Corp., 11801 W. Olympic Blvd., Los Angeles, Calif.
McCalister, Inc., 1117 N. McCadden Pl., Hollywood, Calif.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
National Cine Equipment, Inc., 209 W. 48th St., New York, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
P. B. R. Mfg. Co., H. & Luzerne Sts., Philadelphia, Pa.
Pioneer Industries, Inc., 2700 Hawkeye Dr., P. O. Box 1500, Sioux City, Ia.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ries Camera Co., 6610 Santa Monica Blvd., Hollywood, Calif.
Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
Stackbin Corp., 1255 Main St., Pawtucket, R. I.
Studio TV Product Sales, 342 W. 40th St., New York, N. Y.
Technical Service Corp., 1404 W. Market St., Louisville, Ky.

DOPPLER SYSTEMS
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Missiloonics, Inc., Melbourne Airport, Melbourne, Fla.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systron Corp., 950 Galindo St., Concord, Calif.

DOSIMETERS
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Isotopes Specialties Co., P. O. Box 688, Burbank, Calif.
Mast Development Co., Inc., 2212 E. 12th St., Davenport, Iowa
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Tung–Sol Electric, Inc., Newark, N. J.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio

DOUBLERS, VOLTAGE ..... Pg. 977
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif. – Pg. 977
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.

DRAFTING EQUIPMENT ..... Pg. 607
Advance Electronics Co., 8510 N. End Ave., Oak Park, Mich.
Bruning Co., Inc., 1800 W. Central Rd., Mt. Prospect, Ill.
By–Buk Co., 4314 West Pico Blvd., Los Angeles, Calif.
C–Thru Ruler Co., 827 Windsor St., Hartford, Conn.
Dietzgen, Eugene Co., 2425 N. Sheffield Ave., Chicago, Ill.
E–Z–Way Templates, P. O. Box 535, Reseda, Calif.
Eberhard Faber Pencil Co., Crestwood, Wilkes–Barre, Pa.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Griffin Co., 2157 James Ave., St. Paul, Minn.
Hamilton Mfg. Co., Two Rivers, Wis.
Keuffel & Esser Co., Hoboken, N. J.
L. A. B. Corp., Onondaga St., Skaneateles, N. Y.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y. – Pg. 607
Post, Frederick Co., 3650 N. Avondale Ave., Chicago, Ill.
Precise Measurements Co., Millbrook Pl., Rd 1, Flemington, N. J.
Staedtler, J. S., Inc., 25 Dicarolis Ct., Hackensack, N. J.
Stanpat, 150–42 12th Rd., Whitestone, N. Y.
Universal Drafting Machine Corp., 7960 Lorain Ave., Cleveland, Ohio
Weil, J. H. & Co., 1332 Cherry St., Philadelphia, Pa.

DRAFTING SERVICES – SEE SERVICES, DRAFTING

DRILLS AND ACCESSORIES ..... Pg. 1111
Ace Drill Corp., 2600 Maumee St., Adrian, Mich.
Anchor Expansion Bolt Co., 88 W. Broadway, New York, N. Y.
Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago, Ill.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Dremel Mfg. Co., 2300 18th St., Racine, Wisc.
Erikson Specialized Tool Co., P. O. Box 424, Pico, Calif. – Pg. 1111
Foredom Electric Co., Bethel, Conn.
Forsberg Mfg. Co., 125 Seaview Ave., Bridgeport, Conn.
Gardner–Denver Co., Front St., Quincy, Ill.
High Speed Hammer Co., Inc., The, 313 Norton St., Rochester, N. Y.
Levin & Son, Inc., 3610 S. Broadway, Los Angeles, Calif.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Millers Falls Co., Greenfield, Mass.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, New York
Wen Products, Inc., 5806 Northwest Hwy., Chicago, Ill.
Zagar, Inc., 24000 Lakeland Blvd., Cleveland, Ohio

DRIVES & DRIVE MECHANISMS ..... Pgs. 607, 644, 645, 745, 840, 847, 1039
Acme Industrial Co., 200–222 N. Laffin St., Chicago, Ill.
Acton Laboratories, Inc., 536 Main St., Acton, Mass. – Pg. 645
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Electrns., Inc., Electro. Mech. Div., 1023 W. 7th St., Los Angeles, Calif. – Pg. 840
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Bead Chain Mfg. Co., The, 110 Mountain Grove St., Bridgeport, Conn.
Beaver Precision Prod., Inc., 651 N. Rochester Rd., Clawson, Mich.
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Croname, Inc., 6279 Howard St., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Electro–Devices, Inc., 4–6 Godwin Ave., Paterson, N. J.
Fae Instruments Co., 42–61 Hunter St., L. I. City, N. Y.
Foote Bros. Gear & Machine Corp., 4545 S. Western Blvd., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N. J.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Humphrey, Inc., 2805 Canon St., San Diego, Calif.
Insco Co., Div. of Barry Controls, Inc., Hollis St., Groton, Mass.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lyndon Aircraft, Inc., 140 Clifford St., Newark, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland, Ohio
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Revco, Inc., 1900 Lyndale Ave., S., Minneapolis, Minn.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pgs. 745, 847
Sierra Engineering Co., 123 E. Montecito Ave., Sierra Madre, Calif.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N. J.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
White, J. L. & Son, 374 Verona Ave., Newark, N. J.

DRIVERS, PM ..... Pg. 456
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y. – Pg. 456
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Transducers, Inc., 2957 Honolulu Ave., La Crescenta, Calif.

DRUMS, MAGNETIC ..... Pgs. 538, 544, 547
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Becks, Inc., 298–300 E. 5th St., St. Paul, Minn.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif. – Pg. 538
Devol Research Co., Brookside Dr., Greenwich, Conn.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 544
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Imtra Corp., 11 University Rd., Cambridge, Mass.
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., P. O. Box 550, Burbank, Calif.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

DRYERS, ELECTRONIC DEHYDRATION
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.

DUCTS, WIRING ..... Pg. 632
Buchanan Electrical Prod. Corp., 260 U. S. 22, Hillside, N. J. – Pg. 632
Columbia Metal Box Co., 260 E. 143rd St., Bronx, N. Y.
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Ideas, Inc., 214 Ininson Ave., Laramie, Wyo.
Marco Industries Co., 207 S. Helena St., P. O. Box 110, Anaheim, Calif.
Massey, A. H., Inc., 111 3rd St., Derby, Conn.
P–W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Panduit Co., 14461 Waverly St., Midlothian, Ill.
Resistoflex Corp., Roseland, N. J.
Taylor Electric Co., Inc., 15400 Dale Ave., Detroit, Mich.
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.

DUMMY LOADS ... Pgs. 659, 712, 749, 794, 795, 798–800, 802, 816, 818, 820, 823, 830, 834
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 794
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.

DUMMY LOADS (continued)
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio, – Pg. 659
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y. – Pg. 795
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Custom Components, Inc., P. O. Box 248, Caldwell, N. J.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Eitel–McCullough, Inc., 301 Industrial Rd., San Carlos, Calif.
Electro Impulse Labs., 208 River St., Red Bank, N. J. – Pg. 802
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Globar Plant, Refractories Div., Carborundum Co., P. O. Box 339, Niagara Falls, N. Y.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn. – Pg. 712
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Knight, Ewan Corp., 206 A St., Needham, Mass.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y. – Pg. 816
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner P'kway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Mullenbach Div. Electric, Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 823
New London Instrument Co., Inc., 82 Union St., P. O. Box 189, New London, Conn.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Ohmweve Co., 43 Darcy St., West Hartford, Conn.
Omega Laboratories, Inc., P. O. Box 308, Rowley, Mass.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Portchester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 749
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine St., Farmingdale, New York
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Wind Turbine Co., East Market St., W. Chester, Pa.
Wright Radio Co., 11 Morton Pl., Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

DUPLEXER EQUIPMENT – SEE RECEIVERS, TRANSMITTERS, ETC.

DUPLEXERS, FERRITE ..... **Pgs. 814, 833**
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Kearfott Co., Microwave Div., Dept. 25 C, 14844 Oxnard St., Van Nuys, Calif. – Pg. 814
Sylvania Electric Prod., Special Tube Opns., 500 Evelyn Mountain View, Calif. – Pg. 833

DUPLICATORS, MAGNETIC TAPE
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Rowe Industries, 1702 Wayne St., Toledo, Ohio
Sound Electronic Labs., 1702 Wayne St., Toledo, Ohio
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

DYNAMOMETERS ..... **Pgs. 694, 698, 741**
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
Bischof Die & Engraving, 1405 16th St., Racine, Wisc.
Consolidated Diesel, Electric Corp., Ludlow & Canal St., Stamford, Conn.
Cosa Corp., 405 Lexington Ave., New York, N. Y.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Eder Engrg. Co., 1568 S. First St., Milwaukee, Wisc.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hickok Electrical Instrument Co., 10500 Du Pont Ave., Cleveland, Ohio – Pgs. 694, 698
L. A. B. Corp., Onondaga St., Skaneateles, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Physics Research Labs., Inc., P. O. Box 555, Hempstead, N. Y. – Pg. 741
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Redmond Co., Inc., Owosso, Mich.
Rototest Labs Inc., 2803 Los Flores Blvd., Lynwood, Calif.
Schaevitz Engineering, Box 505, Camden, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Standard Electric Time Co., The, 89 Logan St., Springfield, Mass.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.

DYNAMOTORS ..... **Pg. 846**
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Carter Motor Co., 2733 W. George St., Chicago, Ill.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Continental Electric Co., 334 Ferry St., Newark, N. J.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Electric Specialty Co., 300 South St., Stamford, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Redmond Co., Inc., Owosso, Mich.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Wincharger Corp., E. 7th & Division Streets, P. O. Box 1168, Sioux City, Iowa

EARPHONES – SEE HEADPHONES, HEADSETS

EDITING EQUIPMENT, TAPE
Digitronics Corp., Albertson Ave., Albertson, L. I., N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Ercona Corp., Electro Div., 16 W. 46th St., New York, N. Y.
Fourdee Inc., 704 W. Fairbanks Ave., Winter Park, Fla.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Robins Industries Corp., 36–27 Prince St., Flushing, N. Y.
Tech Laboratories, Inc., Palisades Park, N. J.

ELECTROCARDIOGRAPHS
American Cystescope Makers Inc., 8 Pelham Pky., Pelham Manor, N. Y.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
General Electric Co., X–Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Pacific Technical Co., 2047 Sawtelle Blvd., Los Angeles, Calif.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.

ELECTRODES – SEE TUBE PARTS

ELECTROENCEPHALOGRAPHS
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Electro–Medical Lab., Inc., S. Woodstock, Vt.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Essential Electronics Corp., 1011 Power Ave., Cleveland, Ohio
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Pacific Technical Co., 2047 Sawtelle Blvd., Los Angeles, Calif.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.

ELECTROLYTES
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.

ELECTROMAGNETS – SEE MAGNETS, ELECTROMAGNETIC

ELECTROMETERS – ALSO SEE METERS, ELECTROMETER. Pgs. 663, 959, 1154, 1155
Applied Physics Corporation, 2724 So. Peck Rd., Monrovia, Calif.
Applied Radiation Corp., P. O. Box 725, Walnut Creek, Calif.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N.J. – Pg. 663
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
International Electrns. Corp., Mullard Equip., 81 Spring St., New York, N.Y. – Pgs. 1154, 1155
Keithley Instrument, Inc., 12415 Euclid Ave., Cleveland, Ohio
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio – Pg. 959
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

ELECTROMYOGRAPHS
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Electro–Medical Lab., Inc., S. Woodstock, Vt.
Essential Electronics Corp., 1011 Power Ave., Cleveland, Ohio
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.

ELECTRONIC COUNTERMEASURES – SEE COUNTERMEASURES, ELECTRONIC

ELECTROPLATING EQUIPMENT – ALSO SEE MACHINES, PLATING ..... **Pg. 964**
Bart Mfg. Corp., 227 Main St., Belleville, N. J.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Enthone, Inc., 442 Elm St., New Haven, Conn.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Metal & Thermit Corp., Rahway, N. J.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Ramyr Mfg. Co., 1781 N. Main St., Los Angeles, Calif. – Pg. 964
Rapid Electroplating Process, 1414 S. Wabash Ave., Chicago, Ill.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Scientific Engineering Laboratory, 1510–6th St., Berkeley, Calif.
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Universal Industrial Equip. Corp., 1625 Paterson Plank Rd., Secaucus, N. J.

ELECTROPLATING SERVICES – SEE SERVICES, PLATING

ELECTRO–SHOCK THERAPY APPARATUS
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.

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Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Electrodyne Co., Endicott St., Norwood, Mass.
Lektra Lab., 154 11th Ave., New York, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Mooradian High Frequency Labs., 13 W. Fort Lee Rd., Bogota, N. J.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Richardson, Kenneth Labs., 254 Vincent Ave., Lynbrook, N. Y.
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.

ELECTRO-SURGICAL APPARATUS ..... Pg. 1053
All American Engineering Co., Dupont Airport, Wilmington, Del.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, Utah
Gulton Industries, Inc., Vibro Ceramics Div., 212 Durham Ave., Metuchen, N. J.
Lab-Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Mooradian High Frequency Labs., 13 W.Fort Lee Rd., Bogota, N. J.
Richardson, Kenneth Labs., 254 Vincent Ave., Lynbrook, N. Y.
Victory Engrg. Corp., P. O. Box 373, Union, N. J. – Pg. 1053
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.

ELEMENTS, HEATING
Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Cox & Co., Inc., 115 E. 23rd St., New York, N. Y.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N. Y.
Electrofilm, Inc., 7116 Laurel Canyon Blvd., N. Hollywood, Calif.
Fenwal Mfg. Co., Inc., Sweeten Cr. Rd., Asheville, N. C.
Forter-Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R. I.
Goodrich, B. F., Co., Aviation Products Div., Akron, Ohio
Huppert Co., K. H., 6830 – 40 S. Cottage Grove Avenue, Chicago 37, Ill.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
Norton Co., 1 New Bond St., Worcester, Mass.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Safeway Heat Element, Inc., 680 Newfield St., Middletown, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Temperature Engrg. Corp., U. S. Highway No. 130, Riverton, N. J.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vulcan Electric Co., 88 Holten St., Danvers, Mass.
Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J.
Watlow Electric Mfg. Co., 1376 Ferguson Ave., St. Louis, Mo.
Wiegand, Edwin L. Co., 7500 Thomas Blvd., Pittsburgh, Pa.

ELIMINATORS, BATTERY .... Pgs. 881, 885, 891, 892, 896–898, 904, 906, 909–911, 914, 917, 918, 922, 925, 941, 942
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn. – Pg. 881
Avionics Corp. of America, Maple Ave., Horsham, Pa.
Bludworth Marine, Div. Kearfott Co., 92 Gold St., New York, N. Y.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los. Angeles, Calif.– Pg. 885
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dressen-Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif. – Pgs. 891, 892
Electronic Instrument Co., Inc., 33-00 Northern Blvd., L.I.C., N. Y.
Electro Products Labs., 4501 –EM, N. Ravenswood Ave., Chicago, Ill.
Electronic Measurements Corp., Eatontown, N. J. – Pgs. 896, 898
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Gulton Industries Inc., Alkaline Battery Div., Metuchen, N.J.
Heath Co., Benton Harbor, Mich.
Harrison Lab. Inc., 45 Industrial Rd., Berkeley Heights, N.J. – Pg. 904
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pg. 906
Kepco Laboratories, Inc., 131-38 Sanford Ave., Flushing, N. Y. – Pgs. 909-911, 914
Lambda Electronics Corp., 11-11 131st. St., College Point, N. Y. – Pgs. 917, 918, 922
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y. – Pg. 925
North Electric Co., 553 S. Market St., Galion, Ohio
Nutron Mfg. Co., 67 Monroe Ave., Staten Island, N. Y. – Pg. 941
Opad Electric Co., 69-12 Murray St., New York, N. Y. – Pg. 942
Paco Electronics Co., Inc., 70-31 84th St., Glendale, N. Y.
Perkin Eng. Corp., 345 Kansas St., El Segundo, Calif.
Perma Power Co., 3102 N. Elston, Chicago, Ill.
Peschel Electronics, Inc., Towners Rfd 1, Patterson, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Ratel Co. Inc., 820 Minor Ave. N., Seattle, Wash.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Schaver Mfg. Corp., 4524 Alpine Ave., Cincinnati, Ohio
Seco Mfg. Co., 5015 Penn Ave., Minneapolis, Minn.
Sequoia Wire & Cable Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Service Instruments Corp., 171 Official Rd., Addison, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Warren Mfg. Co., The, Littleton, Mass.

ENAMELS
Amercoat Corp, 4808 Firestone Blvd., South Gate, Calif.
Barrett Varnish Co., 1532 S. 50th Court, Cicero, Ill.
Columbia Technical Corp, 61-02 31st Ave., Woodside, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dixon Crucible Co., 167 Wayne St., Jersey City, N. J.
General Electric, Insulating Materials Dept., Schenectady, New York
Krylon, Inc., Ford & Washington, Norristown, Pa.
Midland Industrial Finishes Corp., Waukeegan, Ill.
National Lead Co., 111 Broadway, New York, N. Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Schenectady Varnish Co., Box 1046, Schenectady, N. Y.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N. Y.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.

ENAMEL INSULATION – SEE INSULATING COMPOUNDS

ENCAPSULATED ASSEMBLIES .... Pgs. 510, 512, 513, 515, 516, 521, 526, 551, 619, 624, 776, 973, 1005-1007, 1039, 1042, 1077, 1124, 1129, 1133-1136, 1140-1142, 1177
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Advanced Electronics, Inc., 94 Silas Deane Hway, Rocky Hill, Conn.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
All-Tronics, Inc., 43 Bond St., Westbury, N. Y. – Pg. 619
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Ansley Mfg. Co., Arthur, New Hope, Pa.
Automated Circuits, Inc., 337 Payne Ave., North Tonawanda, N. Y.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Becks, Inc., 298-300 E. 5th St., St. Paul, Minn.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
CK Components, 101 Morse St., Watertown, Mass.
Cadre Industries Corp., Box 150, Endicott, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939 49 N. 2nd St., Philadelphia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Conant Labs., 6500 O St., Lincoln, Neb. – Pg. 973
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pgs. 624, 1124
Deluxe Coils, Inc., Wabash, Ind.
Dorsett Laboratories, Inc., P. O. Box 862, – 401 Boyd St., Norman, Okl.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Plastics Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Processes Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 510
Epoxy Products, Inc., 137 Coit St., Irvington, N. J.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Essex Electronics, Berkeley Heights, N. J.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg. 512
Fisher Engrg., Inc., 2060 U. S. 24 East, P.O. Box 327, Huntington, Ind.
Fugle-Miller Labs., Inc., Central Ave., Clark, N. J.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 1129
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Good Electronic, P. O. Box 2706, West Palm Beach, Florida
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
HI-Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Inertia Switch, 527 Lexington Ave., New York, 1, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
M F Electronics, 122 E. 25th St., New York, N. Y. – Pg. 513
Macleod & Hanopol, Inc., 10 Roland St., Charlestown, Mass.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N. J.
Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133-1135
Millen, James Mfg. Co., 150 Exchange St., Malden, Mass.
Minature Electronic, Components Corp., Holbrook, Mass.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.– Pg. 1136
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
New York Coil Co., Phoenixville, Pa.
Norrich Plastic Corp., 109 W. 18th St., New York, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Parsons, Ralph M. Co., Electrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pg. 551
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.– Pg. 515
Sequoia Wire & Cable Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Solid State Electronics Co., Dept. E., 8158 Orion Ave., Van Nuys, Calif.– Pg. 1177
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.

ENCAPSULATED ASSEMBLIES (continued)

Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pgs. 521, 1142
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
U.S. Relay Co., Electronic Div., 717 N. Coney Ave., Azusa, Calif. – 1005–1007
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.– Pg. 526
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.– Pg. 516
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y. – Pg. 1077
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.

ENCAPSULATED COMPONENTS .. Pgs. 510, 515, 517, 521, 522, 524–526, 619, 624, 973, 983–985, 1005–1007, 1014, 1018, 1023, 1029, 1031, 1034, 1039, 1042, 1043, 1077, 1096, 1123, 1124, 1126–1129, 1133–1136, 1138–1142, 1177

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advance Relays, Elgin Nat'l. Watch Co., 2435 N. Naomi St., Burbank, Calif. – Pgs. 983–985
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
All–Tronics, Inc., 43 Bond St., Westbury, N. Y.– Pg. 619
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Bach–Simpson Ltd., 1255 Brydges St., London, Canada
Barber, A. W. Labs., Instant Circuits Div., 32–44 Fr. Lewis Blvd., Flushing, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burnell & Co., 10 Pelham Pkwy, Pelham, N. Y.– Pg. 517
CK Components, 101 Morse St., Watertown, Mass.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Cinema Engin. Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif. – Pg. 1014
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils–Electronics Co., 2939 – 49 N. 2nd. St., Philadelphia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Conant Labs., 6500 O St., Lincoln, Neb.– Pg. 973
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Daven Co., The, 526 W. Mt. Pleasant Ave., Livingston, N. J. – Pg. 1018
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.– Pgs. 624, 1124
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Deluxe Coils, Inc., Wabash, Ind.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.– Pg. 1023
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pgs. 1126–1128
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Plastics Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.– Pg. 510
Epoxy Products, Inc., 137 Coit St., Irvington, N. J.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Essex Electronics, Berkeley Heights, N. J.
Fisher Engrg., Inc., 2060 U. S. 24 East, P.O. Box 327, Huntington, Ind.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Electric Apparatus, Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 1129
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1029
JBT Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 1096
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133, 1135
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Miniature Electronic Components Corp., Holbrook, Mass.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. – Pg. 1136
New York Coil Co., Phoenixville, Pa.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Resistance Prod. Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif. – Pg. 515
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Solid State Electronic Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pgs. 1138, 1139
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pgs. 521, 1142
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
U. S. Relay Co., Electronics Div., 717 N. Coney Ave., Azusa, Calif. – Pgs. 1005-1007
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J. – Pg. 522
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif. – Pg. 526
Vari-L Co., 432 Fairfield Aye., Stamford, Conn. – Pgs. 524, 525
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Welwyn Int'l., Inc., 3355 Edgecliff Terr., Cleveland, Ohio – Pg. 1043
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York – Pg. 1077
Wirco Electronics, Inc., 11680 McBean Dr., El Monte, Calif.

ENCAPSULATION SERVICES – SEE SERVICES, ENCAPSULATION

ENCLOSURES, SHIELDED – SEE SCREEN ROOMS

ENCLOSURES, SPEAKER, CABINET

Acousti Craft, 14122 Aetna, Van Nuys, Calif.
Alpitec, Inc., 49 Gleason Ave., Stamford, Conn.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Argos Products Co., 301 Main St., Genoa, Ill.
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y.
Bozak Sales Co., The, R. T., Box 1166, Darien, Conn.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Columbia Metal Box Co., 260 E. 143rd St., Bronx, N. Y.
Continental Sound Engr., Inc., 4173 N. Green Bay Ave., Milwaukee, Wisconsin
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Davis, J. W. & Co., P. O. Box 35313, Dallas, Texas
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Fourjay Industries, 2360 W. Dorothy La., Dayton, Ohio
Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa.
Gravely Furniture Co., Inc., Ridgeway Div., Martinsville, Va.
Hartley Products Co., 521 E. 162nd St., Bronx, N. Y.
Heath Co., Benton Harbor, Mich.
Holden-Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Holland Standards, Inc., Box 908, 717 Center Point Rd., N. E., Cedar Rapids, Iowa
Horton and Hubbard Mfg. Co., 141 Canal St., Nashua, N. H.
Jayell Mfg. Co., 1360 Garrison Ave., New York, N. Y.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Karlson Associates, Inc., 433 Hempstead Ave., W. Hempstead, N. Y.
Lowell Mfg. Co., 3030 Laclede Station Rd., St. Louis, Mo.
M. M. Enclosurers, Inc., 111 Bloomingdale Rd., Hicksville, L. I., N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Middlesex Wood Products Corp., Newron Road, Littleton, Mass.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Mundt, Charles & Sons, 53 Fairmount Ave., Jersey City, N. J.
North American Philips, High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N. Y.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Powers J. J. Co., 1317 S. 5th, P. O. Box 211, Maywood, Ill.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
R. J. Audio Products, 80 Shore Rd., Port Washington, N. Y.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
River Edge Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Scientific Wood Cabinet, 88 Holmes St., Belleville, N. J.
Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Soundolier, Inc., Box 3848, St. Louis, Missouri
Specialty Woodworking, 36 E. Merrick Rd., Freeport, N. Y.
Stephens Tru-Sonic, Inc., 8538 Warner Dr., Culver City, Calif.
Stromberg-Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Tannoy, Ltd., 38 Pearl St., New York, N. Y.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Utah Radio Products Corp., 1124 E. Franklin St., Huntington, Ind.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wellcor, Inc., 1214-18 N. Wells St., Chicago, Ill.
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Wharfedale, Div. British Industries Corp., 80 Shore Rd., Pt. Washington, N. Y.
Woodcraft Service Co., 54 Newcastle St., Toronto, Can.

ENCODERS, POSITION ..... Pgs. 536, 547, 1106

Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Baldwin Piano Co., The, 1806 Gilbert Ave., Cincinnati, Ohio – Pg. 536
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Datex Corp., 1307 So Myrtle Ave., Monrovia, Calif.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Devol Research Co., Brookside Dr., Greenwich, Conn.
Eclipse-Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Markite Corp., 155 Waverly Pl., New York, N. Y.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.

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Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

ENGINEERING REFERENCE BOOKS – SEE TECHNICAL BOOKS

ENGINES, DIESEL & GAS
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Homelite Div., Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Onan, D. W. & Sons, Inc., University Ave. at 25th S. E., Minneapolis, Minn.
Stewart & Stevenson Service, 4516 Harrisburgh Blvd., Houston, Texas
Union Diesel Engine Co., 2121 Diesel St., Oakland, Calif.

ENGRAVING & PROFILING EQUIPMENT ..... Pg. 744
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Cosa Corp., 405 Lexington Ave., New York, N. Y.
Dura Plastics of N. Y., Inc., 303 5th Ave., New York, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Foredom Electric Co., Bethel, Conn.
Hermes Plastics, Inc., 13-19 University Pl., New York, N. Y.
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Luma Electric Equip. Co., P. O. Box 132, Toledo, Ohio
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
Miller-Trojan Co., 3 N. Ridge Ave., Troy, Ohio
New Hermes Engraving Machine Corp., 13-19 University Pl., New York, N. Y.
Preis Engraving Mach. Co., 651 U. S. Hway. 22, Hillside, N. J.
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y. – Pg. 744
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio

ENGRAVING & PROFILING SERVICES – SEE SERVICES, ENGRAVING

ENVIRONMENTAL CHAMBERS – SEE CHAMBERS, ENVIRONMENTAL

ENVIRONMENTAL TESTING – SEE SERVICES, ENVIRONMENTAL TESTING

EPILATORS
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.

EQUALIZERS, AUDIO ..... Pg. 1099
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Blonder-Tongue Labs., Inc., 9-25 Alling St., Newark, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fairchild Recording Equip. Co., 10-40 45th Ave., Long Island City, N. Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Transducers, Inc., 2957 Honolulu Ave., La Crescenta, Calif.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.

EQUALIZER, PHASE
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.

ESCUTCHEONS
American Emblem Co., Inc., P. O. Box 116, Utica, N. Y.
Chicago Thrift-Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Etched Products Corp., 39-01 Queens Blvd., Long Island City, N. Y.
Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.
Golden Co., 1054 38 St., Brooklyn, N. Y.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Jan Hardware Mfg. Co., 38-01 Queens Blvd., Long Island City, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
North Shore Nameplate, Inc., 214-27 Northern Blvd., Bayside, N. Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

ETCHANTS, PRINTED CIRCUIT
Hunt, Philip A. Co., Palisades Park, N. J.
Nameplates, Inc., 421 East 101st St., Brooklyn, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

EXCITERS – SEE OSCILLATORS

EYELETS ..... Pgs. 509, 633
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Circon Component Corp., Municipal Airport, Goleta, California – Pgs. 509, 633
Eyelet Tool Co., Inc., 236 A Broadway, Cambridge, Mass.
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
GOE Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
H. K. Metalcraft Mfg. Co., 3785 10 Ave., New York, N. Y.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Mattatuck Mfg. Co., 1981 E. Main St., Waterbury, Conn.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Pix Mfg. Co., Inc., 81A Hudson St., Newark, N. J.
Segal, Edward, 72 Spring Street, New York, N. Y.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Stimpson Co., Inc., 74 Franklin Ave., Brooklyn, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
United Shoe Machinery Corp., 140 Federal St., Boston, Mass.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Waterbury Companies, Inc., Waterbury, Conn.
Zell Products Corp., 276-280 Main St., Box 590, Norwalk, Conn.

FABRIC – SEE INSULATING MATERIALS

FABRICATORS, PLASTIC, METAL, ETC. – SEE SERVICES, FABRICATION

FACEPLATES
Acousti Craft, 14122 Aetna, Van Nuys, Calif.
Acousti Craft, 14122 Aetna, Van Nuys, Calif.
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
American Emblem Co., Inc., P. O. Box 116, Utica, N. Y.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Golden Co., 1054 38 St., Brooklyn, N. Y.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
U. S. Radium Corp., Morristown, New Jersey
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

FACSIMILE EQUIPMENT – SEE RECEIVERS, TRANSMITTERS, ETC.

FANS – SEE BLOWERS

FASTENERS & FASTENING DEVICES ..... Pg. 633
A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Aircraft Radio Corp., Boonton, N. J.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Allen Mfg. Co., The, Drawer 570, Hartford, Connecticut
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Screw Co., Willimantic, Conn.
Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N. Y.
Bead Chain Mfg. Co., The, 110 Mountain Grove St., Bridgeport, Conn.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Camloc Fastener Corp., 22 Spring Valley Road, Paramus, New Jersey
Central Screw Co., 3501 Shields Ave., Chicago, Ill.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Circon Component Corp., Municipal Airport, Goleta, California – Pg. 633
Dimco-Gray Co., 207 E. 6th St., Dayton, Ohio
Dzus Fastener Co., Inc., Box 185, Babylon, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Elso Tool & Screw Corp., Rockford, Ill.
Eyelet Tool Co., Inc., 236A Broadway, Cambridge, Mass.
Fastex Div., Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
Goodrich, B. F., Co., Aviation Products Div., Akron, Ohio
Groov-Pin Corp., 1125 Hendricks Causeway, Ridgefield, N. J.
H. K. Metalcraft Mfg. Co., 3785 10 Ave., New York, N. Y.
Hassall, John, Inc., Box 2242 W., Westbury, N. Y.
Heli-Coil Corp., Shelter Rock Lane, Danbury, Conn.
Hercules Fastener Co., 2722 N. Clybourn Ave., Chicago, Ill.
Holub Industries, Inc., 413 DeKalb Ave., Sycamore, Ill.
Huck Mfg. Co., 2480 Bellevue Ave., Detroit, Mich.
Hydro Molding Co., Inc., Plattsburgh, N. Y.
Jacobson Nut Mfg. Corp., Box 177, Kenilworth, N. J.
Kaynar Co., Box 2001, Terminal Annex, Los Angeles, Calif.
Klincher Locknut Corp., 2153 Hillside Ave., Indianapolis, Ind.
Lamson & Sessions Co., The, 5000 Tiedeman Road, Cleveland, Ohio
Lion Fastener, Inc., % Southco., Lester, Pa.
Lodding, Inc., 73 Beacon St., Worcester, Mass.
Molly Corp., 230 N. 5 St., Reading, Pa.
Monadnock Mills, 1977 First Ave., San Leando, Calif.
Moran Co., 115 Main St., El Segundo, Calif.
Morris, J. I. Co., 372 Elm St., Southbridge, Mass.
National Co., Inc., 61 Sherman St., Malden, Mass.
National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio
Newton Insert Co., 6500 Avalon Boulevard, Los Angeles, Calif.
Nielson Hardware Corp., 770 Wethersfield Ave., Hartford, Conn.
Nylogrip Prods., 449 Watertown St., Newton 58, Mass.
Nylok Corp., 611 Industrial Ave., Paramus, N. J.
Palnut Co., The, 61 Glen Rd., Mountainside, N. J.
Parker-Kalon Div., Gen. American Trans. Corp., Clifton, N. J.
Penn Engrg. & Mfg. Corp., Box 311, Doylestown, Pa.
Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.
Precise Mfg. Co., 923 S. Keeler Ave., Chicago, Ill.
Raytheon, Indl. App. Div., Production Apparatus Prod., Dept. 6120MP, Waltham, Mass.
Reliance Div., Eaton Mfg. Co., 25 Charles Ave., S. E., Massillon, Ohio
Rosan, Inc., 2901 West Coast Hway., Newport Beach, Calif.
Russell, Burdsell & Ward Bolt & Nut Co., Port Chester, N. Y.
SPS Western, 2701 So. Harbor Blvd., Santa Ana, Calif.
Segal, Edward, 72 Spring Street, New York, N. Y.
Shakeproof Div., Illinois Tool Works, St. Charles Rd., Elgin, Ill.
Simmonds Aerocessories, Inc., Tarrytown, N. Y.
Simmons Fastener Corp., 1752 N. Broadway, Albany, N. Y.
Southco Div., South Chester Corp., 233 Industrial Hwy., Lester, Pa.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Standard Insert Co., 12270 Montague St., Pacoima, Calif.
Standard Locknut & Lockwasher, Inc., 2250 Valley Ave., Indianapolis, Ind.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Stanley Works, The, New Britain, Conn.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Sterling Bolt Co., 363–405 W. Erie St., Chicago, Ill.
Stimpson Co., Inc., 74 Franklin Ave., Brooklyn, N. Y.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Thompson Bremer & Co., 228 N. La Salle, Chicago, Ill.
Timber–Top, Inc., 79 Connecticut Ave., P. O. Box 14, Freeport, N. Y.
Tinnerman Products, Inc., P. O. Box 6688, Cleveland, Ohio
Townsend Co., Box 237, New Brighton, Pa.
Tubular Rivet & Stud Co., Weston Ave., Wollaston, Mass.

FASTENERS & FASTENING DEVICES (continued)
United–Carr Fastener Corp., 31 Ames St., Cambridge, Mass.
Waldes Kohinoor, Inc., 47–16 Austel Pl., L. I. City, N. Y.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Waltham Screw Co., 77 Rumford Ave., Waltham, Mass.
Weckesser Co., 5701 Northwest Hway, Chicago, Ill.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.

FAULT LOCATORS – SEE DETECTORS, FLAW & DEFECT

FEEDTHRUS – SEE TERMINALS, FEEDTHRU

FELTS & FELT PARTS
American Felt Co., Glenville, Conn.
Armstrong Cork Co., Lancaster, Pa.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Boston Felt Co., 210 South St., Boston, Mass.
Brady, W. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc.
Continental Felt Co., 22 W. 15th St., New York, N. Y.
Corkpak Co. Inc., 70 Argyle Ave., New Rochelle, N. Y.
Felters Co., The, 210 South St., Boston, Mass.
General Gaskets, Inc., Middletown, Conn.
Morris, J. I. Co., 372 Elm St., Southbridge, Mass.
National Felt Co., 76 Summer St., Boston, Mass.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Standard Felt Co., 29 S. Palm Ave., Alhambra, Calif.
Supreme Industrial Products Co., 367 N. Karlov Ave., Chicago, Ill.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

FERRITES – SEE METALS

FIBRE – SEE INSULATING MATERIALS

FILM, PHOTOGRAPHIC
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Celanese Corp. Of America, Plastics Div., 744 Broad St., Newark, N. J.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Keuffel & Esser Co., Hoboken, N. J.

FILM BADGES ALSO SEE SERVICES, FILM BADGE
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Atomic Film Badge Corp., 244–02 Jamaica Ave., Bellerose, N. Y.
Celanese Corp. Of America, Plastics Div., 744 Broad St., Newark, N. J.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Landauer, R. S. Jr. & Co., 3920 216 St., Matteson, Ill.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Picker X–Ray Corp., 25 S. Broadway, White Plains, N. Y.
St. John X–Ray Lab., Califon, N. J.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.

FILM, MAGNETIC RECORDING
Audio Devices, Inc., 444 Madison Ave., New York, N. Y.
Celanese Corp. Of America, Plastics Div., 744 Broad St., Newark, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Reeves Soundcraft Corp., Great Pasture Rd., Danbury, Conn.
Technology Instrument Corp., 523 Main St., Acton, Mass.

FILMS, CAPACITOR
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Asheville–Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.
Balco Research Labs., Inc., Capacitor Div., 49–53 Edison Pl., Newark, N. J.
Dearborn Electronic Lab., 1421 N. Wells St., Chicago, Ill.
Dielect Inc., Cedar & Cross Sts., Fords, N. J.
Farnam Mfg. Co., Inc., Sweeten Cr. Rd., Asheville, N. C.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Natvar Corporation, 211 Randolph Ave., Woodbridge, N. J.

FILMS, PLASTIC FOR WOUND INSULATION
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Borden Co., The – Chemical Div., Resinite Dept., Box 1589, Santa Barbara, Calif.
Celanese Corp. Of America, Plastics Div., 744 Broad St., Newark, N. J.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Fluorulon Labs. Inc., Box 305, Caldwell, N. J.
General Electric, Insulating Materials Dept., Schenectady, N. Y.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Plymouth Rubber Co., Inc., Canton, Mass.
Polyken Sales, Div. Of Kendall Co., 309 W. Jackson Blvd., Chicago, Ill.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Sound Screen Supplies Inc., 752 Broadway, New York, N. Y.
Sparta Mfg. Co., Dover, Ohio

FILTERS, ACOUSTICAL
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Harris Transducer Corp., Woodbury, Conn.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telex, Telex Park, St. Paul, Minn.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

FILTERS, A–F ..... **Pgs. 522, 583, 620, 621, 778, 1077, 1142**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif.–Pg. 620
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
Control Electronics Co., 10 Stepar Place, Huntington Sta., N. Y.–Pg. 621
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner Inc., 346 Central Ave., Silver Creek, N. Y.–Pg. 778
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla.–Pg. 583
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New York Coil Co., Phoenixville, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne, Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Penn–East Engrg. Corp., P. O. Box 240, Kutztown, Pa.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
T. T. Electronics Inc., P. O. Box 180, Culver City, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.–Pg. 1142
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.–Pg. 522
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wells Electronics Co., 1701 So. Main St., So Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.–Pg. 1077
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

FILTERS, AIR ..... **Pgs. 478, 479**
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Cambridge Filter Corp., 738 E. Erie Blvd., Syracuse, N. Y.
Carey Electronic Engrg. Co., Metal Wool Div., Springfield, Ohio
Commercial Filters Corp., 2 Main St., Melrose, Mass.
Electro–Air Cleaner, Spoul & Olivia, McKees Rocks, Pa.
Farr Co., 2301 E. Rosecrans, El Segundo, Calif.
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
Hankison Corp., College & Pike, Canonsburg, Pa.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Mamco Corp., 532 Fourth St., Racine, Wis.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radex Corp., 2076 N. Elston Ave., Chicago, Ill.
Research Products Corp., 1015 E. Washington Ave., Madison, Wisc.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.–Pgs. 478, 479
Torit Mfg. Co., Walnut & Exchange Sts., St. Paul, Minn.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Workman Tv, Inc., 309 Queen Anne Rd., Teaneck, N. J.

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Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
All–Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Amtron Corp., 17 Felton St., Waltham, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N. Y.–Pg. 527
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio–Pg. 659
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Channel Master Corp., Ellenville, N. Y.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dero Electronics, 134 Nassau Rd., Roosevelt, N. Y.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.

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Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microlab, 71 Okner Pkway., Livingston, N. J.
Microwave Radiation Co., 19223 S. Hamilton St., Gardona, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Vidaire Electronics Mfg. Corp., 44 Church St., Baldwin, N. Y.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

FILTERS, BAND ELIMINATION ... Pgs. 486, 513, 522, 527, 539, 589, 594, 620, 621, 630, 659, 778, 792, 793, 1077, 1140–1142

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Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
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Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
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Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Sta., N. Y.–Pgs. 539, 621
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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
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Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
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Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
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Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
MF Electronics Co., 122 E. 25th St., New York, N. Y. – Pg. 513
Mattson Electronics Corp., 11645–47 Mcbean Dr., El Monte, Calif.
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Microlab, 71 Okner Pkway., Livingston, N. J.
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National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
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Radar Design Corp., Box 38, Syracuse, N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reeves–Hoffman, Div. Dynamics Corp. Of America, Carlisle, Pa.–Pg. 594
Rytron Com, Inc., 7305 Lankershim Blvd., No. Hollywood, Calif.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Scientific Radio Prods. Co., Box 35 – Normandy 72261, Loveland, Colo.
Spectrum Instruments, Inc., Box 61, Steinway Station, L. I. City, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Sutter Electronics Co., 2434 Maryal Dr., Sacramento, Calif.
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Tech. Laboratories, Inc., Palisades Park, N. J.
Telerad Mfg. Corp., 1440 Broadway, NewYork, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.–Pg. 1142
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y.–Pgs. 630,1140,1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.–Pg. 522
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.–Pg. 1077
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

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Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
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Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif.–Pg. 620
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Amerac, Inc., Dunham Rd., Beverly, Mass.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Amtron Corp., 17 Felton St., Walthan, Mass.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N. Y.–Pg. 527
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Astron Corp., 255 Grant Ave., East Newark, N. J.–Pg. 486
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.–Pg. 658
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio–Pg. 659
Blackhawk Engrg. Co., Box 146, Janesville, Wisc.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.– Pg. 587
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Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
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Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland, Ohio
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Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.–Pg. 624
Devol Research Co., Brookside Dr., Greenwich, Conn.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Double E. Products Co., 208 Standard St., El Segundo, Calif.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electro Precision Corp., Arcadelphia, Ark. – Pg. 546
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
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Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.–Pg. 589
Hycon Eastern, Inc., 75 Cambridge Pkwy., Cambridge, Mass.–Pg. 592
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
JFD Electronics Corp., 1452 62nd St., Brooklyn, N. Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27, Jerrold Bldg., Phila., Pa.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Kenyon Transformer Co. Inc., 1057 Summit Ave., Jersey City, N. J.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
MF Electronics Co., 122 E. 25th St., New York, N. Y. – Pg. 513
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla.–Pg. 583
Mattson Electronics Corp., 11645–47 Mcbean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Microlab, 71 Okner P,Kway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardona, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Optical Coating Laboratory, Inc., 977 Sebastopol Rd., Santa Rosa, Calif.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif.–Pg. 824
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pulse Engrg., Inc., 2657 Spring St., Redwood City, Calif.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Reeves–Hoffman, Div. Dynamics Corp. Of America, Carlisle, Pa.–Pg. 594
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Rytron Com, Inc., 7305 Lankershim Blvd., No. Hollywood, Calif.–Pg. 626
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Scientific Radio Prods. Co., Box 35 – Normandy 72261, Loveland, Colo.
Scott, Hermon Hosmer Inc., 111 Powdermill Rd., Maynard, Mass.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Spectrum Instruments, Inc., Box 61, Steinway Station, L. I. City, N. Y.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
T. T. Electronics Inc., P. O. Box 180, Culver City, Calif.
Tech Laboratories, Inc., Palisades Park, N. J.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y.–Pgs. 630, 1140, 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J.–Pg. 522
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Tex.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Dr., Westbury, N. Y.–Pg. 1077
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

FILTERS, CONTINUOUSLY VARIABLE ..... Pgs. 539, 621, 792, 793, 908

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y. –Pgs. 792, 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Control Electronics Co., Inc., Ten Stepar Place, Huntington Sta., N. Y.–Pgs. 539, 621
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.–Pg. 908
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radar Design Corp., Box 38, Syracuse, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Spectrum Instruments, Inc., Box 61, Steinway Station, L. I. City, N. Y.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

FILTERS, CRYSTAL ..... Pgs. 587–590, 592, 594, 729, 792

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Admittance–Namco Corp., 5 MarineSt., Farmingdale, L. I., N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bassett, Rex, Inc., 1314 N. E. 17th Court – P. O. Box 7127, Fort Lauderdale, Fla.
Blackhawk Engrg. Co., P. O. Box 146, Janesville, Wisc.
Bliley Electric Co., Union Station Bldg., Erie, Pa.–Pg. 588
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.–Pg. 587
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Crystal Co., Inc., P. O. Box 9 – 472 Wilmont Ave., Burlington, Wisc.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.–Pg. 589
Hughes Prod. – Hughes Aircraft, Crystal Filtor Sales, Intl. Apt., Los Angeles, Calif.–Pg. 590
Hunt Corp, The, 453 Lincoln St., Carlisle, Pa.
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass. – Pg. 592
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Keystone Electronics Co., 65 Seventh Ave., Newark, N. J.
Knights James K. Co., The, 101 E. Church St., Sandwich, Ill.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Pan–Electronics Corp., Box 584, Griffin, Ga.
Pandramic Radio Prod. Inc., 520 So. Fulton Ave., Mt. Vernon, N. Y.–Pg. 729
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Reeves–Hoffman, Div. Dynamics Corp. Of America, Carlisle, Pa.–Pg. 594
Scientific Radio Prods. Co., Box 35 – Normandy 72261, Loveland, Colo.
Texas Crystals, Div. Westronix Corp., 8538 W. Grand Ave., River Grove, Ill.

FILTERS, ELECTRIC WAVE SECTION ..... Pgs. 539, 594, 621

Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.–Pgs. 539, 621
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Hermetic Seal Transformer Co., 555 N. 5th St. Box 277, Garland, Tex.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Reeves–Hoffman, Div. Dynamics Corp. Of America, Carlisle, Pa.–Pg. 594
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
White Instrument Labs., Box 9006, Austin, Tex.

FILTERS, EQUALIZER ..... Pgs. 539, 594, 621, 630, 1140, 1141

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Sta., N. Y.–Pgs. 539, 621
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Essex Electronics, Berkeley Heights, N. J.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.

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Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reeves–Hoffman, Div. Dynamics Corp. Of America, Carlisle, Pa.–Pg. 594
Rytron Com, Inc., 7305 Lankershim Blvd., No. Hollywood, Calif.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
T. T. Electronics Inc., P. O. Box 180, Culver City, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tobe–Deutschmann Corp., 921 Providence Hway, Norwood, Mass.
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y.–Pgs. 630, 1140, 1141
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

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Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
All–Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif.–Pg. 620
Alto Scientific Co., Inc., 855 Commericial St., Palo Alto, Calif.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Automatic Metal Products Corp., 315-323 Berry St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio – Pg. 659
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Bulova Watch Co., Electronics Div., 40-06 62nd St., Woodside, N. Y. – Pg. 587
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carnf Co., Box 554, Brookhaven, Miss.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Clippard Instrument Lab., Inc., 7350-90 Colerain Rd., Cincinnati, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y. – Pgs. 539, 621
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 624
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
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Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
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Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
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Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Texas
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Industrial Transformer Co., Gouldsboro, Pa.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 583
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Microlab, 71 Okner Pkway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn-East Engrg. Corp., Box 240, Kutztown, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Pulse Engrg., Inc., 2657 Spring St., Redwood City, Calif.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reeves-Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 628
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
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Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Spectrum Instruments, Inc., Box 61, Steinway Station, Long Island City 3, N. Y.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
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T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Tech Laboratories, Inc., Palisades Park, N. J.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transducers, Inc., 2957 Honolulu Ave., La Crescenta, Calif.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
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Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Voi-Shan Electronics, 13259 Sherman Way, N. Hollwyood, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York – Pg. 1077
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
White Instrument Labs., Box 9006, Austin, Texas

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Blackhawk Engrg. Co., Box 146, Janesville, Wisc.
Bulova Watch Co., Electronics Div., 40-06 62nd St., Woodside, N. Y. – Pg. 587
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Caddell-Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
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Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y. – Pg. 621
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Essex Electronics, Berkeley Heights, N. J.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Metavac, Inc., 45-68 162nd St., Flushing, N. Y.
Microlab, 71 Okner Pkway., Livingston, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.

FILTERS, I–F (continued)
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

FILTERS, INTERFERENCE ..... Pg. 486
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
All-Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
American Electronics Co., 1203-05 Bryant Ave., New York, N. Y.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Axel Bros., Inc., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bassett, Rex, Inc., 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Control Circuits, Inc., Box 279, East Hampton, Conn.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dubrow Devel. Co., 235 Penn St., Burlington, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Metavac, Inc., 45-68 162nd St., Flushing, N. Y.
Microlab, 71 Okner Pkway., Livingston, N. J.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Optical Coating Laboratory, Inc., 977 Sebastopol Rd., Santa Rosa, California
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

FILTERS, LIGHT ..... Pg. 777
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Black Light Products, Inc., 53 W. Jackson Blvd., Chicago, Ill.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Corning Glass Works, 95-6 Crystal St., Corning, N. Y.
Dell Optics Co., Ltd., 327 55 St., W. New York, N. J. – Pg. 777
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Gates, George W. & Co., Hempstead Tpke. & Lucille Ave., Franklin Square, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Jan Hardware Mfg. Co., 38-01 Queens Blvd., Long Island City, N. Y.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
New York Air Brake Co., Vacuum Equip. Div., 1325 Adm. Wilson Blvd., Camden, N. J.
Optical Coating Laboratory, Inc., 977 Sebastopol Rd., Santa Rosa, California
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

FILTERS, LINE ..... Pgs. 486, 561, 619, 630, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
All-Tronics, Inc., 43 Bond St., Westbury, N. Y. – Pg. 619
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blonder–Tongue Labs., 9 Alling St., Newark, N. J. – Pg. 561
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Dunleavey Electronics Corp., 1735 Central St., Stoughton, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Industrial Transformer Co., Gouldsboro, Pa.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N. Y.
Tech Laboratories, Inc., Palisades Park, N. J.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 630, 1140, 1141
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, 49, Calif.

FILTERS, LOW PASS .... Pgs. 486, 522, 539, 583, 587, 589, 594, 616, 619–621, 624, 627, 630, 748, 778, 793, 809, 817, 820, 1077, 1140–1142
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y. – Pgs. 792, 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L.I., N. Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
All–Tronics, Inc., 43 Bond St., Westbury, N. Y. – Pgs. 616, 619
Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif. – Pg. 620
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y. – Pg. 587
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y. – Pgs. 539, 621
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Decoursey Engrg. Lab., 11828 W. Jefferson Blvd., Culver City, Calif.
Deeco Instruments 14737 Arminta St., Van Nuys, Calif. – Pg. 624
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St. Richmond Hill, N.Y.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
El–Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
Flow Corp., 85 Mystic St., Arlington, Mass.
Forbes & Wagner Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N.J.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Genisco, Inc. , 2233 Federal Ave., Los Angeles, Calif.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Green Rectifier Co., 1–10 30th St., Fairlawn, N.J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 809
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Johnson, E. F. Co., 1439 Second Ave., S W, Waseca, Minn.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Krohn –Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 583
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Microlab, 71 Okner Pkway., Livingston, N. J.

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Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pg. 820
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Potter Co.,The, 1950 Sheridan Rd., No. Chicago, Ill.
Pulse Engrg., Inc., 2657 Spring St., Redwood City, Calif.
Pulse Techniques, Inc., 1411 Palisade Ave., West Englewood, N. J.
Radio Condenser Co., Davis & Capewood Sts., Camden, N. J.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
Richardson, Kenneth Labs., 254 Vincent Ave., Lynbrook, N. Y.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Rytron Com., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 627
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 748
Spectrum Instruments, Inc., Box 61, Steinway Station, Long Island City, N. Y.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
T. E. M., Inc., 71 Okner Pkwy., Livingston, N. J. – Pg. 817
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Tech Laboratories, Inc., Palisades Park, N. J.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 630, 1140, 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J. – Pg. 522
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y. – Pg. 1077
Western Electro– Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
White Instrument Labs., Box 9006, Austin, Texas

FILTERS, MECHANICAL ..... Pgs. 622, 623, 630, 659, 792, 793, 796, 798–800, 817, 818, 825, 837, 1062, 1140, 1141

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif. – Pgs. 622, 623
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Commercial Filters Corp., 2 Main St., Melrose, Mass.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Riverbank Labs., Dept. of Engrg., P. O. Box 65, Geneva, Ill.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio

FILTERS, MICROWAVE.. Pgs. 630, 659, 792, 793, 796, 798–800, 817, 818, 825, 837, 1062, 1140, 1141

ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y. – Pgs. 792, 793
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Amerac, Inc., Dunham Rd., Beverly, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio – Pg. 659
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner P'kway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Microwave Engrg. Labs., 943 Industrial Ave., Palo Alto, Calif.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y. – Pg. 825
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
T. E. M., Inc., 71 Okner Pkwy., Livingston, N. J. – Pg. 817
Ta–Mar, Inc., 11571 W. Jefferson Blvd., P. O. Box 1217, Culver City, Calif.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 630, 1140, 1141
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waveline, Inc., Box 718, W. Caldwell, N. J. – Pg. 837
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

FILTERS, NEEDLE SCRATCH

Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Copper, Bl. 15–1, Camden, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.

FILTERS, PHOTOGRAPHIC

Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
New York Air Brake Co., Vacuum Equip. Div., 1325 Adm. Wilson Blvd., Camden, N. J.

FILTERS, RADIO INTERFERENCE ..... Pgs. 486, 615–619, 1125

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advanced Electronics Corp., 2 Commercial St., Hicksville, N. Y. – Pg. 615
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
All–Tronics, Inc., 43 Bond St., Westbury, N. Y. – Pgs. 616 – 619
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Bassett, Rex, Inc., 1314 N. E. 17th Court, P. O. Box 7127, Fort Lauderdale, Fla.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dunleavey Electronics Corp., 1735 Central St., Stoughton, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Fast, John E. & Co., 3528 N. Kedzie Ave., Chicago, Ill.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St. – Box 277, Garland, Texas
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
Interference Measurement Lab., Inc., 907 E. 51 st St., Brooklyn, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Microlab, 71 Okner Pkway., Livingston, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
San Fernando Electric Mfg., P. O. Box 351, San Fernando, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, New York

FILTERS, R–F ..... Pgs. 486, 527, 615, 622, 623, 659, 778, 796, 824, 830

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advanced Electronics Corp., 2 Commercial St., Hicksville, N. Y. – Pg. 615
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
All-Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
American Electronics Co., 1203-05 Bryant Ave., New York, N. Y.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y. – Pg. 527
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Astron Corp., 255 Grant Ave., East Newark, N. J. – Pg. 486
Automatic Metal Products Corp., 315-323 Berry St., Brooklyn, N. Y.

See YELLOW SECTION for local sales offices, telephones, etc.

FILTERS, R–F (continued)
Axel Bros., Inc., Electronics Div., 134-20 Jamaica Ave., Jamaica, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio – Pg. 659
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Caddell-Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Carnf Co., Box 554, Brookhaven, Miss.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif. – Pgs. 622, 623
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Essex Electronics, Berkeley Heights, N. J.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle-Miller Labs, Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hopkins Engineering Co., 12900 Foothill Blvd., San Fernando, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Microlab, 71 Okner P'kway., Livingston, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pg. 824
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Rama Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Ta–Mar, Inc., 11571 W. Jefferson Blvd., P. O. Box 1217, Culver City, Calif.
Tele–Coil Co., Inc., 275 Saunders St., Camden, N. J.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Vidaire Electronics Mfg. Corp., 44 Church St., Baldwin, New York
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

FILTERS, SCREENROOM – SEE SCREEN ROOMS

FILTERS, SINGLE SIDEBAND ..... Pgs. 539, 587–589, 592, 622, 623, 630, 1140, 1141
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bliley Electric Co., Union Station Bldg., Erie, Pa. – Pg. 588
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y. – Pg. 587
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif. – Pgs. 622, 623
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y. – Pg. 539
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. –Pg. 589
Hycon Eastern, Inc., 75 Cambridge Pkwy., Cambridge, Mass. – Pg. 592
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
McCoy Electronics Corp., Chestnut & Watts St., Mt. Holly Springs, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa.
Scientific Radio Prods. Co., P. O. Box 35, Normandy 72261, Loveland, Colo.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 630, 1140, 1141

FILTERS, TELEMETERING .... Pgs. 539, 615, 624, 627, 630, 824, 1140, 1141, 1147, 1177
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advanced Electronics Corp., 2 Commercial St., Hicksville, N. Y. – Pg. 615
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Burnell & Co., Inc., Dept. O, 10 Pelham Parkway, Pelham, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y. – Pg. 539
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 624
Devol Research Co., Brookside Dr., Greenwich, Conn.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Parsons, Ralph M. Co., Elctrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pg. 824
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Pulse Engrg., Inc., 2657 Spring St., Redwood City, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Rytron Com., Inc., 7505 Lankershim Blvd., No. Hollywood, Calif. – Pg. 627
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Spectrum Instruments, Inc., P. O. Box 61, Steinway Station, Long Island City, N. Y.
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 630, 1140, 1141
White Instrument Labs., P. O. Box 9006, Austin, Texas

FILTERS, TELEVISION ..... Pg. 777
American Electronics Co., 1203–05 Bryant Ave., New York, N. Y.
Benco TV Assocs., 27 Taber Road, Rexdale, Canada
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Channel Master Corp., Ellenville, N. Y.
Dell Optics Co. Ltd., 327 55th St., West New York, N. J. – Pg. 777
Dero Electronics, 134 Nassau Rd., Roosevelt, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Federal Electronics Sales, Div. Fedtro Electronics Bldg., Rockville Centre, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jerrold Electronics, Indl. Prod. Div., Dept. T. E. D., 27 Jerrold Bldg., Phila., Pa.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicagoi Ill.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Superex Electronics Corp., 4–6 Radford Pl., Yonkers, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.

FILTERS, UHF & VHF ..... Pgs. 527, 659
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Amtron Corp., 17 Felton St., Waltham, Mass.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y. – Pg. 527
ARK Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio – Pg. 659
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N. J.
Channel Master Corp., Ellenville, N. Y.
Clippard Instrument Lab., Inc., 7350–90 Colerain Rd., Cincinnati, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.

See YELLOW SECTION for local sales offices, telephones, etc.

General Radio Company, 22 Baker Ave., W. Concord, Mass.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Microlab, 71 Okner P'kway., Livingston, N. J.
Microwave Radiation Co., 19223 S. Hamilton St., Gardona, Calif.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric., 712 S. E. Hawthorne Blvd., Portland, Ore.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Ta–Mar, Inc., 11571 W. Jefferson Blvd., P. O. Box 1217, Culver City, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.

FILTERS, VARIABLE, BAND PASS .. Pgs. 513, 539, 620, 625, 630, 803, 908, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
All–Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y.
Allison Laboratories, Inc., 14191 E. Skyline Dr., La Puente, Calif. – Pg. 620
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y. – Pg. 539
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernado Rd., Los Angeles, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. – Pg. 803
Essex Electronics, Berkeley Heights, N. J.
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass. – Pgs. 625, 908
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
MF Electronics Co., 122 E. 25th St., New York, N. Y. – Pg. 513
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardona, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Spectrum Instruments, Inc., Box 61, Steinway Station, Long Island City 3, N.Y.
Spencer-Kennedy Labs. Inc., 1320 Soldiers Field Rd., Boston, Mass.
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 630, 1140, 1141

FILTERS, VESTIGIAL SIDEBAND ..... Pgs. 630, 1140, 1141

Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Burnell & Co., Inc., Dept. 0, 10 Pelham Parkway, Pelham, N.Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 630, 1140, 1141

FILTERS, VIDEO

Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dynamic Electronics, N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Essex Electronics, Berkeley Heights, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.

FILTERS, WAVE TRAP

Advance Electronics Co., 8510 N. End Ave., Oak Park, Mich.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
El–Rad Mfg. Co., 2800 Cullam Ave., Chicago, Ill.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Federal Electronics Sales Div., FEDTRO, Electronics Bldg., Rockville Centre, N. Y.
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Newton Co., 55 Elm St., Manchester, Conn.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Ross Mfg. Co., 2438 W. Peterson Ave., Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Vidaire Electronics Mfg. Corp., 44 Church Street, Baldwin, N.Y.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

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FIRE CONTROL SYSTEMS ..... Pgs. 1005–1007

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Admiral Corp., Govt. Sales Div., 3800 Cortland St., Chicago, Ill.
Aerojet-General Corp., 6352 N. Irwindale Ave., Azusa, Calif.
Ampco Mfg. Co., 9 Kiver St., Morristown, N.J.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Autocall Co., 57 Mack Ave., Shelby, Ohio
Avion Div., A C F Industries, Inc., 7 Park Pl., Paramus, N.J.
Belock Instrument Corp., 112-03 14th Ave., College Point 56, N.Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Coleman Engineering Co., Inc., 3500 Torrance Blvd., Torrance, Calif.
Crosley Div., AVCO Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daystrom Instrument, Archbald, Pa.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N. Y.
Fecker, J.W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Flame Research, Inc., P.O. Box 10502, Pittsburgh, Pa.
Ford Instrument Co., Div. Sperry Rand Corp., 31-10 Thomson Ave., L.I. City, N.Y.
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Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
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Librascope, Inc., 808 Western Ave., Glendale, Calif.
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North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N.Y.
Sciaco Controls, Box 41, Cooper St., Delanco, N.J.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N.J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
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Special Instruments Lab Inc., 312 W. Vine Ave., Knoxville, Tenn.
Specialty Engrg., Div. Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
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Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Worner Electronic Devices, Rankin, Ill.
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Edison, Thomas Ind. Instr., Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N.J.
Falcon Alarm Co., Inc., 243 Broad St., Summit, N.J.
Fenwal Incorporated, Ashland, Mass.
Fireye Div., Electronics Corp. of America, One Memorial Dr., Cambridge, Mass.
Fyr-Fyter Co., 221 Crane Street, Dayton, Ohio
General Electric Apparatus Sales Div., 1 River Rd., Schenectady, N.Y. – Pg. 851
Iron Fireman Mfg. Co., Electronics Div., 2838 S.E. Ninth Ave., Portland, Ore
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N.J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Partrick & Wilkins Co., 51 N. 7 St., Philadelphia, Pa.
Sciaco Controls, Box 41, Cooper St., Delanco, N.J.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N.J.
Specialty Engrg, Div. Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
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Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
American Radar Components, Inc., Route 10, Whippany, N.J.
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Connector Corp. of America, 12959 Sherman Way, No. Hollywood, Calif.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif., – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Formcraft Tool Co., 2465 Archer Ave., Chicago, Ill.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Development Labs, Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Narda Microwave Corp., 118-160 Herricks Rd., Mineola, N.Y. – Pg. 820
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.

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United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Walworth Co., Electronics Div., 89 Union St., Mineola, L.I., N.Y.
Waveline, Inc., Box 718 W. Caldwell, N.J. – Pg. 837
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

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Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Mackay, A. D. Inc., 198 Broadway, New York 38, N. Y.
Materials for Elctrns. Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Pilot Chemicals, Inc., 36 Pleasant St., Watertown, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Stroblite Co., 75 W. 45th St., New York, N. Y.
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Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

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Epic, Inc., 154 Nassau St., New York, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
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American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
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Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bow Solder Products Co., 251 Freeman St., Bklyn., N. Y.
Burnley Battery & Mfg. Co., Clay St., North East, Pa.
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Murdoch Labs., Div. Blackstone Corp., 921 Pt. Washington Blvd., Port Washington, N. Y.
National Lead Co., 111 Broadway, New York, N. Y.
Ruby Chemical Co., 68 McDowell St., P. O. Box 1108, Columbus, Ohio
Special Chemicals Corp., 100 S. Water St., Ossining, N. Y.
Summit Electronics, Inc., 7 Industrial Place, Summit, N. J.
Superior Flux & Mfg. Co., 1536 St. Clair Ave., Cleveland, Ohio
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.
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Delta–F, Inc., 113 E. State St., Geneva, Ill.
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U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.

FUNGUS & MOISTURE PROOFING–SEE SERVICES, FUNGUS & MOISTUREPROOFING

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Harper Electric Furnace Co., 905 Dun Bldg., Buffalo, N. Y.
Hayes, C. I., Inc., 862 Wellington Ave., Cranston, R. I.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
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Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.
Litton Engineering Labs., P. O. Box 949, Grass Valley, Calif.
Mech–Tranic Equipment Co., P. O. Box 510 Silver Spring, Md.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Miskella Infra–Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
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Scientific Engineering Laboratory, 1510–6th St., Berkeley 10, Calif.
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Temperature Engrg Corp., U. S. Highway 130, Riverton, N. J.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

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Despatch Oven Co., 619 S. E. 8th St., Minneapolis, Minn.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Forter–Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.
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National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Pacific Scientific Co., P. O. Box 22109 Los Angeles, Calif.
Selas Corp. of America, Dresher, Pa.
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Trane Co., The, La Crosse, Wisc.
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Induction Heating Corp., 181 Wythe Ave., Brooklyn, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
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Bussman Mfg., Div. McGraw-Edison Co., University at Jefferson, St. Louis, Mo. – Pg. 1079
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Economy Fuse & Mfg. Co., 2717 Greenview Ave., Chicago, Ill.
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Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Gem Electric Mfg. Co., 233-37th St., Brooklyn, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
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Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
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Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

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Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
Maxson, W.L. Corp., 475 Tenth Ave., New York, N.Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
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Tempo Instrument, Inc., Commercial St., P.O. Box 338, Hicksville, N.Y.
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Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
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Daytronic Corp., 216 S. Main St., Dayton, Ohio
The Decker Corporation, 45 Monument Road, Bala Cynwyd, Pa.
Dice, J. W. Co., 16 Highwood Ave., Englewood, N. J.
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Penna. Fluorocarbon Co., Inc., 1115 N. 38th St., Philadelphia, Pa.
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Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
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Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220th St., Torrance, Calif.
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Sparta Mfg. Co., Dover, Ohio
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.
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U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Wilmington Fibre Specialty Co., New Castle, Del.

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GEAR MECHANISMS ..... **Pgs. 547, 604, 605**
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Beaver Precision Prod., Inc., 651 N. Rochester Rd., Clawson, Mich.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bowmar Instrument Corp., 400 Northern Blvd., Great Neck, N. Y.
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Crown Controls Co., Inc., 40–44 S. Washington St., New Bremen, Ohio
Dynamic Gear Co., 20 Merrick Rd., Amityville, N. Y.
Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
GAP Instrument Corp., 116 Merrick Rd., Freeport, L. I., N. Y. – Pgs. 604, 605
Insco Co., Div. of Barry Controls, Inc., Hollis St., Groton, Mass.
Janette Electric Mfg. Co., Lehigh At Main Sts., Morton Grove, Ill.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Metron Instrument Co., 432 Lincoln St., Denver, Colo.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Orbit Instrument Corp., 656 Main St., Westbury, N. Y.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland, Ohio
Sterling Precision Corp., Instr. Div. 17 Matinecock Ave., Pt. Washington, N. Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
U. S. Gear Corp., 81 Bay State Rd., Wakefield, Massachusetts

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A–1 Precision Prod. Co., 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600

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Arch Gear Works, Inc., 97 Holmes St., N. Quincy, Mass.
Asquith Company, S. A., 427 W. Chevy Chase Dr., Glendale, Calif.
Beaver Gear Works, Inc., 1034 Parmele St., Rockford, Ill.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Computing Devices of Canada Ltd., P. O. Box 508, Ottawa, Canada
Custom Gear Co., 648 College St., South Bend, Ind.
Dalmo Victor Co., Div. of Textron, Inc., 1515 Industrial Way, Belmont, Calif.
Diehl Co., 1728 Grand Central Terminal, New York, N. Y.
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Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
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Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Grant Gear Works, Inc., 154 W. 2nd St., South Boston, Mass.
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Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Orbit Instrument Corp., 656 Main St., Westbury, N. Y.
Perkins Machine & Gear Co., Circuit Ave., W. Springfield, Mass.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland, Ohio
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Research Dev. Mfgr., Inc., 429 E. Collom St., Philadelphia, Pa.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Sheffield Corp., The, P. O. Box 893, Dayton, Ohio
Steel, Herman D. Co., Lafayette Bldg., Philadelphia, Pa.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
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General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
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Heath Co., Benton Harbor, Mich.
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Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Measurements Corp., A. McGraw–Edison Div., Boonton, N. J.
New London Instrument Co., Inc., 82 Union St., P. O. Box 189, New London, Conn.
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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Tel–Instrument Elect. Corp., 728 Garden St., Carlstadt, N. J.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
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Waltham Electronics Corp., 751 Main St., Waltham, Mass.

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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
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Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Measurements Corp., A. McGraw–Edison Div., Boonton, N. J.
New London Instrument Co., Inc., 82 Union St., P. O. Box 189, New London, Conn.
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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Tel–Instrument Elect. Corp., 728 Garden St., Carlstadt, N. J.
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Conn, C. G. Ltd., Elkhart, Ind.
Continental Electronics, 302 Oakland St., Brooklyn, N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N. Y.
Electronics International Co., Spec. Prod. Div., P. O. Box 271, Burbank, Calif.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Holt Instrument Lab., Oconto, Wisc.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
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Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
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Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
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Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
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Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
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Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio

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Hymac Corp., 4625 Leahy St., Culver City, Calif.
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Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Tel–Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
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Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
General Electronic Service Corp., 372 Wilmot Ave., Rte. 83, Burlington, Wisc.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
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Hobart Bros., Hobart Square, E. Troy, Ohio
Homelite Div., Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
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Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
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Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 809
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Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Lavoie Laboratories, Inc., Morganville, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Measurements Corp., A McGraw–Edison Div., Boonton, N. J.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
New London Instrument Co., Inc., 82 Union St., P. O. Box 189, New London, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
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Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
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Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. – Pg. 706
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
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Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Solarton, Inc., 530 Cooper St., Camden N. J.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.
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Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Textron Corp., Box 9207, Austin, Texas
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif. – Pg. 516
Waveforms, Inc., 333 6th Ave., New York, N. Y.

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B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Communication Measurements Labs., Inc., 350 Leland Ave., Plainfield, N. J. – Pg. 888
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electro–Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J. – Pg. 900
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Harvey–Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 807
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Holt Instrument Lab., Oconto, Wisc.
Ideal Electric & Mfg. Co., 300 E. 1 St., Mansfield, Ohio
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. – Pg. 706
Instruments for Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jerrold Electronics, Ind. Prod. Div., Dept. T E D, 27 Jerrold Bldg., Phila., Pa. – Pg. 707
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y. – Pg. 826
Radio Frequency Labs., Inc., Powderville Rd., Boonton, N. J. – Pg. 743
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pg. 753
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Tel–Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Waveforms, Inc., 333 6th Ave., New York, N. Y.

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Diehl Mfg. Co., 1221 Finderne Ave., Somerville, N. J.
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, Utah
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 691
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Panoramic Radio Prod. Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 731
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
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Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Panoramic Radio Prod. Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 734
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

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Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.

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Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical & Physical Instrument Corp., 42–19 27th St., Long Island City, N. Y.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lumatron Electronics, Inc., Box 174, Great Neck, N. Y.
Navigation Computer Corp., 1621 Snyder Ave., Phila., Pa. – Pg. 550
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Textran Corp., Box 9207, Austin, Texas
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif. – Pg. 516

GENERATORS, KEYED VIDEO SIGNAL
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cdear Grove, N. J.

GENERATORS, MARKER–ADDER ..... Pgs. 672, 729, 733
Electro–Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672

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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. – Pg. 803
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FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 805
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 807
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Isl and City, N. Y.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Microwave Engrg. Labs., 943 Industrial Ave., Palo Alto, Calif.
Northeast Scientific Corp., 617 Concord Ave., Cambridge, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N.E., Atlanta, Ga.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 749
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Strand Laboratories, Inc., 217 California St., Newton, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., 109 Marine St., Farmingdale, New York
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Bill Jack Scientific Inst. Co., P. O. Box C–3, Solano Beach, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Consolidated Diesel, Electric Corp., Ludlow & Canal St., Stamford, Conn.
Continental Electric Co., 334 Ferry St., Newark, N.J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, 39, Ill.
Electric Auto–Lite Co., The Champlain St., Toledo, Ohio
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electric Specialty Co., 300 South St., Stamford, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N.Y.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hobart Bros., Hobart Square, E. Troy, Ohio
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, 19, Mass.
Homelite Div., Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Ideal Electric & Mfg. Co., 300 E. 1st St., Mansfield, Ohio
Induction Motors Corp., 570 Main St., Westbury, N. Y.
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N. J.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Kearfott Company, Inc., Little Falls, N. J.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Leland Airborne Prod., Div. A.M. & F. Co., Box 128, Vandalia, Ohio
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
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Motoresearch Co., , 1600 Junction Ave., Racine, Wisc.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Oster John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Pesco Prod. Div., Western Br., Borg–Warner Corp., 3310 Vanowen, Burbank, Calif.
Polarad Electronics Corp., 43–20 34th St., L.I. City, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Syntorque, Inc., Box 75, – Blarsville P.O., Woodstock, N. Y.
Turner, W. R. & Co., 4831 W. Jefferson Blvd., Los Angeles, Calif.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P.O.Box 182, Lynwood, Calif.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa
Winpower Mfg. Co., Newton, Iowa

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American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bekey Electric Co., Inc., 2242 No. Figueroa St., Los Angeles, 65, Calif.
Bill Jack Scientific Instr. Co., P.O. Box C–3, Solano Beach, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Carter Motor Co., 2733 W. George St., Chicago, 18, Ill.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.– Pg. 844
Consolidated Diesel Electric Corp., Ludlow & Canal St., Stamford, Conn.
Continental Electric Co., 334 Ferry St., Newark, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Diehl Mfg. Co., 1221 Finderne Ave., Somerville, N. J.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, 39, Ill.
Electric Auto–Lite Co., The Champlain St., Toledo, Ohio
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electric Specialty Co., 300 South St., Stamford, Conn.
G–M Laboratories, Inc., 4300–N. Knox Ave., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Georator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
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Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hobart Bros., Hobart Square, E. Troy, Ohio
Homelite Div., Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Ideal Electric & Mfg. Co., 300 E. 1 St., Mansfield, Ohio
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Katolight Corp., Mankato, Minn.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Marble–Card Electric Corp., Gladstone, Mich.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Pesco Prod. Div., Western Br., Borg–Warner Corp., 3310 Vanowen, Burbank, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., Box 75 – Blarsville P.O. Woodstock, N. Y.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, 30, Pa.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa
Winpower Mfg. Co., Newton, Iowa

GENERATORS. MULTIPURPOSE. SIGNAL ..... Pg. 827
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lavoie Laboratories, Inc., Morganville, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
New London Instrument Co., Inc., 82 Union Street – Box 189, New London, Conn.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y. – Pg. 827
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio

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Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Burroughs Corp., Electronic Tube Div., P.O. Box 1226, Plainfield, N.J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elgenco, P. O. Box 45344, A. P. Sta., Los Angeles, Calif.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 811
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 720
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L.I. City, N. Y. – Pg. 829
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, LI., N. Y.
Radio Eng. Labs., Standrd Electronics Div., 29–01 Borden Ave., L.I. City, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

GENERATORS. PHASE MODULATION ..... Pg. 755
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.

GENERATORS. PHASE MODULATION (continued)
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J. – Pg. 755

GENERATORS. PICTURE SIGNAL
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Tel–Instrument Elect. Corp., 728 Garden St., Carlstadt, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

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American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Communication Measurements Labs., Inc, 350 Leland Ave., Plainfield, N. J.– Pg. 888
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Gorator Corp., 313 Tudor Lane, Manassas, Va. – Pgs. 902, 903
Hewson Co., Inc., 443 Broad St., Newark, N. J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wis.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.
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Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

GENERATORS. PULSE ... **Pgs. 542, 543, 549, 550, 647, 672, 674, 681, 692, 719, 753, 754, 775, 807, 826, 829, 1174**
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Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa. – Pg. 647
Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain, Mass.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burroughs Corp., Electronic Tube Div., P. O. Box 1226, Plainfield, N. J.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J. – Pg. 1174
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Digital Equipment Corp., Maynard, Mass.– Pgs. 542, 543
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electrical & Physical Instrument Corp., 42–19 27th St., Long Island City, N. Y.
Electro–Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672
Ensco, Inc. 3100 Eldredge Street, Salt Lake City, 15, Utah
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Franklin Electronics, Inc., Bridgeport, Pa. – Pg. 674
General Applied Science Labs., 50 Hempstead Gardens Dr., Hempstead, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.– Pgs. 692, 807
Hoffman H. & Co., 3403 Garrison Blvd., Baltimore, Md.
Instruments for Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Lavoie Laboratories, Inc., Morganville, N. J.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
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Lumatron Electronics, Inc., Box 174, Great Neck, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 719
Micro–Time, Inc., 16799 Schoenhorn, Sepulveda, Calif.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.– Pg. 550
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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., L.I. City, N. Y. – Pgs. 826, 829
Potter Aeronautical Corp., Route 22, Union, N. J.
Radiation, Inc., P.O. Box 37, Melbourne, Fla.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, 36, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Research Indl. Lab. of Elctrn., Roslyn, Pennsylvania
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rutherford Electronics Co., 8944 Lindblade, Culver City, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Spencer–Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Spivey, James S., Inc., 4908 Hampden Lane, Washington, D. C.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sutter Electronics Co., 2434 Maryal Dr., Sacramento, Calif.
Syntorque, Inc., Box 75 – Blarsville P.O., Woodstock, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.– Pg. 753
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Teletronics Lab., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 754
Telonic Engineering Corp., 773 Broadway, Laguna Beach, Calif.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Tempo Instrument, Inc., Commercial St., P.O. Box 338, Hicksville, N. Y.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Waterman Products Co., Philadelphia, Pa.

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BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Babcock Radio Engrg., 1640 Monrovia Ave., P.O. Box 344, Costa Mesa, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Boonton Radio Corp., Intervale Road, Boonton, N.J.
Canadian Marconi, Co., 2422 Trenton Ave., Montreal, Canada
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N.J.
Clegg, Inc., Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N.J.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Ferris Instrument Co., 110 Cornelia St., Boonton, N.J.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 691, 807
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N.Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Kay Electric Co., 14 Maple Ave., Pine Brook, N.J.
Lavoie Laboratories, Inc., Morganville, N.J. – Pg. 716
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
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Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Measurements Corp., A McGraw–Edison Div., Boonton, N.J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
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Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
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Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
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Pesco Prod. Div., Western Br., Borg–Warner Corp., 3310 Vanowen, Burbank, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
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Syntorque, Inc., Box 75, Blarsville P. O., Woodstock, N.Y.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

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Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.
Hickok Electrical Instrument Co., 10500 Dupont Ave., Cleveland, Ohio – Pg. 698
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
MF Electronics Co., 122 E. 25th St., New York, N.Y. – Pg. 513
Panoramic Radio Prod., Inc., 520 S. Fulton Ave., Mt. Vernon, N.Y. – Pgs. 726, 727, 729
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Syntorque, Inc., Box 75, Blarsville P.O., Woodstock, N.Y.
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Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 807
Kay Electric Co., 14 Maple Ave., Pine Brook, N.J.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., Long Island City, N.Y. – Pgs. 827, 828
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N.H.
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Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., L. I. City, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
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Ferris Instrument Co., 110 Cornelia St., Boonton, N.J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 807
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J. – Pg. 718
Measurements Corp., A McGraw–Edison Div., Boonton, N.J.
New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43–20 34th St., Long Island City, N.Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Clegg Laboratories, Div., Clegg, Inc., Morristown, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N.Y.
Superior Instruments Co., 2435 White Plains Rd., Bronx, N.Y.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N.J.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Waltham Electronics Corp., 751 Main St., Waltham, Mass.

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Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
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Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., Long Island City, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Ferris Instrument Co., 110 Cornelia St., Boonton, N.J.
Ferrotec, Inc., 217 California St., Newton, Mass.
Heath Co., Benton Harbor, Mich.
Microwave Development Labs., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cedco Electronics, Inc., 3414 W. Lake Rd., Erie, Pa.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electrical & Physical, Instrument Corp., 42–19 27th St., Long Island City, N.Y.
Electro–Associates, Box 22, St. Albans, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City 15, Utah
General Applied Science Labs., 50 Hempstead Gardens Dr., Hempstead, N.Y. – Pg. 681
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 692
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio – Pg. 698
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J.
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Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
Philbrick Researchers, Inc., 285 Columbus Ave., Boston, Mass.
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Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N.Y.
Radar Engineers, 4719 Brooklyn, Seattle, Wash.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Solarton, Inc., 530 Cooper St., Camden, N.J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Tektronix, Inc., P.O. Box 831, Portland, Oreg.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Tripl–T Co., Electronics, P.O. Box 5352, Pasadena, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Weinschel Engrg., Kensington, Md. – Pg. 839

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Audio Instrument Co., Inc., 135 W. 14th St., New York 11, N.Y.
Boonton Radio Corp., Intervale Road, Boonton, N.J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Community Engineering Corp., State College, Pa. – Pg. 529
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27, Jerrold Bldg., Phica., Pa. – Pg. 707
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Panoramic Radio Prods., Inc., 520 S. Fulton Ave., Mt. Vernon, N.Y. – Pgs. 726, 727, 729, 730
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y. – Pg. 827
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telonic Engineering Corp., 773 Broadway, Laguna Beach, Calif.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Destron Co., 1321 Florwood Ave., Torrance, Calif.
Digital Equipment Corp., Maynard, Mass.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro-Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif. – Pg. 549
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rutherford Electronics Co., 8944 Lindblade, Culver City, Calif.
Scientific Engineering Laboratory, 1510-6th St., Berkeley 10, Calif.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.
Tripl-T Co. Electronics, P. O. Box 5352, Pasadena, Calif.

GENERATORS. TIME DELAY & GATE ..... Pgs. 550, 672, 754
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Digital Equipment Corp., Maynard, Mass.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro-Pulse, Inc., 11861 Teale St., Culver City, Calif. – Pg. 672
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Scientific Engineering Laboratory, 1510-6th St., Berkeley 10, Calif.
Telectronics Lab., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 754
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.

GENERATORS. TIMING. DIGITAL
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass.

GENERATORS. TV SYNCH
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dage Television Div., Thompson Ramo Wooldridge, W. 10th St., Michigan City, Ind.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P. O. Bin N, Pasadena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Television Utilities Co., 112-33 Colonial Ave., Corona, N. Y.

GENERATORS. UHF–VHF ..... Pgs. 714, 715, 807, 826–828

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Clough-Brengle Co., 6014 Broadway, Chicago, Ill.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 807
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Measurements Corp., A. McGraw-Edison Div., Boonton, N. J.
New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y. – Pgs. 826-828
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

GENERATORS. ULTRASONIC ..... Pgs. 714, 715, 1171–1174

Acoustica Associates, Inc., 26 Windsor Ave., Mineola, N. Y.
Aeroprojects, Inc., 310 E. Rosedale Ave., West Chester, Pa.
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L. I., N. Y.
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.
Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain, Mass.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Blackstone Corp., Ultrasonics, 1111 Allen St., Jamestown, N. Y.
Branson Ultrasonic Corp., 15 Brown House Rd., Stamford, Conn. – Pg. 1171
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J. – Pg. 1174
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Ultrasonics Co., 67 Mulberry St., Hartford, Conn.
Harris Transducer Corp., Woodbury, Conn.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
Kin Tel Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
L & R Mfg. Co., 580 Elm St., Arlington, N. J.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
McKenna Labs., 2503 Main St., Santa Monica, Calif.
Murdoch Labs., Div. Blackstone Corp., 921 Pt. Wash. Blvd., Pt. Washington, N. Y.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y. – Pgs. 1172, 1173
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Piezo Products Co., Whitney St., Sherborn, Mass.
Pioneer-Central Div., Bendix Aviation Corp., Sonic Energy Prod., Davenport, Iowa
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Radionics, Inc., 76 Cambridge St., Burlington, Mass.
Raytheon, Indl. App. Div., Production Apparatus Prod., Dept. 6120MP, Waltham, Mass.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sheffield Corp., The, Box 893, Dayton, Ohio
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Waveforms, Inc., 333 6th Ave., New York, N. Y.
Wye Industries, 6 General Devine Way, Boston, Mass.

GENERATORS. WAVEFORM ..... Pgs. 726, 727, 729

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Holt Instrument Lab., Oconto, Wisc.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Panoramic Radio Prod., Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pgs. 726, 727, 729
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radionics, Inc., 76 Cambridge St., Burlington, Mass.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

GENERATORS. WIND DRIVEN

Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa
Winpower Mfg. Co., Newton, Iowa

GEOPHYSICAL EQUIP.. – SEE HYDROPHONES. SEISMOGRAPHS, TRANSDUCERS. ETC.

GERMANIUM – SEE METALS

GLASS & GLASS FIBRE – SEE INSULATION MATERIALS

GLASS PARTS. PRECISION ..... Pgs. 601, 608, 777

Acme Industrial Co., 200-222 N. Laffin St., Chicago, Ill.
Bache, Semon & Co., 636 Greenwich St., New York, N. Y.
Bird, Richard H. & Co., 1 Spruce St., Waltham, Mass. – Pg. 601
Buhl Optical Co., 1009 Beech Ave., Pittsburgh, Pa.
Chicago Dial Co., 29th at La Salle St., Chicago, Ill.
Corning Glass Works, 95-6 Crystal St., Corning, N. Y.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Dell Optics Co., Ltd., 327 55 St., West New York, N. J. – Pg. 777
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Hermetite Corp., 702 Beacon St., Boston, Mass.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Kimble Glass Co., P. O. Box 1035, Toledo, Ohio
Kontes Glass Co., Vineland, N. J.
Lancaster Glass Corp., Lancaster, Ohio
Mansol Ceramics, 140 Little St., Belleville, N. J.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Pacific Universal Products Co., 168 Vista Ave., Pasadena, Calif.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Simpson Optical Mfg. Co., 3200 W. Carroll Ave., Chicago, Ill.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Tinsley Labs., Inc., 2526 Grove St., Berkeley, Calif.
U. S. Precision Lens & Plastics, Inc., 626 Broadway, Cincinnati, Ohio
Vacuum Ceramics, Inc., Cary, Illinois
Wilmad Glass Co., Inc., Buena, N. J. – Pg. 608
Zell Products Corp., 276-280 Main St., Box 590, Norwalk, Conn.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

GLAZED PARTS

Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Syncor Products Co., 30 Western Ave., Malden, Mass.

GOLD – SEE METALS

GONIOMETERS – ALSO SEE METERS. GONIOMETER

Advance Instrument Corp., 1109 Sixth Ave., Neptune, N. J.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Eichner Instruments, 19 Sebago St., Clifton, N. J.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

GRAPHIC RECORDING INSTRUMENTS – SEE INSTRUMENTS. GRAPHIC RECORDING

GRAPHITE. GRAPHITE PRODUCTS

Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dixon Crucible Co., 167 Wayne St., Jersey City, N. J.
Grafo Colloids Corp., P. O. Box 195, Sharon, Pa.
Huron Industries, P. O. Box 557, Port Huron, Mich.
Mackay, A. D., Inc., 198 Broadway, New York 38, N. Y.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Pettinos, Charles, Inc., 1 East 42 St., New York 17, N. Y.
Pure Carbon Co., Inc., 441 Hall Ave., St. Marys, Pa.
Superior Graphite Co., 33 S. Clark St., Chicago, Ill.
United Carbon Products Co., Inc., P. O. Box 269, Bay City, Michigan

GRILLES. METAL

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
EBY Sales Co., 130 Lafayette St., New York, N. Y.
Electro-Products, Inc., 15050 Schaefer Hwy., Detroit, Mich.
Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Golden Co., 1054 38 St., Brooklyn, N. Y.
Hammond Mfg. Co., Ltd., Guelph, Canada
Mundt, Charles & Sons, 53 Fairmount Ave., Jersey City, N. J.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

GRILLES. MOLDED PLASTIC

Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fourjay Industries, 2360 W. Dorothy La., Dayton, Ohio
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Southern Plastics Engrg. Corp., Box 6428, Greensboro, N. Caro.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.

GRILLES. SPEAKER

Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L.I., N. Y.
Arkay Products Mfg. Co., 4111–13 W. Jefferson Blvd., Los Angeles, Calif.
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cardy–Lundmark Co., 1801 W. Byron St., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago, 48, Ill.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Electro–Products, Inc., 15050 Schaefer Hwy., Detroit, Mich.
Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.
Fourjay Industries, 2360 W. Dorothy La., Dayton, Ohio
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Hammond Mfg. Co., Ltd., Guelph, Canada
Horton and Hubbard Mfg. Co., 141 Canal St., Nashua, N. H.
Jayell Mfg. Co., 1360 Garrison Ave., New York, N. Y.
Lumite Div., Chicopee Mills, Inc., 47 Worth St., New York, N. Y.
Merland Mfg. Corp., 19 W. 34 St., New York, N. Y.
Mundt, Charles & Sons., 53 Fairmount Ave., Jersey City, N. J.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Premier Metal Products Co., 337 Manida St., New York, N. Y.

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Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Wendell Plastic Fabrics Corp., 1220 Broadway, New York, 1, New York

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Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
H. K. Metalcraft Mfg. Co., 3785 10 Ave., New York, N. Y.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles, 16, California
Heyman Mfg. Co., East Michigan Ave., Kenilworth, N. J.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis, Minn.
Minor Rubber Co., Inc., 49 Ackerman St., Bloomfield, N. J.
Monadnock Mills, 1977 First Ave., San Leandro, Calif.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rodale Mfg. Co., Inc., Emmaus, Pa.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
Stimpson Co., Inc., 74 Franklin Ave., Brooklyn, N. Y.
U.S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
U.S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Walsco Electronics Mfg. Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Wilmington Fibre Specialty Co., New Castle, Del.

GYROS, DISPLACEMENT
Belock Instrument Corp., 112–03 14th Ave., College Point, 56, N. Y.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L.I. City, N. Y.
Giannini, G.M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Humphrey, Inc., 2805 Canon St., San Diego, Calif.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke, Commack, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
U.S. Time Corp., Box 847, Palos Verdes Estates, Calif.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Whittaker Gyro Div., Telecomputing Corp., 16217 Lindberg St., Van Nuys, Calif.

GYROS, INTEGRATING
A C Spark Plug Div., General Motors, 1925 E. Kenilworth Pl., Milwaukee, Wisc.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway, Downey, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point, 56, N. Y.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, 39, California
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Greenleaf Mfg., The Div. Mandrel Inc., 7814 Maplewood Ind. Ct., St. Louis, Mo.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke, Commack, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
U.S. Time Corp., Box 847, Palos Verdes Estates, Calif.
Westinghouse Electric Corp., Air Arm. Div., Box 746, Baltimore, Md.
Whittaker Gyro Div., Telecomputing Corp., 16217 Lindberg St., Van Nuys, Calif.

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Aircraft Instr. Div., Allen, R. C. Bus. Mach., 333 Commerce SW, Grand Rapids, Mich.
Belock Instrument Corp., 112–03 14th Ave., College Point, 56, N. Y.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, 39, California
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1116
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Globe Industries, Inc. 1900 Stanley Ave., Dayton, Ohio – Pg. 843
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Greenleaf Mfg., The, Div. Mandrel, Inc., 7814 Maplewood Ind. Ct., St. Louis, Mo.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Humphrey, Inc., 2805 Canon St., San Diego, Calif.
Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland, Ore.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Pacific Scientific Co., P. O. Box 22109, Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rohm Instruments, Div. American Mach. & Metal Co., 65 Rushmore St., Westbury, N. Y.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
U. S. Time Corp., Box 847, Palos Verdes Estates, Calif.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Whittaker Gyro Div., Telecomputing Corp., 16217 Lindberg St., Van Nuys, Calif.

HANDLES ..... Pgs. 469, 519, 634, 638–640
Alac, Inc., 375 West Arden, P. O. Box 471, Glendale, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.

Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago, Ill.
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Chassis-Trak, Inc., 525 S. Webster Ave., Indianapolis, Ind.
Craftsman Cases, 285 Jay St., Brooklyn, N. Y.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Davies Molding Co., Harry, 1428 N. Wells St., Chicago, Ill.
Dimco-Gray Co., 207 E. 6th St., Dayton, Ohio
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
General Components, Inc., 225 E. 144th St., New York, N. Y. – Pg. 634
GOE Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Grant Pulley & Hardware Corp., High St., W. Nyack, N. Y.
Holden-Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Injection Plastic Corp., 8124-30 N. Ridgeway Ave., Skokie, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pgs. 638, 639, 640
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Lodding, Inc., 73 Beacon St., Worcester, Mass.
National Co., Inc., 61 Sherman St., Malden, Mass.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Nielson Hardware Corp., 770 Wethersfield Ave., Hartford, Conn.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Rogan Bros., 8031 N. Monticello Ave., Skokie, Ill.
Rosenberg Bros., 100 Landing Ave., Smithtown, N. Y.
Saxon Electronics, 1409B W. Alameda, Burbank, Calif.
Smith, Herman H., Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Titchener, E. H. & Co., 67 Clinton St., Binghamton, N. Y.
Toman, E. & Co., 8700 W. 47th St., Lyons, Ill.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Western Devices, Inc., 600 W. Florence Avenue, Inglewood, Calif.
Widney–Dorlec Div., Dept. YY1299, 80 Shore Rd., Port Washington, N. Y. – Pg. 469

HANDSETS, CHESTSETS ..... Pgs. 458, 464
A-K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Microphone Mfg., Div. GC-Textron, 400 So. Wyman Street, Rockford, Ill.
Audiosears Corp., Shepard Hill Rd., Roxbury, N. Y. – Pg. 458
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Roanwell Corp., 180 Varick St., New York, N. Y. – Pg. 464
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
U. S. Instrument Corp., P. O. Box 1191, Charlottesville, Va.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

HANGERS, COMPONENT
Lodding, Inc., 73 Beacon St., Worcester, Mass.
P-W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.

HANGERS, SHAFT
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.

HARDWARE, ANTENNA – SEE BRACKETS, CLAMPS, GROUND RODS, ETC.

HARDWARE, ELECTRONIC – SEE BOLTS, BRACKETS, CLAMPS, SCREWS, WASHERS, ETC.

HARNESSES, WIRE – SEE WIRE HARNESSES

HEADPHONES, HEADSETS & ACCESSORIES ..... Pgs. 458, 461, 463, 464, 466
Air-O-Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Audio-Master Corp., 17 E. 45th St., New York, N. Y.
Audiosears Corp., Shepard Hill Rd., Roxbury, N. Y. – Pg. 458
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.
Brown, S. G., Div. British Industries Corp., 80 Shore Rd., Pt. Washington, N. Y.
Cannon, C. F. Co., Springwater, N. Y.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Dyna Magnetic Devices, Inc., 110 Duffy Ave., Hicksville, N. Y.
Educational Electronics, 1227 W. Loyola Ave., Chicago 26, Ill.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Federal Electronics, Div., Fedtro, Electronics Bldg., Rockville Centre, N. Y. – Pg. 461
General Phones Corp., 5711 Howe St., Pittsburgh, Pa.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Materials for Elctrns., Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N. Y.
Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago, Ill.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Murdock, William, 158 Carter Street, Chelsea, Massachusetts
North Electric Co., 553 S. Market St., Galion, Ohio
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Philmore Mfg. Co., Inc., 130-01 Jamaica Ave., Richmond Hill, N. Y.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R. I. – Pg. 463
Roanwell Corp., 180 Varick St., New York, N. Y. – Pg. 464

HEADPHONES, HEADSETS & ACCESSORIES (continued)
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Soundscriber Corp., The, 6 Middletown Avenue, No. Haven, Conn.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Trimm, Inc., 400 Lake St., Libertyville, Ill.
U. S. Instrument Corp., P. O. Box 1191, Charlottesville, Va.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Vari Corp., 2825 Cedar Ave., Minneapolis, Minn.
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

HEADS, MAGNETIC DRUM, MEMORY ..... Pg. 547
Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
BJ Electronics, Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Devol Research Co., Brookside Dr., Greenwich, Conn.
General Transistor Western Corp., 6110 Venice Blvd., Los Angeles, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Lipps, Edwin A., Engineering, 1511 Colorado Blvd., Santa Monica, Calif.
Michigan Magnetics, Inc., Vermontville, Michigan
Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sage-Craft, Inc., Norwich, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

HEADS, MAGNETIC, FILM
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Electromation Co., 1646 18th St., Santa Monica, Calif.
General Transistor Western Corp., 6110 Venice Blvd., Los Angeles, Calif.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Lipps, Edwin A., Engineering, 1511 Colorado Blvd., Santa Monica, Calif.
Michigan Magnetics, Inc., Vermontville, Michigan
Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E 52 St., New York, N. Y.
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.

HEADS, MAGNETIC PLAYBACK ..... Pgs. 544, 547
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Astatic Corp., Conneaut, Ohio
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Dynamu Magnetronics Corp., Div. Maico Elctrns., 21 N. Third St., Minneapolis, Minn.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fen-Tone Corp., 106 5th Ave., New York, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 544
General Transistor Western Corp., 6110 Venice Blvd., Los Angeles, Calif.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Intersearch, Inc., 7 Arcadia Place, Cincinnati, Ohio
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Lipps, Edwin A., Engineering, 1511 Colorado Blvd., Santa Monica, Calif.
Michigan Magnetics, Inc., Vermontville, Michigan
Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs., Div. 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J.
Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis, Minn.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

HEADS, MAGNETIC RECORDING ..... Pgs. 544, 547
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Astatic Corp., Conneaut, Ohio
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland, Ohio
Dynamu Magnetronics Corp., Div. Maico Elctrns., 21 N. Third St., Minneapolis, Minn.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fairchild Recording Equip. Co., 10-40 45th Ave., Long Island City, N. Y.
Fen-tone Corp., 106 5th Ave., New York, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 544
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Transistor Western Corp., 6110 Venice Blvd., Los Angeles, Calif.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Intersearch, Inc., 7 Arcadia Place, Cincinnati, Ohio
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Lipps, Edwin A., Engineering, 1511 Colorado Blvd., Santa Monica, Calif.
Michigan Magnetics, Inc., Vermontville, Michigan
Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J.
Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis, Minn.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

HEADS, RECORD CUTTING
Fairchild Recording Equip. Co., 10-40 45th Ave., Long Island City, N. Y.
Lipps, Edwin A., Engineering, 1511 Colorado Blvd., Santa Monica, Calif.
Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

HEADS, RECORDING, TAPE ..... Pg. 465
Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland, Ohio
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Ercona Corp., Electro Div., 16 W. 46th St., New York, N. Y.
General Transistor Western Corp., 6110 Venice Blvd., Los Angeles, Calif.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Lipps, Edwin A., Engineering, 1511 Colorado Blvd., Santa Monica, Calif.
Michigan Magnetics, Inc., Vermontville, Michigan
Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis, Minn.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y. – Pg. 465
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

HEARING AIDS
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dyna Magnetic Devices, Inc., 110 Duffy Ave., Hicksville, N. Y.
Materials for Elctrns., Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N. Y.
Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago, Ill.
Myers & Sons, Inc., E. A., Radioear Bldg., 375 Valley Brook Rd., Canonsburg, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Simpson, Mark Mfg. Co., Inc., 32-28 49th St., L.I. City, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Telex, Telex Park, St. Paul, Minn.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.

HEATERS ..... Pg. 454
Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Broan Mfg. Co., Inc., 926 W. State St., Hartford, Wisc.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cox & Co., Inc., 115 E. 23rd St., New York, N. Y.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dampp-Chaser, Inc., Hendersonville, N. C.
Dynamic Air Eng. G., 7412 Maie Ave., Los Angeles, Calif.
Electrend Products Corp., St. Joseph, Mich.
Electric Hotpack Co., Cottman Ave., & Melrose St., Philadelphia, Pa.
Electric Parts Corp., Box 234, Georgetown, Ky.
Electric Trading Co., 313 Canal St., New York, N. Y.
Electro-Flex Heat., Inc., 83 Woodbine St., Hartford, Conn.
Electrofilm Inc., 7116 Laurel Canyon Blvd., N. Hollywood, Calif.
Electromode Div., Commercial Controls Corp., P.O. Box 1052, Rochester, N. Y.
Farnam Mfg. Co., Inc., Sweeten Cr. Rd., Asheville, N. C.
Galbraith-Pilot Marine Corp., 600-4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R. I.
Heinze Electric Co., 685 Lawrence St., Lowell, Mass.
Hotwatt, Inc., 16 Gould St., Danvers, Mass.
Hunter Mfg. Co., 108 N. Linn St., Iowa City, Ia.
Hunter Mfg. Co., 30525 Aurora Rd., Solon, Ohio
ILG Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago, Ill.
Industrial Engg. & Equip. Co., 24 Hanley Industrial Ct., St. Louis, Mo.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Mechanical Industries Prod. Co., 217 Ash St., Akron, Ohio
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
Miskella Infra-Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
N. J. Thermex Co., Inc., 533 Bergen St., Harrison, N. J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
Pennsylvania Testing Lab., Inc., Doylestown, Pa.
Philad. Scientific Glass Co., Rte. No. 1, Box 46C, Quakertown, Pa.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Pyro Electric, Inc., 228 E. James St., Barrington, Ill.
Safeway Heat Element, Inc., 680 Newfield St., Middletown, Conn.
Scala Radio Co., 2814 19th St., San Francisco, Calif. – Pg. 454
Stow Mfg. Co., 101 Shear St., Binghamton, N.Y.
Temperature Engrg. Corp., U.S. Highway 130, Riverton, N.J.
Thermo-Lab Corp., 6940 Ferndale Ave., North Hollywood, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trane Co., The, La Cross, Wisc.
Trindl Prods., Ltd., 1807 S. Clark St., Chicago, Ill.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Carbon Products Co., Inc., P.O. Box 269, Bay City, Michigan
Valco Div. Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Vulcan Electric Co., 88 Holten St., Danvers, Mass.
Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N.J.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Watlow Electric Mfg. Co., 1376 Ferguson Ave., St. Louis, Mo.
Wiegand, Edwin L. Co., 7500 Thomas Blvd., Pittsburgh, Pa.
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N.Y.

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Young Bros. Co., 1843 Columbus Rd., Cleveland, Ohio

HEATERS. INDUCTION
Ajax Electrothermic Corp., Lower Perry Rd., Trenton 5, N.J.
Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N.J.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N.J.
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
Electric Trading Co., 313 Canal St., New York, N.Y.
Erdco Engineering Corp. , Addison, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Induction Heating Corp., 181 Wythe Ave., Brooklyn, N.Y.
Industron Corp. 55 Needham St., Newton Highlands, Mass.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Lepel High Frequency Labs, 55th & 37th Ave., Woodside, N. Y.
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
McDowell Electronics, Inc. 105 Forrest St., P. O. Box 342, Metuchen, N. J.
Plastic Welding Corp., 780 Frelinghuysen Ave., Newark, N. J.
Reeve Electronics, Inc., 609 W. Lake St., Chicago, Ill.
Robotron Corp., 21300 W. 8 Mile Rd., Box 4885, Detroit, Mich.
Scientific Electric, Inc., 105-119 Monroe St., Garfield, N. J.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Ultravision Mfg., 185 Goffle Rd., Hawthorne, N. J.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Westinghouse Electric X-Ray & Ind. Elctrns Div., 2519 Wilkins, Baltimore, Md.

HEAT EXCHANGERS & SYSTEMS
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bar-Ray Products, Inc., 209 25th St., Brooklyn, N. Y.
Braun-Knecht-Heimann Co., Glass Engrg. Dept., 601 O'Neil Ave., Belmont, Calif.
Brunner Div. Dunham-Bush Inc., 179 So. St., West Hartford, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas, Texas
Dunham-Bush, Inc., W. Hartford, Conn.
Eastern Industries, Inc., 100 Skiff St., P. O. Box 4372, Hamden, Conn.
Ellis & Watts Products, Inc., P. O. Box 33, Cincinnati, Ohio
Heatron Co., 333 Eberts St., York, Pa.
Induction Heating Corp., 181 Wythe Ave., Brooklyn, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43-22 Queens St., L. I. City, N. Y.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.
Trane Co., The, La Crosse, Wisc.
Union Diesel Engine Co., 2121 Diesel St., Oakland, Calif.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vulcan Electric Co., 88 Holten St., Danvers, Mass.

HEAT TREATING SERVICE – SEE SERVICES, TREATMENT
HERMETIC SEALING – SEE SERVICES, HERMATIC SEALING

HOLDERS, BATTERY, COMPONENTS ..... Pgs. 519, 559, 560, 573
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Atlas E-E Corp., 47 Prospect St., Woburn, Mass. – Pg. 559
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.
Austin Craft, 431 S. Victory, P. O. Box 389, Burbank, Calif. – Pg. 560
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Mueller Electric Co., 1589H E. 31st St., Cleveland, Ohio – Pg. 573
P-W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Peerless Electronics, Inc., 5338 Alhambra Ave., Los Angeles, Calif.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

HOLDERS, BRUSH
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N. J.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Helwig Co., 2544 N. 30th St., Milwaukee, Wisc.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Midwest Molding & Mfg. Co., Gurnee, Ill.
Seager Standard Carbon Co., 291 Church St., New York, N. Y.
Wincharger Corp., E. 7th & Division Streets, P. O. Box 1168, Sioux City, Iowa

HOLDERS, CHASSIS
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Flotron Industries, 301 E. Regent St., Inglewood, Calif.
Western Electronic Prods., 655 Colman St., Altadena, Calif.

HOLDERS, CRYSTAL ..... Pgs. 559, 631, 798, 799, 818
Atlas E-E Corp., 47 Prospect St., Woburn, Mass. – Pg. 559
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass. – Pg. 631
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Blinn, Delbert Co., The, P. O. Box 757, Pomona, Calif.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Hermetic Pacific Corp., 4232 Temple City Blvd., Rosemead, Calif.
Howard Crystal Holders, Inc., 2600 Grand Ave., Kansas City, Mo.
Javex, P. O. Box 646, Redlands, Calif.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Microwave Development Labs., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nebel R. E. Laboratory, 1634 E. 12th St., Brooklyn, N. Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N. J.
Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.
Technicraft Labs., Inc., Thomaston-Waterbury Rd., Thomaston, Conn.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

HOLDERS. DIODE. TRANSISTOR. TUBE. RECTIFIER ... Pgs. 519, 559, 582, 631, 850, 851, 972, 1061, 1144, 1157-1159
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.
Atlas E-E Corp., 47 Prospect St., Woburn, Mass. – Pg. 559
Audio Devices, Inc., Rectifier Div., 620 E. Dyer Rd., Santa Ana, Calif. – Pg. 972
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass. – Pg. 631
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.– Pg. 1144
Blinn, Delbert Co., The, P.O. Box 757, Pomona, Calif.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N.J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Eby Sales Co., 130 Lafayette St., New York, N.Y.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
General Electric Apparatus Sales Div., 1 River Rd., Schenectady, N.Y. – Pgs. 850, 851
International Electronic Research Corp., 145 W. Magnolia Blvd., Burbank, Calif. – Pgs. 1061, 1157, 1158, 1159
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N.Y.
Molded Insulation Co., 335 E. Price St., Phila., Pa.
P-W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Peerless Electronics, Inc., 5338 Alhambra Ave., Los Angeles, Calif.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y. – Pg. 582
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

HOLDERS. FUSE ..... Pgs. 597, 1079, 1097
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Alden Products Co., 146 N. Main St., Brockton, Mass.
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Braun Tool & Instr. Co., 140 Fifth Ave., Hawthorne, N. J.
Bussmann Mfg. Div., McGraw-Edison Co., University at Jefferson, St. Louis, Mo. – Pg. 1079
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Electro-Products, Inc., 15050 Schaefer Hwy., Detroit, Mich.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R. I.
Great Western Div., Interelectric Corp., Warren, Pa.
Jones, Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.
Kolton Electric Mfg. Co., 123 New Jersey R R Ave., Newark, N. J.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Liviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Littelfuse, Inc., 1865 Miner St., Des Plaines, Ill. – Pg. 1097
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Ratelco, Inc., 820 Minor Ave., N. Seattle 9, Wash.
Raytheon Mfg. Co., Ind. App. Div., Dept. 6120MC, Waltham, Mass. – Pg. 597

HORNS, MICROWAVE ..... Pgs. 455, 795, 796, 798-800, 804, 820, 830, 834, 837
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
All Products Co., Electronic Div., Box 110, Mineral Wells, Texas
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Cal.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y. – Pg. 795
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. – Pg. 800
Electron-Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y. – Pg. 804
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N.Y.
General Communication Co., 677 Beacon St., Boston, Mass.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N.J.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W.L. Corp., 475 Tenth Ave., New York, N.Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. – Pg. 820
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N.Y. – Pg. 834
Radiotronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Schutter Carl W. Co. Inc., 80 E. Montauk Pkwy., Lindenhurst, N.Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N.Y.
Stavid Engineering Inc., Route 22, Plainfield, N.J.
Suffolk Products Corp., Woodbine & Scudder, Northport, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Appliance Corp., P.O. Box 38, Sherburne, N.Y. – Pg. 455
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Victor R.F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walworth Co., Electronics Div., 89 Union St., Mineola, L. I., N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R.R., Baltimore 29, Md.
Waveline, Inc., P. O. Box 718, W. Caldwell, N. J. – Pg. 837
Weymouth Instrument Co, 1440 Commercial St., E. Weymouth, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

HORNS, SPEAKER ..... Pg. 456
Atlas Sound Corp., 1447 39th St., Brooklyn, N.Y. – Pg. 456
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Jensen Mfg., Co., 6601 S. Laramie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.
Stephens Tru–Sonic, Inc., 8538 Warner Dr., Culver City, Calif.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N.Y.
Tannoy Ltd., 38 Pearl St., New York, N.Y.
Telex, Telex Park, St. Paul, Minn.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N.Y.
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N.Y.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.

HOUSINGS. ANTENNA
Albano Co., Inc., The, Honeycomb Div., 549–555 W. 54th St., New York, N. Y.
All Products Company, Electronic Div., P. O. Box 110, Mineral Wells, Texas
Antlab Inc., 6330 Proprietors Road, Worthington, Ohio
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Goldsman Co., 1325–27 No. Lawrence St., Philadelphia, Pa.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N.Y.
Lindsay Structure Inc., 291 1/2 Deerpath, Lake Forest, Ill.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N.Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N.Y.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif.

HOUSINGS. INSTRUMENT ..... Pgs. 467, 470, 483, 530, 702, 850
Abalon Precision Mfg., Co., 540 Casanova St., Bronx, N.Y.
Albano Co. Inc., The, Honeycomb Div., 549–555 W. 54th St., New York, N.Y.
Alpitec Inc., 49 Gleason Ave., Stamford, Conn.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L.I., N.Y.
Artisan Metal Works Co., 11400 Madison Ave., Cleveland, Ohio
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N.Y. – Pg. 467
Baumker Mfg. Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dura Plastics of N.Y., Inc., 303–5th Ave., New York, N.Y.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N.Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Falstrom Co., Falstrom Court, Passaic, N.J.
Feiner, P. & Sons, 522 W. 45 St., New York, N.Y.
General Electric Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 850
Golding Mfg. Co., 52 Elm St., Newark, N.J. – Pg. 470
Goldsman Co., 1325–27 No. Lawrence St., Philadelphia, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hammond Mfg., Co., Ltd., Guelph, Canada
Heldor Mfg., Corp., 238 Lewis St., Paterson, N.J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N.Y.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N.Y.
Hudson Tool & Die Co., Inc., 18 Malvern St., Newark, N.J.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N.Y.
I.E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
I–L–S Instrument, Div. Meriam Instrument Co.,4525 W. 160th St.,Cleveland,Ohio– Pg.702
Int'l Tel & Tel Ind'l Prod. Div., 15191 Bledsoe St., San Fernando, Calif. – Pg. 530
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Kees, F.D. Mfg., Co., 700 Park St., Beatrice, Neb.
Lindsay Structure Inc., 291 1/2 Deerpath, Lake Forest, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Nutron Mfg. Co. Inc., 67 Monroe Ave., Staten Island, N.Y.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Par Metal Products Corp., 32–48 49th St., L.I. City, N.Y.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Premier Metal Products Co., 337 Manida St., New York, N.Y.
Radiotronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Scientific Wood Cabinet, 88 Holmes St., Belleville, N.J.
Sierra Electric Corp., 15100 S. Figueo St., Box 85, Gardena, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N.Y.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N.Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif. – Pg. 483

HOUSINGS. METAL – SEE CABINET. METAL

HOUSINGS. SPEAKER – SEE ENCLOSURES. SPEAKER

HUMIDIFIERS
Electric Hotpack Co., Cottman Ave. & Melrose, St., Philadelphia, Pa.
Ellis & Watts Products, Inc., P.O. Box 33, Cincinnati, Ohio
International Radiant Corp., 111 New York Ave., Westbury, N.Y.
Labline, Inc., 3070–82 W. Grand Ave., Chicago, Ill.
Lewyt Mfg. Corp., 43–22 Queens St., L.I. City, N.Y.
McGraw–Edison Co., Power Tool Div., 110 Main St., Burlington, Vt.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N.Y.
Photo Crystals, Inc., 1974 E. 61st St. Cleveland, Ohio
Research Products Corp., 1015 E. Washington Ave., Madison 1, Wisc.
Selas Corp. of America, Dresher, Pa.

HYBIRD JUNCTIONS. MICROWAVE ... Pgs. 796, 816–818, 820, 822, 830, 834, 1145, 1150
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover, Ave., Morris Plains, N.J.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Bomac Labs., Salem Rd., Beverly, Mass. – Pg. 1145,1150
Budd–Stanley Co. Inc., 43–01 22nd Ave., L.I. City, N.Y – Pg. 796
Danbury Knudson, Div. Amphenol Electric, Box 148 – Thorpe St., Danbury, Conn.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.
FXR, Inc., 26–12 Borough Pl., Woodside, N.Y.
General Communication Co., 677 Beacon St., Boston, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N.Y – Pg. 816
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs, Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 822
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N.Y. – Pg. 834
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Schutter Carl W. Co. Inc., 80 E. Montauk Pkwy., Lindenhurst, N.Y.
T.E.M. Inc., 71 Okner Pkwy., Livingston, N.J. – Pg.817
Technical Appliance Corp., P.O. Box 38, Sherburne, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Waltham Harological Corp., 395 Lynnway, Lynn, Mass.
Walworth Co., Electronics Div., 89 Union St., Mineola, L.I., N.Y.

HYDROMETERS
American Machine & Foundry, Defense Prod. GRP., 1071 K St., N.W. Wash., D.C.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
G.M. Mfg., Co., 134 W. 26th St., New York, N.Y.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Rascher & Betzeld, Inc., 730 N. Franklin St., Chicago, Ill.

HYDROPHONES
Acoustia Associates, Inc., 26 Windsor Ave., Mineola, N.Y.
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.
Bendix Aviation Corp., Pacific Div. 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas
Dyna–Empire, Inc., 1075 Stewart Ave., Garden City, N.Y.
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Gulton Industries, Inc., Instrumentation Div., 212 Durham Ave., Metuchen, N. J.
Harris Transducer Corp., Woodbury, Conn.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N.Hopkins, Minn.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Yuba Systems Div., Yuba Consolidated Inds., 990 Varian St., San Carlos, Calif.

IGNITION SYSTEMS. ELECTRONIC
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N.Y.
Bendix Aviation Corp., Scintilla Div., Sidney, N.Y.
Dow Corning Corp., Midland, Mich.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
General Lab. Assoc., Inc., 17 E. Railroad St., Norwich, N.Y.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles 16, Calif.
Mattson Electronics Corp., 11645 47 McBean Dr., El Monte, Calif.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Permacel, U.S. Highway 1, New Brunswick, N.J.

IMPREGNATING. INSULATING COMPOUNDS – SEE INSULATING COMPOUNDS

INDICATORS. ALSO SEE METERS
Aircraft Instruments Co., 304 King of Prussia Rd., Rodner, Pa.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L.I., N. Y.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Heath Co., Benton Harbor, Mich.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
Patwin Div., Patent Button Co., 41 Brown St., Waterbury, Conn.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.

INDICATORS. AIR TURBULENCE
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.

INDICATORS. AIRCRAFT FLIGHT PANEL ..... Pgs. 725, 854, 876, 880
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Aircraft Instr. Div., Allen, R. C. Bus. Mach., 333 Commerce SW, Grand Rapids, Mich.
Aircraft Instruments Co., 304 King of Prussia Rd., Radner, Pa.
Allard Instrument Corp., 146 E. 2nd St., Mineola, N. Y.–Pg. 854
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Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y.–Pg. 1116
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
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Rahm Instruments, Div. American Mach. & Metal Co., 65 Rushmore St., Westbury, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
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Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Fisher–Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Partrick & Wilkins Co., 51 N. 7 St., Philadelphia, Pa.
Penn Keystone Corp., P. O. Box 350, Haurkus St., Derby, Conn.
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Antlab, Incorporated, 6330 Proprietors Rd., Worthington, Ohio
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
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Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
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Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Kearfott Co., Inc., Little Falls, N. J.
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Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Dare, Inc., Rte. 25, Troy, Ohio
Dura Plastics of N. Y., Inc., 303 5th Ave., New York, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
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Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
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Sanborn Co., 175 Wyman St., Waltham, Mass.
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Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
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Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
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Sanborn Co., 175 Wyman St., Waltham, Mass.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
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Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
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Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Systron Corp., 950 Galindo St., Concord, Calif.
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Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 663
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
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Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
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Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Can.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 663
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Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
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Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 663
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Dice, J. W. Co., 16 Highwood Ave., Englewood, N. J.
Electric Eye Equip. Co., Box 609, Danville, Ill.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill.–Pg. 1115
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
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New London Instrument Co., Inc., 82 Union St. – Box 189, New London, Conn.
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Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
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Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
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Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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Simmonds Aerocessories, Inc., Tarrytown, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.
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Weinschel Engrg., Kensington, Md.–Pg. 839
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Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Gow–Mac Instrument Co., 100 Kings Rd., Madison, N. J.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
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Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.

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Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

INDICATORS. PH
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Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Central Scientific Co. Of Canada, 146 Kendal Ave., Toronto, Can.
Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Hickok Electrical Instr. Co., 10500 DuPont Ave., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
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Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

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Brunswick Instruments, P. O. Box 813, New Brunswick, N. J.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
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Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.–Pg. 725
Panoramic Radio Prod. Inc., 520 Fulton Ave., Mt. Vernon, N. Y.–Pg. 730
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Technology Instrument Corp., 523 Main St., Action, Mass.–Pg. 1039
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Weston Hydraulics, Ltd., 10918 Burbank Blvd., No. Hollywood, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.

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De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

INDICATORS. PLAN POSITION
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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
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Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Curtiss–Wright Corp., Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 768
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Electro Impulse Labs., 208 River St., Red Bank, N. J.–Pg. 802
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Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

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Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.–Pg. 829
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Sanborn Co., 175 Wyman St., Waltham, Mass.
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Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Baldwin–Lima–Hamilton Corp., Elctrns & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Burton Mfg., Co., 2520 Colorado Ave., Santa Monica, Calif.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Consolidated Diesel, Electric Corp., Ludlow & Canal St., Stamford, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Decker Corp., The, 45 Monument Rd., Bala Cynwyd, Pa.
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Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Ellison Draft Gage Co. Inc., 548 W. Monroe St., Chicago, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
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Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
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Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Performance Measurements Co., 15301 W. McNichols, Detroit, Mich.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Quality Control Corp., 401 Broadway, New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Studebaker Hydraulic Products Co., 1733 N. 33 Ave., Melrose Park, Ill.
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
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Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
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Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Decker Corporation, The. 45 Monument Rd., Bala Cynwyd, Pa.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill.–Pg. 1114
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GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Parsons, R.M.Co., Electrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 824, 1104
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Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

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Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Assistance Corp., 20 Bridge Ave., Red Bank, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
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Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Raytheon Mfg., Co., Marine Products Dept., 100 River St., Waltham, Mass.
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Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
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Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
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Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
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Electro Impulse Labs., 208 River St., Red Bank, N. J.–Pg. 802
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
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General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
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Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
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Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.–Pg. 829
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Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Bowmar Instrument Corp., 400 Northern Blvd., Great Neck, N. Y.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
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Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
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Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Precision Corp., Arkadelphia, Ark.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
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Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
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Rahm Instruments, Div. American Mach. & Metal Co., 65 Rushmore St., Westbury, N. Y.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
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Theta Instrument Corp., 48 Pine St., E. Paterson, N. J.
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Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.

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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Leetronics, 30 Main St., Brooklyn, N. Y.
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Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Quantametric Devices, Inc., Box 1107, Binghamton, N. Y.
Winterburn Mfg., Co., P. O. Box 386, Putnam, Conn.
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Beede Electrical Instr. Co. Inc., Penacook, N. H.–Pg. 656
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Heath Co., Benton Harbor, Mich.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio–Pg. 698
Kistler Instrument Co., 15 Webster St., N. Tonawanda, N. Y.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

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Dwyer Mfg. Co., P. O. Box 373, Michigan City, Ind.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Communication Co., 677 Beacon St., Boston, Mass.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Potter Aeronautical Corp., Route 22, Union, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

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Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Tachometer Corp., The, 68th & Upland Sts., Philadelphia, Pa.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill.–Pg. 1114
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio–Pg. 702
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Millers Falls Co., Greenfield, Mass.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nortronics Co., Inc., 1015 S. Sixth St., Minneapolis, Minn.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Potter Aeronautical Corp., Route 22, Union, N. J.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.–Pg. 745
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Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Uniwave, Inc., 109 Marine St., Farmingdale, N. Y.
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Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Westberg Mfg. Co., 144 S. Coombs St.–Box 239, Napa, Calif.
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B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
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Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Datran Electr., Div. Mid–Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Ellis Associates, P. O. Box 77, 67 Lincoln Ave., Pelham, N. Y.
Good Electronic, Box 2706, West Palm Beach, Fla.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.–Pg. 703
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Can.
Midwestern Instruments, Inc., Box 7186 Tulsa, Okla.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Elctrns. Labs., Sub. Thiokol Chem., 1713 Kalorama NW, Washington, D. C.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Owen Laboratories, Inc., 55 Beacon Pl., Pasadena, Calif.
Performance Measurements Co., 15301 W. McNichols, Detroit, Mich.
Quality Control Corp., 401 Broadway, New York, N. Y.

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Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
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Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electronic Associates, Inc., Long Branch, N. J.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
New London Instrument Co., Inc., 82 Union St. – Box 189, New London, Conn.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
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Systron Corp., 950 Galindo St., Concord, Calif.
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Bach–Simpson Ltd., 1255 Brydges St., London, Can.
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Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
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Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
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Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
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General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
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Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Handley Electronics, Inc., 14758 Keswick St., Van Nuys, Calif.
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Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
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Dynapar Corp., 5150 Church St., Skokie, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wisc.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
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Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
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Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
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Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
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Sanborn Co., 175 Wyman St., Waltham, Mass.
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Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill.
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Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
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Korfund Co., Inc., 48–15 32nd Pl., L. I. City, N. Y.
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Miller, L. C. Electrodynamics Div., 5005 E. Slauson Ave., Los Angeles, Calif.
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Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.–Pgs. 726, 727
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Solarton, Inc., 530 Cooper St., Camden, N. J.
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Computing Devices of Canada Ltd., P. O. Box 508, Ottawa, Can.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Victory Engrg. Corp., P. O. Box 373, Union, N. J.
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Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computing Devices of Canada Ltd., P. O. Box 508, Ottawa, Can.
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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Flow Corp., 85 Mystic St., Arlington, Mass.
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Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Scientific Electric, Inc., 105–119 Monroe St., Garfield, N. J.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Victory Engrg. Corp., P. O. Box 373, Union, N. J.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
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Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N. Y.
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Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L. I. City, N. Y.
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Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
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Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

INFRARED EQUIPMENT ..... Pgs. 530, 545, 852, 960

Aerojet–General Corp., 6352 N. Irwindale Ave., Azusa, Calif.
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L. I., N. Y.
American Electronic Labs. Inc., 121 N. 7th St., Philadelphia, Pa.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Barnes Engineering Co., 30 Commerce Road, Stamford, Conn.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edmund Scientific Corp., 502 E. Gloucester Pike, Barrington, N. J.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 545
Fireye Div., Electronics Corp. Of America, One Memorial Dr., Cambridge, Mass.
Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
Fostoria Pressed Steel Corp., Fostoria, Ohio
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hanson–Gorrill–Brian, Inc., 85 Hazel St., Glen Cove, N. Y.
Hett Associates, Inc., 603 Grand Ave., Englewood, N. J.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.–Pg. 530
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Isomet Corp., 118 Union St., Palisades Park, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y.–Pgs. 852, 960
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Miskella Infra–Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
N. J. Thermex Co., Inc., 533 Bergen St., Harrison, N. J.
North American Electric Lamp Co., 1520 N. 13 St., St. Louis, Mo.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
Optical Coating Laboratory, Inc., 977 Sebastopol Rd., Santa Rosa, Calif.
Pacific Optical Corp., 120 Glasgow Ave., Inglewood, Calif.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photoswitch, Div. Electronics Corp. Of America, 1 Memorial Dr., Cambridge, Mass.
Precise Measurements Co., Millbrook Pl., Rd 1, Flemington, N. J.
Production Research Corp., Thornwood, N. Y.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q.O.S. Corp., 621 E. 216 St., New York, N. Y.
Radiation Electronics Corp., 8241 N. Kimbell Ave., Skokie, Ill.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.

INFRARED EQUIPMENT (continued)
Servo Corp. Of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Thermal Dynamic Prod., Div. Waltham Precision, 38 W. 53rd St., New York, N. Y.
Tinsley Labs. Inc., 2526 Grove St., Berkeley, Calif.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

INJECTION EQUIP.. FUEL. ELECTRONIC
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.

INKS. MARKING ..... **Pg. 1192**
Apex Machine Co., 14–13 118th St., College Point, N. Y.
Black Light Products, Inc., 53 W. Jackson Blvd., Chicago, Ill.
Black Light Eastern Corp., 201–04 Northern Blvd., Bayside, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Floquil Prods., Inc., Cobleskill, N. Y.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y.–Pg. 1192
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N. Y.
Krylon, Inc., Ford & Washington, Norristown, Pa.
Markal Co., 3052 W. Carroll Ave., Chicago, Ill.
Phillips Process Co., Inc., 192 Mill St., Rochester, N. Y.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Stroblite Co., 75 W. 45 St., New York, N. Y.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

INSERTS. TUBE SHIELD – SEE SHIELDS & LINER. TUBE

INSPECTION LIGHTING & EQUIPMENT
American Cystescope Makers Inc., 8 Pelham Pky., Pelham Manor, N. Y.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Black Light Eastern Corp., 201–04 Northern Blvd., Bayside, N. Y.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Dazer Mfg. Corp., 4481 Duncan Ave., St. Louis, Mo.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Jones & Lamson Machine Co., Springfield, Va.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Link Aviation, Inc., Binghamton, N. Y.
Luxo Lamp Corp., Dock St., Pt. Chester, N. Y.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Miskella Infra–Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
National Electric Instr. Div., Engelhard Ind., 92–21 Corona Ave., Elmhurst, N. Y.
Quality Control Corp., 401 Broadway, New York, N. Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Strat–O–Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago, Ill.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, N. Y.

INSTRUCTION BOOKS – SEE SERVICES. PUBLICATIONS

INSTRUMENTS. ELECT. MEASURING – SEE ANALYZERS. BRIDGES. COMPARATORS. METERS. ETC.

INSTRUMENTS. ELECTRONIC MUSICAL
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Conn, C. G. Ltd., Elkhart, Ind.
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wis.
Minshall Organ Co., 28 Buge St., Brattleboro, Vt.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Valco Mfg., Co., 4700 W. Walton St., Chicago, Ill.
Wirco Electronics Inc., 11680 Mc Bean Dr., El Monte, Calif.

INSTRUMENTS. GRAPHIC RECORDING ..... **Pgs. 645, 683, 690, 726–729, 765–770**
Acton Laboratories, Inc., 536 Main St., Acton, Mass. – Pg. 645
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Allied Products Div., Hamilton Watch Co., Lancaster Pa.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pgs. 766, 767
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.–Pg. 765
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 768
Dalmo Victor Co., Div. Of Textron, Inc., 1515 Industrial Way, Belmont, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Tachometer Corp., The, 68th & Upland Sts., Philadelphia, Pa.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Epic, Inc., 154 Nassau St., New York, N. Y.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.–Pg. 683
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N. J.
Hathaway Instrument Div., Hamilton Watch Co., 5800 Jewell, Denver, Colo.
Hewlett Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 690
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leupold & Stevens Instrs., Inc., 4445 N. E. Gilsan P. O. Box 5082, Portland, Ore.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Melland Gear Co., 88-06 Van Wyck Expy., Jamaica, N.Y.
Micrometrical Mfg. Co., 345 S. Main St., Ann Arbor, Mich.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
Moseley, F.L. Co. 409 N. Fair Oaks Ave., Pasadena, Calif.- Pg. 769
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn 31, N.Y.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Panoramic Radio Prod., Inc., 520 So. Fulton Ave., Mt. Vernon, N. Y. – Pgs. 726, 729
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photocon Research Products, Box 5485, 421 N. Altadena Dr., Pasadena, Calif.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Research Dev Mfgr. Inc., 429 E. Collom St., Philadelphia, Pa.
Richardson Scale Co., Van Houten Ave., Clifton, N.J.
Rust Industrial Co., Inc., 130 Silver St., Manchester, N. H.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Seco Mfg., Co., 5015 Penn Ave., Minneapolis, Minn.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Technical Products Instrument Div., 6670 Lexington Ave., Los Angeles, Calif.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Texas Instruments Inds. Instrtation. Div., 3609 Buffalo Spdwy., Houston, Texas
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.
Varian Associates, Palo Alto, Calif.- Pg. 770
Waldorf Instr., Co., Div., F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Westronics, Inc., 3605 Mc Cart St., Fort Worth, Texas
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Zernickow, O. Co., 15 Park Row, New York, N.Y.

INSTRUMENT PARTS. PRECISION – SEE BEARINGS. GEARS. SPRINGS. ETC.

INSTRUMENTS. ULTRASONIC – SEE AMPLIFIERS. ANALYZERS. CONTROLS. TRANSDUCERS. ETC.

INSULATING COMPOUNDS. ASPHALT & PITCH ..... **Pg. 507**
Biwax Corp., 3444 Howard St., Skokie, Ill. - Pg. 507
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Emerson & Cuming, Inc, 869 Washington St., Canton, Mass.
General Electric Insulating Materials Dept., Schenectady, New York
Hi-Test Chemical Corp., 722 64th St., Brooklyn, N.Y.
Johns-Manville, 22 E. 40th St., New York, N.Y.
Keasbey & Mattison Co., Ambler, Pa.
Mitchell–Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N. Y.
Nopco Chemical Co., Plastics Div., 175 Schuyler Ave., North Arlington, N.J.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Ave., New York, N. Y.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Zophar Mills, Inc., 115 26th St., Brooklyn, N.Y.

INSULATING COMPOUNDS. COIL DOPES ..... **Pg. 506, 508**
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
Central Coil Co., 1720 N. Luett St., Indianapolis, Inc.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Electroparts, P. O. Box 1137, Glendale, Calif.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
General Cement Mfg., Co., Div., of Textron, 400 S. Wyman St., Rockford, Ill. - Pg. 506
Insl–X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh, Pa.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina

INSULATING COMPOUNDS. ENAMEL ..... **Pg. 508**
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
Borthig Co., Inc., George C., P.O. Box 115, E. Rutherford, N.J.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
General Electric Insulating Materials Dept., Schenectady, New York
Insl–X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Midland Industrial Finishes Corp., Waukeegan, Ill.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Schenectady Varnish Co., Box 1046, Schenectady, N.Y.
Sonneborn, L. Sons, Inc. Bldg. Products Div., 404 4th Avenue, New York, N.Y.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina

INSULATING COMPOUNDS. IMPREGNATING. MOLDING ..... **Pgs. 507, 508, 782, 783**
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
Allied Chemical, Plastics & Coal Chem. Div., 40 Rector St., New York, N.Y. - Pgs. 782, 783
American Products Mfg., Co., 8127 33 Oleander St., New Orleands, Louisiana
Aries Labs., Inc., 45-33 Davis Street, Long Island City, N.Y.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Biwax Corp., 3444 Howard St., Skokie, Ill. - Pg. 507
Catalin Corp. Of America, 1 Park Ave., New York, N.Y.
Celanese Corp. Of America, Plastics Div., 744 Broad St., Newark, N.J.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Dow Corning Corp., Midland, Mich.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
General Electric Insulating Materials Dept., Schenectady, New York
Hi–Test Chemical Corp., 722 64th St., Brooklyn, N. Y.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N.Y.
Insl–X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Johns-Manville, 22 E. 40th St., New York, N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
Nopco Chemical Co., Plastics Div., 175 Schuyler Ave., North Arlington, N.J.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh, Pa.
Schenectady Varnish Co., Box 1046, Schenectady, N.Y.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Topper Mfg., Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina
Zophar Mills, Inc., 115 26th St., Brooklyn, N.Y.

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INSULATING COMPOUNDS. LACQUER ..... Pgs. 506, 508
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
American Products Mfg., Co., 8127 33 Oleander St., New Orleans, Louisiana
Beaver Labs., 187-61 Hollis Ave., Hollis, N.Y.
Dakoline Chemical Co., Inc., 357 Atlantic Ave., Brooklyn, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
General Cement Mfg., Co., Div. of Textron, Inc., 400 S. Wyman St., Rockford, Ill. - Pg. 506
Insl-X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Krylon, Inc., Ford & Washington, Norristown, Pa.
Midland Industrial Finishes Corp., Waukeegan, Ill.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N.Y.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

INSULATING COMPOUNDS. SILICONE COMPOUNDS
Adhesive Products Corp., 1660 Boone Ave., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L. I., N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Era Electric Corp., 67 E. Centre St., Nutley, N.J.
General Electric Co., Silicone Products Dept., Waterford, N. Y.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Midland Industrial Finishes Corp., Waukeegan, Ill.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Permacel, U. S. Highway 1, New Brunswick, N. J.
Plymouth Rubber Co., Inc., Canton, Mass.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Ave., New York, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.

INSULATING COMPOUNDS. VARNISH ..... Pgs. 506, 508
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
American Products Mfg., Co., 8127 - 33 Oleander Street, New Orleans, Louisiana
Aries Labs., Inc., 45 - 33 Davis Street, Long Island City, N.Y.
Barrett Varnish Co., 1532 S 50th Court, Cicero, Ill.
Borthig Co., Inc., George C., P.O. Box 115, E. Rutherford, N.J.
Brooklyn Pain & Varnish Co., 50 Jay St., Brooklyn, N. Y.
Dakoline Chemical Co., Inc., 357 Atlantic Ave., Brooklyn, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Dow Corning Corp., Midland, Mich.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
General Cement Mfg., Co., Div., of Textron, 400 S. Wyman St., Rockford, Ill. - Pg. 506
General Electric Insulating Materials Dept., Schenectady, New York
Houghton Labs., Inc., 322 Houghton Ave., Olean, N.Y.
Insl-X Co., Inc., Water St., Ossining, N. Y. – Pg. 508
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Metta Engineering & Sales Co., 252 E. 16th St., Paterson, N.J.
Midland Industrial Finishes Corp., Waukeegan, Ill.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N.Y.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Radar Relay, Inc., 2120 Pontius Ave., Los Angeles, Calif.
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh, Pa.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N.Y.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina

INSULATING COMPOUNDS. WAXES ..... Pgs. 507, 508
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Biwax Corp., 3444 Howard St., Skokie, Ill. - Pg. 507
Blaco Mfg., Co., 6541 Euclid Ave., Cleveland, Ohio
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Hi-Test Chemical Corp., 722 64th St., Brooklyn, N.Y.
Insl-X Co., Inc., Water St., Ossining, N.Y. - Pg. 508
International Wax Refining Co, 99 E. Hawthorne Ave., Valley Stream, N.Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Mitchell–Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N. Y.
Sonneborn, L. Sons, Inc., Bldg. Products Div. 404 4th Ave., New York, N. Y.
Zophar Mills, Inc., 115 26th St., Brooklyn, N.Y.

INSULATION MATERIALS. ALUMINUM OXIDE ..... Pgs. 505, 779
Advanced Vacuum Prod. Div., General Ceramics, 430 Fairfield St., Stamford, Conn.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N.Y. - Pg. 505
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N.J.
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Coors Porcelain Co., 600 Ninth St., Golden, Colo.
Electro-Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N.J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Frenchtown Porcelain Co., Frenchtown, N.J.
General Ceramics Corp., Keasbey, N.J. - Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N.J.
Kearfott Company, Inc., Little Falls, N.J.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N.J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Maryland Lava Co., Ceramic Dept., Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N.Y.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Nopco Chemical Co., Plastics Div., 175 Schuyler Ave., North Arlington, N.J.
Norton Co., 1 New Bond St., Worcester, Mass.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Superior Steatite & Ceramic Corp., 83-91 W. Forest Ave., Englewood, N.J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.

INSULATION MATERIALS. ASBESTOS
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Auburn Mfg. Co., Pease Ave. & Stock St., Middletown, Conn.
Chemical & Power Products, Inc., 11 Broadway, New York, N.Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Garlock Packing Co., The, Palmyra, N. Y.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Johns-Manville 22 E. 40th St., New York, N.Y.
Keasbey & Mattison Co., Ambler, Pa.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Mitchell–Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N. Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N.J.
Sun Chemical Corp., Electro-Tech. Prod. Div., 11.3 E. Centre St., Nutley, N.J.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
U. S. Rubber Co., 1230 Ave., of the Americas, New York, N.Y.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina

INSULATION MATERIALS. CERAMIC ..... Pg. 779
Advanced Vacuum Prod. Div., General Ceramics, 430 Fairfield St., Stamford, Conn.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Centralab Div., Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Chemical & Power Products, Inc., 11 Broadway, New York, N.Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Coors Porcelain Co., 600 Ninth St., Golden, Colo.
Diamonite Products Mfg., Co., Shreve, Ohio
Diamonite Products Mfg., Co., Div., U. S. Ceramic Tile Co., Shreve, Ohio
Electrical Refractories Co., 50 Clark St., E. Palestine, Ohio
Electro-Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N.J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Era Electric Corp., 67 E. Centre St., Nutley, N.J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Frenchtown Porcelain Co., Frenchtown, N.J.
General Ceramics Corp., Keasbey, N.J.-Pg. 779
Gladding McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N.J.
Johns-Manville 22 E. 40th St., New York, N.Y.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N.J.
Laboratory Equipment Corp., Lakeview & Hilltop Rd., St. Joseph, Mich.
Louthan Mfg., Co., P.O. Box 781, East Liverpool, Ohio
Mansol Ceramics, 140 Little St., Belleville, N.J.
Maryland Lava Co., Ceramic Dept., Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Norton Co., 1 New Bond St., Worcester, Mass.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Raytheon Microwave & Power Tube Div., Ceramic Sales Dept., Waltham 54, Mass.
Solar Mfg., Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Star Porcelain Co., The, P O. Box 1329, 61 Muirhead Ave., Trenton, N.J.
Steward, D. M. Mfg., Co., East 36th St., Chattanooga 1, Tenn.
Superior Steatite & Ceramic Corp., 83-91 W. Forest Ave., Englewood, N.J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
Topper Mfg., Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
United Mineral & Chem., Corp., 16 Hudson St., New York, N.Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

INSULATION MATERIALS. CORK
Armstrong Cork Co., Lancaster, Pa.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Corkpak Co., Inc., 70 Argyle Ave., New Rochelle, N.Y.
Korfund Co., Inc., 48-15 32nd Pl., Long Island City, N.Y.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, IH.

INSULATION MATERIALS. FABRIC
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Brady, W. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc.
Corkpak Co., Inc., 70 Argyle Ave., New Rochelle, N.Y.
Daniels, C. R., Inc., Daniels, Md.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Garlock Packing Co., The, Palmyra, N.Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Johns-Manville, 22 E. 40th St., New York, N.Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Mica Insulator Div., Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Plymouth Rubber Co., Inc., Canton, Mass.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

INSULATION MATERIALS. FIBRE ..... Pg. 786
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
Armstrong Cork Co., Lancaster, Pa.
Auburn Mfg., Co., Pease Ave. & Stock St., Middletown, Conn.
Baer Co., N.S., 9 Montgomery St., Hillside, N.J.
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Flock Process Co., Inc., 373 Main Ave., Norwalk, Conn.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Dela.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Johns-Manville, 22 E. 40th St., New York, N.Y.

INSULATION MATERIALS. FIBRE (continued)
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Masonite Corp., 111 W. Washington St., Chicago, Ill.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.-Pg. 786
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Porter, Wm., Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Sierra Electric Corp., 15100, S. Figueroa St., Box 85, Cardena, Calif.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N.Y.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
West Va., Pulp & Paper Co., 230 Park Ave., New York, N.Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina
Wilmington Fibre Specialty Co., New Castle, Dela.

INSULATION MATERIALS. GLASS ..... **Pgs. 777, 1045**
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Bonny Mfg., Co., 339 Auburn St., Auburndale, Mass.
Corning Glass Works, 95-6 Crystal St., Corning, N.Y.
Dell Optics Co., Ltd., 327 55 St., West New York, N.J.-Pg. 777
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
General Electric, Insulating Materials Dept., Schenectady, New York
General Electric Co., Plastics Dept., 2200, N. 22nd St., Decatur, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Dela.
Hess, Goldsmith & Co., Inc., 1400 Broadway, New York, N.Y.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Mansol Ceramics, 140 Little St., Belleville, N.J.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Mica Insulator Div., Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N.Y.
Philadelphia Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newardk, N.J.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Victory Engineering Corp., P.O. Box 373, Union, N.J.- Pg. 1045
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.

INSULATION MATERIALS. GLASS BONDED MICA
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Neward, Delaware
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N.J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
General Electric, Insulating Materials Dept., Schenectady, New York
General Electric Co., Plastics Dept., 2200 N., 22nd St., Decatur, Ill.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Integrated Mica Corp., 202 Franklin Place, Woodmere, N.Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
Mycalex Corp. of America, 125 Clifton Blvd., Clifton, N.J.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Porter, Wm., Co., 1007 Santa Fe Ave., Los Angeles, Calif.
United Mineral & Chem., Corp., 16 Hudson St., New York, N.Y.

INSULATION MATERIALS. GLASS FIBRE ..... **Pg. 774**
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Mica Insulation Co., Manasquan, N.J.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Bentley-Harris Mfg., Co., Conshohocken, Pa.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Bonny Mfg., Co., 339 Auburn St., Auburndale, Mass.
Chemfab Corp., 40-30 23rd St., Long Island City, N.Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Eagle-Pieher Co., P'kway., & Walnut, Cincinnati, Ohio
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Delaware
General Electric Co., Plastics Dept., 2200 N., 22nd St., Decatur, Ill.
Glass Fibers Co., L. O. F., 1810 Madison Ave., Toledo, Ohio
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Dela.
Hess, Goldsmith & Co., Inc., 1400 Broadway, New York, N.Y.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Markel, L. Frank & Sons, Norristown, Pa. - Pg. 774
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Mica Insulator Div., Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
N. Y. Glass, Inc., 2501 E. 68th St., Long Beach, Calif.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Natvar Corp., 211 Randolph Avenue, Woodbridge, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Porter, Wm., Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Sun Chemical Corp., Electro-Tech. Prod. Div., 113 E. Centre St., Nutley, N. J.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
Thompson, H. I. Fiber Glass Co., 1733 Cordova St., Los Angeles, Calif.
Warren Components Div., El-Tronics, Inc., Warren, Pa.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina

INSULATION MATERIALS. MICA ..... **Pgs. 772, 774**
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Mica Insulation Co., Manasquan, N.J.
Asheville-Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N.J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N.Y. - Pgs. 772, 774
General Electric Insulating Materials Dept., Schenectady, New York
Industrial Mica Corp., 223 S. Van Brunt St., Englewood, N.J.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Integrated Mica Corp., 202 Franklin Place, Woodmere, N.Y.
Macallen Co., The, New Market, N. H.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Mica Insulator Div., Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Micacraft Products, Inc., 703 McCarter H'way, Newark, N.J.
Minnesota Mining & Mfg., Electrical Prod., Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg., Corp., Insulation Division, 51 Murray St., New York, N.Y.
Mycalex Corp. of America, 125 Clifton Blvd., Clifton, N.J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Spruce Pine Mica Co., Spruce Pine, N.C.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.

INSULATION MATERIALS. NYLON ..... **Pgs. 786, 835**
Ace Plastic Co., 91-54 Van Wyck Exprwy, Jamaica, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
American Mica Insulation Co., Manasquan, N.J.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bonny Mfg., Co., 339 Auburn St., Auburndale, Mass.
Catalin Corp. of America, 1 Park Ave., New York, N.Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N.J.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dupont E. I. Denemours, Poly. Chemical Div., 10th & Market St., Wilmington, Dela.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorulon Labs., Inc., Box 305, Caldwell, N.J.
Form-It Products, Inc., 1619 W. Walnut St., Chicago, Ill.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N.Y.
General Electric Co., Plastics Dept., 2200 N., 22nd St., Decatur, Ill.
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Illumitronic Engineering Co., 680 Taylor Ave., Sunnyvale, Calif.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N.J.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Maryland Lava Co., Ceramic Dept., P. O. Box 205, Bel Air, Md.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Mica Insulator Div., Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
National Tel-Tronics Corp, 52 St. Casmirs Ave., Yonkers, N.Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela. - Pg. 786
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Nylogrip Prods., 449 Watertown St., Newton 58, Mass.
Nylon Molding Corp., 141 South Ave., Garwood, N.J.
Nyltite Corp. of America, 280 Badger Ave., Newark, N.J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Polymer Corp, The 2120 Fairmount Ave., Reading, Pa.
Porter, Wm., Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N.Y.
Tri-Point Plastics, Inc., 175 I. U. Willets Rd., Albertson, N.Y. - Pg. 835
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina

INSULATION MATERIALS. PAPER
Franklin Fibre–Lamitex Co., P. O. Box 1768, Wilmington, Dela.
Mosinee Paper Mills, Inc., Mosinee, Wisc.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Stevens Paper Mills, Inc., Windsor, Conn.
Sun Chemical Corp., Electro-Tech. Prod. Div., 113 E. Centre St., Nutley, N.J.

INSULATION MATERIALS. PHENOLIC ..... **Pgs. 507, 603, 835**
Ace Plastic Co., 91-54 Van Wyck Exprwy. , Jamaica, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Mica Insulation Co., Manasquan, N.J.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Biwax Corp., 3444 Howard St., Skokie, Ill. - Pg. 507
Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre-Lamitex Co., Box 1768 , Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N.Y.
General Electric Co., Laminated Products Dept., Section EEM-59, Coshocton, Ohio-Pg. 603
General Electric Co., Plastics Dept., 2200 N., 22nd St., Decatur, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Dela.
Illumitronic Engineering., Co., 680 Taylor Ave., Sunnyvale, Calif.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N.J.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Joclin Mfg., Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Maryland Lava Co., Ceramic Dept. Box 205, Bel Air, Md.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Mica Insulator Div., Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg. , Corp., Insulation Division, 51 Murray St., New York, N.Y.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N.Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
New Hermes Engraving Machine Corp., 13–19 University Pl., New York, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg., Co., 444 Lake Shore Dr., Chicago, Ill.
Plastics Engineering Co., 1607 Geele Ave., Sheboygan, Wisc.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N.Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.

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Tri-Point Plastics, Inc., 175 I. U. Willets Rd., Albertson, N.Y. - Pg. 835
Union Carbide Plastics Div., Union Carbide Corp., 30 E. 42nd St., New York, N.Y.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Carolina
Wilmington Fibre Specialty Co., New Castle, Dela.

INSULATION MATERIALS. PLASTIC ..... **Pgs. 780, 784–786, 1188, 1205**
Ace Plastic Co., 91-54 Van Wyck Exprwy, Jamaica, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Mica Insulation Co., Manasquan, N.J.
Aries Labs., Inc., 45-33 Davis Street, Long Island City, N.Y.
Arlin Mfg., Co., 12 Perkine St., Lowell, Mass.
Armstrong Cork Co., Lancaster, Pa.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blum & Co., Inc., Julius, Carlstadt, N.J.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Bonny Mfg., Co., 339 Auburn St., Auburndale, Mass.
Borden Co., The, Chemical Div., Resinite Dept., Box 1589, Santa Barbara, Calif.
Brady, W. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc.–Pg. 1188
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Catalin Corp. of America, 1 Park Ave., New York, N.Y.
Celanese Corp. of America, Plastics Div., 744 Broad St., Newark, N.J.
Chemfab Corp., 40-30 23rd St., Long Island City, N.Y.
Chemical & Power Products Inc., 11 Broadway, New York, N.Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N.J.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago, Ill.
Dow Chemical Co., Midland, Mich.
DuPont E. I. DeNemours, Poly. Chemical Div., 10th & Market St., Wilmington, Del.
Dura Plastics of N.Y., Inc., 303-5th Ave., New York, N.Y.
Electro Tec. Corp., 10 Romanelli Ave., S. Hackensack, N. J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Epoxy Products, Inc., 137 Coit St., Irvington, N.J.–Pg. 784
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorulon Labs. Inc., Box 305, Caldwell, N.J.
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Del.
Garlock Packing Co., The, Palmyra, N.Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Plastics Corp., 165 3rd Ave., Paterson, N.J.
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N.Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.–Pg. 785
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N.J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Isochen Resins Corp., 221 Oak St., Providence, R.I.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Luzerne Rubber Co., Muirhead Ave., P.O. Box 2191, Trenton, N.J.
MB Manufacturing Co., Div. Textron, Inc., 781 Whalley Ave., New Haven, Conn.
Mansol Ceramics, 140 Little St., Belleville, N.J.
Maryland Lava Co., Ceramic Dept. - Box 205, Bel Air, Md.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Metal & Thermit Corp., Rahway, N.J.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Morningstar-Paisley, Inc., 630 W. 51st St., New York 19, N.Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Del.–Pg. 786
Natvar Corp., 211 Randolph Ave., Woodbridge, N.J.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
New Hermes Engraving Machine Corp., 13-19 University Pl., New York, N.Y.
Nopco Chemical Co., Plastics Div., 175 Schuyler Ave., North Arlington, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Nyltite Corp. of America, 280 Badger Ave., Newark, N.J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permacel, U. S. Highway 1, New Brunswick, N. J.
Plymouth Rubber Co., Inc., Canton, Mass.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Resistoflex Corp., Roseland, N.J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass.–Pg. 1205
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Schjeldahl Co., Northfield, Minn.
Shamban, W.S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Smooth-On Mfg. Co., 572 Communipaw Ave., Jersey City, N.J.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N.Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
Topper Mfg. Co. Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Tri-Point Plastics, Inc., 175-177 I.U. Willets Rd., Albertson, L.I., N.Y.–Pg. 780
Union Carbide Plastics Div., Union Carbide Corp., 30 E. 42nd St., New York, N.Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.

INSULATION MATERIALS. RUBBER. ALL TYPES
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N.J.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Garlock Packing Co., The, Palmyra, N.Y.
Luzerne Rubber Co., Muirhead Ave., P.O. Box 2191, Trenton, N.J.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Newth Rubber Co., Barrington, R.I.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Plymouth Rubber Co., Inc., Canton, Mass.
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N.J.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N.Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

INSULATION MATERIALS. STEATITE ..... **Pg. 779**
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Du–Co Ceramics Co., P. O. Box 587, Butler, Pa.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Ceramics Corp., Keasbey, N.J.–Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N.J.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N.J.
Mansol Ceramics, 140 Little St., Belleville, N.J.
Maryland Lava Co., Ceramic Dept. - Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Page-Madden Co. Inc., East 2nd St., Mineola, N.Y.
Star Porcelain Co., The, The, P.O. Box 1329, 61 Muirhead Ave., Trenton, N.J.
Steward, D. M. Mfg., Co., East 36th St., Chattanooga, Tenn.
Superior Steatite & Ceramic Corp., 83-91 W. Forest Ave., Englewood, N.J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Wisconsin Porcelain Co., Sun Prairie Wisconsin

INSULATION MATERIALS. TEFLON ..... **Pgs. 771, 835, 1184, 1192**
Ace Plastic Co., 91-54 Van Wyck Exprwy., Jamaica, N.Y.
Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
American Felt Co., Glenville, Conn.
American Mica Insulation Co., Manasquan, N.J.
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.–Pg. 1184
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Birnbach Radio Co. Inc., 145 Hudson St., New York, N.Y.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Chemical & Power Products Inc., 11 Broadway, New York, N.Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N.Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Del.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Crane Packing Co., 6400 Oakton St., Morton Grove, Ill.
Dilectrix Corp., Allen Blvd. & Grand Ave., Farmingdale, N.Y.
Dixon Corp., Burnside St., Bristol, R.I.
DuPont E. I. DeNemours, Poly. Chemical Div., 10th & Market St., Wilmington, Del.
Dura Plastics of N.Y., Inc., 303-5th Ave., New York, N.Y.
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N.J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N.J.–Pg. 771
Fluorulon Labs. Inc., Box 305, Caldwell, N.J.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Del.
Garlock Packing Co., The, Palmyra, N.Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Plastics Corp., 165 3rd Ave., Paterson, N.J.
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y.–Pg. 1192
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N.J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Integrated Mica Corp., 202 Franklin Place, Woodmere, N.Y.
Joclin Mfg., Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Johns-Manville, 22 E. 40th St., New York, N.Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Maigne O. J. Co., 321 Pearl St., New York, N. Y.
Maryland Lava Co., Ceramic Dept. - Box 205, Bel Air, Md.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N.Y.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Moxness Prod. Inc., 1914 Indiana Ave., Racine, Wisc.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
Nylogrip Prods., 449 Watertown St., Newton 58, Mass.
Nylon Molding Corp., 141 South Ave., Garwood, N.J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Plastic-Craft Products Corp., 1 Station Plaza, W. Nyack, N.Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Resistoflex Corp., Roseland, N.J.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Sparta Mfg. Co., Dover, Ohio
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Tri–Point Plastics, Inc., 175 I. U. Willets Rd., Albertson, N. Y. – Pg. 835

INSULATION MATERIALS. VARNISHED CAMBRIC ..... **Pg. 774**
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Allied Plastics Supply Corp., 75 Clif St., New York, N.Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fibre Fabricators Co. Inc., 4540 Addison, Chicago, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Insulating Materials Dept., Schenectady, N. Y.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Markel, L. Frank & Sons, Norristown, Pa.–Pg. 774
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N.Y.
National Gasket & Washer Co., 124 E. 25th St., New York, N. Y.
Natvar Corp., 211 Randolph Ave., Woodbridge, N.J.
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Sun Chemical Corp., Electro-Tech. Prod. Div., 113 E. Centre St., Nutley, N.J.

INSULATION MATERIALS, VARNISHED CAMBRIC (continued)
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

INSULATION MATERIALS, VINYL ..... **Pgs. 1185, 1188, 1205**
Actioncraft Products, 2 Yennicock Ave., Port Washington, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bolta Products Div. General Tire & Rubber Co., Lawrence, Mass.
Borden Co., The, Chemical Div., Resinite Dept., P. O. Box 1589, Santa Barbara, Calif.
Brady, W. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc.–Pg. 1188
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fibre Fabricators Co. Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Del.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N.J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Metal & Thermit Corp., Rahway, N.J.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
Natvar Corporation, 211 Randolph Ave., Woodbridge, N.J.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Plastic-Craft Products Corp., 1 Station Plaza, W. Nyack, N.Y.
Plymouth Rubber Co. Inc., Canton, Mass.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass.–Pg. 1205
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Sun Chemical Corp., Electro-Tech. Prod. Div., 113 E. Centre St., Nutley, N.J.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Union Carbide Plastics, Div. Union Carbide Corp., 30 E. 42nd St., New York, N.Y.

INSULATION PARTS, BEAD ..... **Pg. 601**
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Bird, Richard H. & Co., 1 Spruce St., Waltham, Mass. – Pg. 601
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
General Ceramics Corp., Keasbey, N. J.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Pyrometer Co. of America, Penndel, Pa.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N. J.
Star Porcelain Co., The, P.O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga 1, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

INSULATION PARTS, CERAMIC ..... **Pg. 779**
Advanced Vacuum Prod., Div. General Ceramics, 430 Fairfield St., Stamford, Conn.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Coors Porcelain Co., 600 Ninth St., Golden, Colo.
Diamonite Products Mfg. Co., Div. U. S. Ceramic Tile Co., Shreve, Ohio
Du–Co Ceramics Co., Box 587, Butler, Pa.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
Frenchtown Porcelain Co., Frenchtown, N. J.
General Ceramics Corp., Keasbey, N. J. –Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Kinetics Corp., 2 Churchill Rd., Hingham, Mass.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Laboratory Equipment Corp., Lakeview & Hilltop Rd., St. Joseph, Mich.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Minneapolis–Honeywell, Ceramic Lab., 500 Washington Ave., S., Hopkins, Minn.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Ceramic Co., 500 Southard St., P. O. Box 199, Trenton, N. J.
Norton Co., 1 New Bond St., Worcester, Mass.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Raytheon Microwave & Power Tube Div., Ceramic Sales Dept., Waltham 54, Mass.
Solar Mfg. Corp., E. 46th & Seville Ave., Los Angeles, Calif.
Star Porcelain Co., The, P. O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga 1, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

INSULATION PARTS, INSULATING SLEEVES ..... **Pgs. 774, 784, 1205**
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Mica Insulation Co., Manasquan, N. J.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Bentley–Harris Mfg. Co., Conshohocken, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Dielectric Materials Co., 5315–17 N. Ravenswood Ave., Chicago, Ill.
Dixon Corp., Burnside St., Bristol, R. I.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Ceramics Corp., Keasbey, N. J.
General Gaskets, Inc., Middletown, Conn.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Joclin Mfg., Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Markel, L. Frank & Sons, Norristown, Pa. – Pg. 774
Maryland Lava Co., Ceramic Dept – Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Natvar Corporation, 211 Randolph Avenue, Woodbridge, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nylogrip Prods., 449 Watertown St., Newton 58, Mass.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Resistoflex Corp., Roseland, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sparta Mfg. Co., Dover, Ohio
Star Porcelain Co., The, P.O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga 1, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Synthane Corp., 12 River Rd., Oaks, Pa.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
Wilmington Fibre Specialty Co., New Castle, Del.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

INSULATION PARTS, PLASTIC ..... **Pgs. 771, 774, 780, 784–786, 835, 1205**
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Actioncraft Products, 2 Yennicock Ave., Port Washington, N. Y.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Aries Labs., Inc., 45–33 Davis Street, Long Island City, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Borden Co., The – Chemical Div. Resinite Dept., Box 1589, Santa Barbara, Calif.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dimco–Gray Co., 207 E. 6th St., Dayton, Ohio
Dixon Corp., Burnside St., Bristol, R. I.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fastex Div., Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N.J. – Pg. 771
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric, Insulating Materials Dept., Schenectady, New York
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middletown, Conn.
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Markel, L. Frank & Sons, Norristown, Pa. – Pg. 774
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Meter–Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Plasti–Chem Corp., 6700 N. W. 37 Ave., Miami, Fla.
Plastic–Craft Products Corp., 1 Station Plaza W. Nyack, N. Y.

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Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Quality Components, Inc., St. Marys, Pa.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Schjeldahl Co., Northfield, Minn.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Sinclair Mfg. Co., Chartley, Mass.
Sparta Mfg. Co., Dover, Ohio
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Tri–Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
Tri–Point Plastics, Inc., 175–177 I.U. Willets Rd., Albertson, N.Y. – Pgs. 780, 835
Westinghouse Electric Corp., Micarta Div., Hampton, South Carolina
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.

INSULATION PARTS. PLASTIC–EXTRUDED ... Pgs. 771, 774, 780, 785, 786, 835, 1205

Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Actioncraft Products, 2 Yennicock Ave., Port Washington, N. Y.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Anchor Plastics Company, 36–36 36th St., Long Island City, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Automated Circuits, Inc., 337 Payne Ave., North Tonawanda, N. Y.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blinn, Delbert Co., The, P. O. Box 757, Pomona, Calif.
Blum & Co., Inc., Julius, Carlstadt, N. J.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Borden Co., The – Chemical Div., Resinite Dept., Box 1589, Santa Barbara, Calif.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Dixon Corp., Burnside St., Bristol, R. I.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Fluorulon Labs. Inc., Box 305, Caldwell, N. J.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Markel, L. Frank & Sons, Norristown, Pa. – Pg. 774
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Natvar Corporation, 211 Randolph Ave., Woodbridge, N. J.
Nyltite Corp. of America, 280 Badger Ave., Newark, N. J.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.
Resistoflex Corp., Roseland, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sparta Mfg., Co., Dover, Ohio
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, N. Y. – Pgs. 780, 835
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westinghouse Electric Corp., Micarta Div., Hampton, South Carolina

INSULATION PARTS. PLASTIC–FABRICATED ..... Pgs. 771, 780, 785, 786, 835, 1205

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Mica Insulation Co., Manasquan, N. J.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Automated Circuits, Inc., 337 Payne Ave., North Tonawanda, N. Y.
Barwood, L. J. Mfg. Co., Inc., 22 Williams St., Everett, Mass.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Clover Industries, Inc., 588 Young St., Tonawanda, N. Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dixon Corp., Burnside St., Bristol, R. I.
Dura Plastics of N. Y., Inc., 303–5th Ave., New York, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N. J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
Form–It Products Inc., 1619 W. Walnut St., Chicago, Ill.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middletown, Conn.
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Hampden Mfg. Co., Inc., 3 Rivers – P. O. Box 89, Palmer, Mass.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N. Y.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.

Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N. Y.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Monadnock Mills, 1977 First Ave., San Leando, Calif.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
NY–Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Northwest Plastics, Inc., 65 East Plato Ave., St. Paul, Minn.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Plasti–Chem Corp., 6700 N. W. 37 Ave., Miami, Fla.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Schjeldahl Co., Northfield, Minn.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., P. O. Box 1037, Culver City, Calif.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Sinclair Mfg. Co., Chartley, Mass.
Sparta Mfg. Co., Dover, Ohio
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Tri–Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, N. Y. – Pgs. 780, 835
Westinghouse Electric Corp., Micarta Div., Hampton, South Carolina
Wilmington Fibre Specialty Co., New Castle, Del.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

INSULATION PARTS. PLASTIC–LAMINATED ..... Pgs. 603, 785, 786, 1205

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Actioncraft Products, 2 Yennicock Ave., Port Washington, N. Y.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N. J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric, Laminated Products Dept., Section EEM–59, Coshocton, Ohio – Pg. 603
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
NY–Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
New Hermes Engraving Machine Corp., 13–19 University Pl., New York, N. Y.
Nicholas Prods Co., 325 W. Main St., Moorestown, N. J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Schjeldahl Co., Northfield, Minn.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Thompson, H. I. Fiber Glass Co., 1733 Cordova St., Los Angeles, Calif.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Wilmington Fibre Specialty Co., New Castle, Del.

INSULATION PARTS. PLASTIC–MOLDED ..... Pgs. 463, 648, 771, 784, 835

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Molded Products Co., 2727 W. Chicago Ave., Chicago, Ill.
Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
Associated Engineering Corp., 65 Kent St., Brookline, Mass. – Pg. 648
Automated Circuits, Inc., 337 Payne Ave., North Tonawanda, N. Y.
Blinn, Delbert Co., The, P. O. Box 757, Pomona, Calif.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Texas
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Dimco–Gray Co., 207 E. 6th St., Dayton, Ohio
Dixon Corp., Burnside St. , Bristol, R. I.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emeloid Co., Inc., The, 1239 Central Ave., Hillside , N. J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Form–It Products Inc., 1619 W. Walnut St., Chicago, Ill.
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg . Co., 588 Eddy St., Providence, R. I.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Products Corp., Union Springs, New York
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Howard Crystal Holders Inc., 2600 Grand Ave., Kansas City, Mo.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Luzerne Rubber Co., Muirhead Ave., P. O. Box 2191, Trenton, N. J.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Meter–Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave.,St. Paul, Minn.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis, Minn.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
NY–Glass Inc., 2501 E. 68th St., Long Beach, Calif.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Nyltite Corp. of America, 280 Badger Ave., Newark, N. J.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R. I. – Pg. 463
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Quality Components, Inc., St. Marys, Pa.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Rogan Bros., 8031 N. Monticello Ave., Skokie, Ill.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Southern Plastics Engrg. Corp., Box 6428, Greensboro, N. Caro.
Sparta Mfg. Co., Dover, Ohio
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Thompson, H. I. Fiber Glass Co., 1733 Cordova St., Los Angeles, Calif.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
Tri–Point Plastics, Inc., 175 I. U. Willets Rd., Albertson, N. Y. – Pg. 835
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.

INSULATION PARTS. RODS ..... Pgs. 603, 785, 835, 1205

Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
America Mica Insulation Co., Manasquan, N. J.
Anchor Plastics Company, 36–36 36th Street, Long Island City, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blum & Co., Inc., Julius, Carlstadt, N. J.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dixon Corp., Burnside St., Bristol, R. I.
Dura Plastics of N. Y., Inc., 303–5th Ave., New York, N. Y.
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorulon Labs. Inc., Box 305, Caldwell, N. J.
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N. Y.
General Ceramics Corp., Keasbey, N. J.
General Electric Co., Laminated Products Dept., Section EEM–59, Coshocton, Ohio – Pg. 603
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Linde Co., Crystals Dept. – Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Luzerne Rubber Co., Muirhead Ave., P. O. Box 2191, Trenton, N. J.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
New England Tape Co., Hudson, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nyltite Corp. of America, 280 Badger Ave., Newark, N. J.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Permonite Mfg., Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Resistoflex Corp., Roseland, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sparta Mfg. Co., Dover, Ohio
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Star Porcelain Co., The, P. O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y. – Pg. 835
Warren Components Div., El–Tronics, Inc., Warren, Pa.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.

INSULATION PARTS. SHEETS ..... Pgs. 603, 784, 785, 792, 1205

ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 792
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Mica Insulation Co., Manasquan, N. J.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Blum & Co., Inc., Julius, Carlstadt, N.J.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dixon Corp., Burnside St., Bristol, R. I.
Dura Plastics of N. Y., Inc., 303–5th Ave., New York, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric, Insulating Materials Dept., Schenectady, New York
General Electric Co., Laminated Prods. Dept., Section EEM–59, Coshocton, Ohio – Pg. 603
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Luzerne Rubber Co., Muirhead Ave., P. O. Box 2191, Trenton, N. J.
Mac Allen Co., The, New Market, N. H.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Moxness Prod. Inc., 1914 Indiana Ave., Racine, Wisc.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
NY–Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg., Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Resistoflex Corp., Roseland, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland Ohio
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sparta Mfg. Co., Dover, Ohio
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Westinghouse Electric Corp., Micarta Div., Hampton, South Carolina
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

INSULATION PARTS. SILICONE RUBBER ..... Pgs. 774, 1105

A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.

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Alden Products Co., 146 N. Main St., Brockton, Mass.
Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric, Insulating Materials Dept., Schenectady, N. Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middleton, Conn.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Markel, L. Frank & Sons, Norristown, Pa. – Pg. 774
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Moxness Prod., Inc., 1914 Indiana Ave., Racine, Wisc.
National Gasket & Washer Co., 124 E. 25 St., New York, N. Y.
Natvar Corporation, 211 Randolph Ave., Woodbridge, N. J.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1105
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Union Carbide Plastics, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, South Carolina

INSULATION PARTS. STAMP & PUNCH. CERAMIC

American Mica Insulation Co., Manasquan, N. J.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
Frenchtown Porcelain Co., Frenchtown, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Materials for Elctrns, Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Star Porcelain Co., The, P.O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

INSULATION PARTS. STAMP & PUNCH. MICA

American Mica Insulation Co., Manasquan, N. J.
Asheville–Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
General Electric, Insulating Materials Dept., Schenectady, N. Y.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Micacraft Products, Inc., 703 McCarter Hway., Newark, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Spruce Pine Mica Co., Spruce Pine, N. C.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

INSULATION PARTS. STAMP & PUNCH. PAPER

Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Mica Insulation Co., Manasquan, N. J.
Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Barwood L. J. Mfg. Co., Inc., 22 Williams St., Everett, Mass.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
General Gaskets, Inc., Middletown, Conn.
Insulating Fabricators, Inc., 140 Union Ave., East Rutherford, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
National Gasket & Washer Co., 124 E. 25 St., New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Stone City Products Co., 1206 Seventh St., Bedford, Indiana
Synthane Corp., 12 River Rd., Oaks, Pa.

INSULATION PARTS. TUBING ..... Pgs. 771, 774, 835, 1179–1185, 1192, 1205, 1208

Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Actioncraft Products, 2 Yennicock Ave., Port Washington, N. Y.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pgs. 1179–1183
Anatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Mica Insulation Co., Manasquan, N. J.
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Anchor Plastics Company, 36–36 36th St., Long Island City, N. Y.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
B & C Insulation Products, Inc., 490 Lincoln Hwy., Iselin, N. J.
Bentley–Harris Mfg., Co., Conshohocken, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blum & Co., Inc., Julius, Carlstadt, N. J.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Borden Co., The – Chemical Div., Resinite Dept., Box 1589, Santa Barbara, Calif.
Chemfab Corp., 40–30 23rd St., Long Island City, N. Y.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dielectric Materials Co., 5315–17 N. Ravenswood Ave., Chicago, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garlock Packing Co., The, Palmyra, N. Y.
General Ceramics Corp., Keasbey, N. J.
General Electric, Insulating Materials Dept., Schenectady, N. Y.
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Del.
Hitemp Wires Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Kupfrian Mfg. Corp., 363 State St., Binghamton, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Luzerne Rubber Co., Muirhead Ave., P. O. Box 2191, Trenton, N. J.
Macallen Co., The, New Market, N. H.
Markel, L. Frank & Sons, Norristown, Pa. – Pg. 774
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Materials for Elctrns, Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Moxness Prod., Inc., 1914 Indiana Ave., Racine, Wisc.
NY–Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Gasket & Washer Co., 124 E. 25 St., New York, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Natvar Corporation, 211 Randolph Ave., Woodbridge, N. J.
New England Tape Co., Hudson, Mass.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Norton Co., 1 New Bond St., Worcester, Mass.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Nyltite Corp. of America, 280 Badger Ave., Newark, N. J.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Panduit Co., 14461 Waverly St , Midlothian, Ill.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Polymica & Insulation Co., 683 Main St. Willimantic, Conn.
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Resistoflex Corp., Roseland, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Sparta Mfg. Co., Dover, Ohio
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Supa Insulations, Inc., 123 East Bassett St., Rocky Mount, N. C.
Superior Cable Corp., Hickory, N.Ca. – Pg. 1208
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
Suprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Thermal Wire of America, Keelers Bay, So. Hero, Vermont
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics Inc., 175 I. U. Willets Rd., Albertson, N. Y. – Pg. 835
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

INSULATORS. ANTENNA & SPRING ASSEMBLIES

All Products Company, Electronic Div., Box 110, Mineral Wells, Texas
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Mica Insulation Co., Manasquan, N. J.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
General Ceramics Corp., Keasbey, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N. J.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Page–Madden Co., Inc., East 2nd St., Mineola, N. Y.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Steward, D. M. Mfg., Co., East 36th St., Chattanooga, Tenn.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Wind Turbine Co., East Market St., W. Chester, Pa.

INSULATORS. BUSHING METALLIZED

Alite Div., U. S. Stoneware Co., P. O. Box 119, Orville, Ohio
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Frenchtown Porcelain Co., Frenchtown, N. J.
General Ceramics Corp., Keasbey, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Ceramic Co., 500 Southard St., P. O. Box 199, Trenton, N. J.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Steward, D. M. Mfg., Co., East 36th St., Chattanooga, Tenn.

INSULATORS, CERAMIC ..... Pg. 532
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Coors Porcelain Co., 600 Ninth St., Golden, Colo.
Diamonite Products Mfg., Co. Div., U. S. Ceramic Tile Co., Shreve, Ohio
Du–Co Ceramics Co., Box 587, Butler, Pa.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Electronic Mechanics, Inc., 101 Clifton Blvd., Clifton, N. J.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.
Frenchtown Porcelain Co., Frenchtown, N. J.
General Ceramics Corp., Keasbey, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mica Fabricating Co., 53 Central Ave.,Rochelle Park, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden,Mass.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Ceramic Co., 500 Southard St., P. O. Box 199, Trenton, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Norton Co., 1 New Bond St., Worcester, Mass.
Page–Madden Co., Inc., East 2nd St., Mineola, N. Y.
Porcelain Products, Inc., 225 N. Patterson St., Carey, Ohio
Pyrometer Co. of America, Penndel, Pa.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Raytheon, Microwave & Power Tube Div., Ceramic Sales Dept., Waltham, Mass.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Star Porcelain Co., The, P. O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W Forest Ave., Englewood, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wind Turbine Co., East Market St., W. Chester, Pa.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

INSULATORS, FEEDER SPREADER ..... Pgs. 532, 771
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
General Ceramics Corp., Keasbey, N. J.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Wind Turbine Co., East Market St., W. Chester, Pa.

INSULATORS, FEED THROUGH ..... Pgs. 532, 771
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Dixon Corp., Burnside St., Bristol, R.I.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Garlock Packing Co., The, Palmyra, N. Y.
General Ceramics Corp., Keasbey, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Heyman Mfg. Co., East Michigan Ave., Kenilworth, N. J.
Hobson Bros., 4940 W. Lawrence Ave., Chicago, Ill.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Joclin Mfg., Co., Lafeery Ave., Wallingford, Conn.
Johnson,E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
McCormick Selph Associates, Hollister, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Ceramic Co., 500 Southard St., P. O. Box 199, Trenton, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Saxon Electronics, 1409B W. Alameda, Burbank, Calif.
Shamban, W.S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.
Wind Turbine Co., East Market St., W. Chester, Pa.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

INSULATORS, FUSED QUARTZ ..... Pgs. 773, 777
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dell Optics Co., Ltd., 327 55 St., West New York, N. J. – Pg. 777
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio – Pg. 773
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Thermal American Fused Quartz Co., 18–20 Salem St., Dover, N. J.
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass.

INSULATORS, HIGH DIELECTRIC PAPER
Form–It Products, Inc., 1619 W. Walnut St., Chicago, Ill.
Insulating Fabricators, Inc., 150 Union Ave., East Rutherford, N. J.
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Integrated Mica Corp., 202 Franklin Place, Woodmere, N. Y.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio

INSULATORS, HV POWER LINE
Armstrong Cork Co., Lancaster, Pa.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Utilities Service Co., 1 Pine St., Allentown, Pa.

INSULATORS, MICROWAVE ..... Pg. 835
Tri–Point Plastics, Inc., 175 I. U. Willets Rd., Albertson, N. Y. – Pg. 835

INSULATORS, STANDOFF ..... Pgs. 532, 568, 771
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
American Mica Insulation Co., Manasquan, N. J.
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Frenchtown Porcelain Co., Frenchtown, N. J.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Garlock Packing Co., The, Palmyra, N. Y.
General Ceramics Corp., Keasbey, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Grayhill Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 568
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Monadnock Mills, 1977 First Ave., San Leando, Calif.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Ceramic Co., 500 Southard St., P. O. Box 199, Trenton, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Porcelain Products, Inc., 225 N. Patterson St., Carey, Ohio
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Saxon Electronics, 14098 W. Alameda, Burbank, Calif.
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
Taurus Corp., 8 Coryell St., Lambertville, N.J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
United Mineral & Chem Corp., 16 Hudson St., New York, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Western Coil & Electrical Co., 215 State St., Racine, Wisc.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.
Wind Turbine Co., East Market St., W. Chester, Pa.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

INSULATORS, STRAIN ..... Pg. 532
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Fastex Div., Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
General Ceramics Corp., Keasbey, N. J.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
National Ceramic Co., 500 Southard St., P.O. Box 199, Trenton, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Porcelain Products, Inc., 225 N. Patterson St., Carey, Ohio
Saxton Products, Inc., 4320 Park Ave., New York, N. Y.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Wind Turbine Co., East Market St., W. Chester, Pa.

INSULATORS, TEST CLIP ..... Pgs. 573, 771
Air–O–Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Mueller Electric Co., 1589 H E. 31st St., Cleveland, Ohio – Pg. 573

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Trico Fuse Mfg. Co., 2948 N. 5th, Milwaukee, Wisc.

INSULATORS. THERMOCOUPLE

Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury, 20, Conn.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Maryland Lava Co., Ceramic Dept. – Box 205, Bel Air, Md.
Materials for Elctrns., Cont. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Norton Co., 1 New Bond St., Worcester, Mass.
Pyrometer Co. of America, Penndel, Pa.
Smith, E. C. Mfg. Co., Conshohocken, Pa.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, ILL.

INSULATORS. TOWER

General Ceramics Corp., Keasbey, N. J.
Mykroy, Inc., Wheeling & Hintz Rds., Wheeling, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Star Porcelain Co., The, P.O. Box 1329, 61 Muirhead Ave., Trenton, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Wind Turbine Co., East Market St., W. Chester, Pa.

INSULATORS. TRANSMITTING ANTENNA ..... Pgs. 532, 771

Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
General Ceramics Corp., Keasbey, N. J.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N. J.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Miller Industries, 1525 Marion, Grand Haven, Mich.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.
Premax Products, Div. Chisholm–Ryder Co., Niagara Falls, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Wind Turbine Co., East Market St., W. Chester, Pa.

INTEGRATORS. ELECTRONIC ..... Pgs. 547, 665, 728

Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Alto Scientific Co., Inc., 855 Commericial St., Palo Alto, Calif.
Antlab Incorporated, 6330 Proprietors Road, Worthington, Ohio
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Company, The, P.O. Box 1790, Waterbury, 20, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Computing Devices of Canada Ltd., P. O. Box 508, Ottawa, Canada
Detroit Controls Div., Amer. Radiator & Stand. Corp., 100 Morse St., Norwood, Mass.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va. – Pg. 665
Eldorado Electronics Co, 2821–10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Precision Corp., Arkadelphia, Ark.
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City, 15, Utah
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Inertia Switch, 527 Lexington Ave., New York, 1, N. Y.
Instron Engrg. Corp., 2500 Washington St., Canton, Mass.
Librascope, Inc., 808 Western Ave., Glendale, Calif. – Pg. 547
Magentic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 728
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Research Instruments Corp., 18 S. 12th St., Richmond, Va.
Robinette, W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tripl–T Co., Electronics, P. O. Box 5352, Pasadena, Calif.
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

INTERCOMMUNICATION SYSTEMS

Adcrafters Co., 325 W. Huron St., Chicago, Ill.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Air–O–Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
American Dev. Electronics Co., 210 Central Ave.,Newark, N. J.
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Automatic Electric Sales Corp., Northlake, Ill.
Automation Management, Inc., Adams St., Westboro, Mass.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St., & Beaver Dam Rd., Bristol, Pa.
Bell Products Co., 4251 Forest Park Ave., St. Louis, Mo.
Bennett Laboratories, Inc., 4224 Holden, Emeryville, 8, Calif.
Bliss Electronic Corp., Box 366, Sussex, N. J.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, New Jersey.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Dalmotron Co., 534 Laurel St., San Carlos, Calif.
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N. Y.
Feiler Engrg. & Mfg. Co., 8026 N. Monticello Ave., Skokie, Ill.
Fisher–Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Flush Wall Radio Co., 1012 Cleveland St., Clearwater, Fla.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Loge, J. M. Sound Engs., 2171 W. Washington Blvd., Los Angeles, Calif.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Partrick & Wilkins Co., 51 N. 7th St., Philadelphia, Pa.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Private Tele–Communications, Inc., 1010 W. Diversey Pkway, Chicago, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York, N. Y.
Rauland–Borg Corp., 3535 W. Addison St., Chicago, Ill.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Roberts Mfg. Co., 426 E. Shaffer, Gleburne, Texas
Roche, Paul Co., 11 Park Pl., New York, N. Y
Royal Communications System, 11462 Euclid Ave., Cleveland, Ohio
Schindlers, 2429 Beverly Ave., Santa Monica, Calif.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L.I. City, N. Y
Smith, Wm. M. Co., 20 Ferguson Ave., Broomall, Pa.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Sperti–Faraday, Inc., Adrian, Mich.
Spivey, James S., Inc., 4908 Hampden Lane, Washington, D. C.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Talk–A–Phone Co., 1512 S. Pulaski Rd., Chicago, Ill.
Telectro Industries Corp., 35–16 37th St., L.I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Trans–Tel Corp., 910 N. Orange Dr., Los Angeles, Calif.
U. S. Instrument Corp., P. O. Box 1191, Charlottesville, Va.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Vocaline Co. of America, Old Saybrook, Conn.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

INTERFERENCE EQUIPMENT. R–F – SEE JAMMING EQUIPMENT

INTERROGATOR EQUIPMENT – SEE RECEIVERS. TRANSMITTERS. ETC.

INVERTERS. DC–AC. DC–DC ..... Pgs. 542, 543, 769, 881, 899, 906–908, 915, 923, 942, 956, 958, 1036, 1037, 1076, 1103, 1175

Accurate Instrument Co., 2422 Branard St., Houston, Texas
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn. – Pg. 881
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bill Jack Scientific Instr. Co., P.O. Box C–3, Solano Beach, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bristol Company, The, P.O. Box 1790, Waterbury, Conn.
Brunswick Instruments, P.O. Box 813, New Brunswick, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Chatham Electronics Div. of Tung–Sol Electric, Inc., Newark, N. J. – Pg. 956
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental Electric Co., 334 Ferry St., Newark, N. J.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
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Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103

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Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
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Leland Airborne Prod., Div. A.M. & F. Co., Box 128, Vandalia, Ohio
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
M F Electronics, 122 E. 25th St., New York, N. Y.
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Microdyne, 300 W. Washington St., Chicago, Ill.
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Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Hamner Electronics Co., Inc., P.O. Box 531, Princeton, N. J.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, 31, N. Y.
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Educational Electronics, 1227 W. Loyola Ave., Chicago 26, Ill.
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General Electronics, 4200 Mobile Rd., Montgomery, Ala.
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Argos Products Co., 301 Main St., Genoa, Ill.
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Goldsman Co., 1325–27 No. Lawrence St., Phila., Pa.
Hammond Mfg., Co., Ltd., Guelph, Canada
Heath Co., Benton Harbor, Mich.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Knight Electronics Corp., 210 S. Desplaines St., Chicago, Ill.
Lance Antenna Mfg., Co., 1802 First St., San Fernando, Calif.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
River Edge Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Waber Mfg., Co., 105 Heatherwood Rd., Havertown, Pa.

KITS. BREADBOARD. EXPERIMENTAL ..... Pgs. 577, 604, 605, 607
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Gap Instrument Corp., 116 E. Merrick Rd., Freeport, L. I., N. Y. – Pgs. 604, 605
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif. – Pg. 577
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Servo Systems Co., 14 Carmer Avenue, Belleville, New Jersey
Stanley Aviation Corp., 2501 Dallas St., Denver, Colo.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.

KITS. COMPUTER ..... Pgs. 604, 605
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Gap Instrument Corp., 116 E. Merrick Rd., Freeport, L. I., N. Y. – Pgs. 604, 605
Heath Co., Benton Harbor, Mich.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

KITS. GEIGER COUNTER
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.

KITS. MICROWAVE TRAINING ..... Pg. 820
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. – Pg. 820

KITS. POWER SUPPLY. TRANSISTORIZED
Kupfrian Mfg. Corp., 363 State St., Binghamton, N. Y.

KITS. PRINTED CIRCUIT ..... Pg. 514
American Printed Circuits Co., Inc., 104 Forrest St., Metuchen, N. J.
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Conrad Radio Co., 4103 W. Belmont, Chicago, Ill.
Danco Manufacturing Co., P. O. Box 533, Van Nuys, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronics, Inc. of Pa., 39 York Rd., Willow Grove, Pa.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Heath Co., Benton Harbor, Mich.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Keil Engrg. Products Co., 6833 Manchester St., St. Louis, Mo.
Knight Electronics Corp., 210 S. Desplaines St., Chicago, Ill.
Naz-Dar Co., 465 Milwaukee Ave., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philmore Mfg. Co., Inc., 130-01 Jamaica Ave., Richmond Hill, N. Y.
Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N. Y. – Pg. 514
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Tec-Kit Co., Box 8827, Kansas City, Mo.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rbdeo Rd., Los Angeles, Calif.

KITS. RECEIVER
Certified Radio Labs., 5507 13 Ave., Brooklyn, N. Y.
Conrad Radio Co., 4103 W. Belmont, Chicago, Ill.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Educational Electronics, 1227 W. Loyola Ave., Chicago 26, Ill.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Heath Co., Benton Harbor, Mich.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Knight Electronics Corp., 210 S. Desplaines St., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philmore Mfg. Co., Inc., 130-01 Jamaica Ave., Richmond Hill, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.

KITS. RECEIVER (continued)
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

KITS. SPEAKER
Argos Products Co., 301 Main St., Genoa, Ill.
Dero Electronics, 134 Nassau Rd., Roosevelt, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Heath Co., Benton Harbor, Mich.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Knight Electronics Corp., 210 S. Desplaines St., Chicago, Ill.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

KITS. TERMINAL ..... Pg. 643
Vaco Products Co., 317 E. Ontario St., Chicago, Ill. – Pg. 643

KITS. TEST EQUIPMENT
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Dare, Inc., Route 25, Troy, Ohio
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa.
Heath Co., Benton Harbor, Mich.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Jan Hardware Mfg., Co., 38–01 Queens Blvd., L. I. City, N. Y.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Knight Electronics Corp., 210 S. Desplaines St., Chicago, Ill.
Paco Electronics Co., Inc., 70-31 84th St., Glendale, N. Y.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N. Y.
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Radio Corp. of America, Electron. Tube Div., 415 S. Fifth St., Harrison, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Seco Mfg. Co., 5015 Penn Ave., Minneapolis, Minn.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Tec-Kit Co., Box 8827, Kansas City, Mo.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

KITS. TRANSMITTER
American Electronics Co., 1203-05 Bryant Ave., New York, N. Y.
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Educational Electronics, 1227 W. Loyola Ave., Chicago 26, Ill.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City, N. Y.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Heath Co., Benton Harbor, Mich.
Horton & Hubbard Mfg., Co., 141 Canal St., Nashua, N. H.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Knight Electronics Corp., 210 S. Desplaines St., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

KNOBS ..... **Pgs. 519, 532, 596, 597, 600, 638–640, 644, 709, 1025, 1039**
A-1 Precision Products, 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Acton Laboratories, Inc., 536 Main St., Acton, Mass.
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Asquith Company, S. A., 427 W. Chevy Chase Dr., Glendale, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blinn, Delbert Co., The, P. O. Box 757, Pomona, Calif.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Texas
Consolidated Molded Prods. Corp., Scranton, Pa.
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Davies Molding Co., Harry, 1428 N. Wells St., Chicago, Ill.
Dimco-Gray Co., 207 E. 6th St., Dayton, Ohio
Dunwell Mfg. Corp., 257 Queen Anne Rd., Bogota, N. J.
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N. J.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Federal Electronic Sales, Div. of Fedtro, Inc., Federal Electronics Bldg., Rockville Centre, N. Y. – Pg. 1025
Gee–Lar Mfg., Co., 418 S. Wyman St., Rockford, Ill. – Pg. 596
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Injection Plastic Corp., 8124-30 N. Ridgeway Ave., Skokie, Ill.
J. B. T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 709
Jan Hardware Mfg., Co., 38–01 Queens Blvd., L. I. City, N. Y.
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Kilo Engineering, 2121 Third St., Laverne, Calif.
Kurz-Kasch, Inc., 1421 S. Broadway, Dayton, Ohio
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pgs. 639-640
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Lodding, Inc., 73 Beacon St., Worcester, Mass.
Marjo Technical Products Co., 1150 E. Henry St., Linden, N. J.
Materials For Elctrns., Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
National Co., Inc., 61 Sherman St., Malden, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Pacific Transducer Corp., 11836 W. Pico Blvd., Los Angeles, Calif.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Raytheon, Indl. App. Div., Production Apparatus Prod. Dept. 6120MC, Waltham, Mass. – Pg. 597
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Rogan Bros., 8031 N. Monticello Ave., Skokie, Ill.
Rohden Mfg., Co., Inc., 4739 Montrose Ave., Chicago, Ill.
Saxon Electronics, 1409B W. Alameda, Burbank, Calif.
Sierra Electric Corp., 15100 S. Figueroa St., P. O. Box 85, Gardena, Calif.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Stanley Works, The, New Britain, Conn.
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
TV Development Corp., 187-61 Hollis Ave., Hollis, N. Y.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Waterbury Companies, Inc., Waterbury, Conn.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.

KOVAR – SEE METALS

LABELS – SEE CODE & TAB MARKERS

LACQUER
Adhesive Products Corp., 1660 Boone Ave., New York, N. Y.
Ambroid Co., Weymouth, Mass.
American Products Mfg., Co., 8127–33 Oleander St., New Orleans, La.
Argos Products Co., 301 Main St., Genoa, Ill.
Barrett Varnish Co., 1532 S. 50th Court, Cicero, Ill.
Champion Bronze & Powder Co., 2101 Elston Ave., Chicago, Ill.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N. J.
Krylon, Inc., Ford & Washington, Norristown, Pa.
Midland Industrial Finishes Corp., Waukeegan, Ill.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N. Y.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.

LACQUER INSULATION – SEE INSULATING COMPOUNDS

LAMINATES ..... **Pgs. 603, 786, 1027**
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Printed Circuits Co., Inc., 104 Forrest St., Metuchen, N. J.
Baer Co., N. S., 9 Montgomery St., Hillside, N. J.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Bomyte Co., The, Green St., Silverdale, Pa.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, Iowa
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Laminated Prods. Dept., Section EEM–59, Coshocton, Ohio – Pg. 603
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Hermes Plastics, Inc., 13-19 University Pl., New York, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Keller Products, Inc., 41 Union St., Manchester, N. H.
Lamtex Industries, Inc., 51 State St., Westbury, N. Y.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Masonite Corp., 111 W. Washington St., Chicago, Ill.
Mica Corp., 4031 Elenda St., Culver City, Calif.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell-Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Nareco Resins & Coatings Co., 600 Victoria St., Costa Mesa, Calif.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela. – Pg. 786
New England Laminates Co., P. O. Box 43, Stamford, Conn.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Tempel Mfg. Co., 1939 Bryn Mawr Ave., Chicago, Ill.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.

LAMINATES, METAL CLAD ..... **Pgs. 603, 786, 1205**
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Cal.
American Nickeloid Co., Second St., Peru 33, Ill.
American Printed Circuits Co., Inc., 104 Forrest St., Metuchen, N. J.
Bar-Ray Products, Inc., 209 25th St., Brooklyn, N. Y.
Bomyte Co., The, Green St., Silverdale, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, Iowa
Formica Co., The, 4616 Spring Grove Ave., Cincinnati, Ohio
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Laminated Prods. Dept., Section EEM–59, Coshocton, Ohio – Pg. 603
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Hermes Plastics, Inc., 13-19 University Pl., New York, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Keller Products, Inc., 41 Union St., Manchester, N. H.

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Leach & Garner Co., Industrial Div., Attleboro, Mass.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Mica Corp., 4031 Elenda St., Culver City, Calif.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela. – Pg. 786
New England Laminates Co., P. O. Box 43, Stamford, Conn.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Sargeant & Wilbur Heat Treating Corp., 170 York Ave., Powtucket, R. I.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Tricon Mfg., Co., 8012 S. Wallace St., Chicago, Ill.
U. S. Plywood Corp., Electr. Structures Dept., 55 W. 44th St., New York, N. Y.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

LAMINATIONS, TRANSFORMER

Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Bodnar Industries, Inc., 238 Huguenot St., New Rochelle, N. Y.
G-L Electronics Co., Inc., 2921 Admiral Wilson Blvd., Camden, N. J.
James International, 855 6th Ave., New York City, N. Y.
Laminations, Co., 300 Main St., Stamford, Conn.
Magnetic Metals Co., Hayes Ave. 21st St., Camden, N. J.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Tempel Mfg. Co., 1939 Bryn Mawr Ave., Chicago, Ill.
Thomas & Skinner, Inc., 1100 E. 23rd St., Indianapolis, Ind.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

LAMPS ALSO SEE LIGHTS ..... Pgs. 855, 876

Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N. Y.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif. – Pg. 876
Luxo Lamp Corp., Dock St., Pt. Chester, N. Y.
Marco Industries Co., 207 S. Helena St., P. O. Box 110, Anaheim, Calif.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
North American Electric Lamp Co., 1520 N. 13 St., St. Louis, Mo.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, DIAL ..... Pgs. 855, 857–871, 1205

Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857–871
General Electric Co., Minature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Tung-Sol Electric, Inc., Newark, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, EXCITER, PHOTOGRAPHIC ..... Pg. 855

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
General Electric Co., Minature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, FLASHTUBE ..... Pgs. 855, 1154, 1155

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis., Minn.
General Electric Co., Minature Lamp Dept., Nela Park, Cleveland, 12, Ohio
International Elctms. Corp., Mullard Equipment, 81 Spring St., New York, N.Y. – Pgs. 1154, 1155
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Minneapolis-Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Technical Apparatus Builders, 109 Liberty Street, New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, FLUORESCENT

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Art Specialty Co., Flexo Intl. Subs., 3720 N. Milwaukee Ave., Chicago, Ill.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Cold Cathode Corp., 48–14, 48–18 33rd St., Long Island City, N. Y.
Dazer Mfg. Corp., 4481 Duncan Ave., St. Louis, Mo.
Flexo International Corp., 3720–N. Milwaukee Ave., Chicago, Ill.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Great Western Div., Interelectric Corp., Warren, Pa.
Luxo Lamp Corp., Dock St., Pt. Chester, N. Y.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Terado Co., 1068 Raymond St., St. Paul, Minn.
Verd-A-Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, 30, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, GLOW ..... Pgs. 855–858, 862–864, 868

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 856
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N.Y. – Pgs. 857, 858, 862–864, 868
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Fordham Mfg. Co., 2220 Pearsall Ave., Bronx, N. Y.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Hudson Lamp Co., 528 Elm St., Kearny, N. J.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
National Union Electric, Electronics Div., Bloomington, Ill.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
P.E.K. Labs., 4024 Transport St., Palo Alto, Calif.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Signalite, Inc., 37–41 Neptune Hway., Neptune, N. J.
Tung-Sol Electric, Inc., Newark, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, INCANDESCENT ..... Pgs. 855–857, 859–861, 863, 865–871, 876, 878, 879

Art Specialty Co., Flexo Intl. Subs., 3720 N. Milwaukee Ave., Chicago, Ill.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 856
Dazer Mfg. Corp., 4481 Duncan Ave., St. Louis, Mo.
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N.Y. – Pgs. 857, 859–861, 863, 865–871
Eagle Electric Mfg., Co., 23–19 Bridge Plaza So., L. I. City, N. Y.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif. – Pg. 876
Flexo International Corp., 3720–N. Milwaukee Ave., Chicago, Ill.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Hudson Lamp Co., 528 Elm St., Kearny, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Leecraft Mfg., Co., Inc., 58–60 Greene St., Dept. E, New York, N. Y. – Pgs. 878, 879
Luxo Lamp Corp., Dock St., Pt. Chester, N. Y.
Marco Industries Co., 207 S. Helena St., – P.O. Box 110, Anaheim, Calif.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Tung-Sol Electric, Inc., Newark, N. J.
Verd-A-Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, 30, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, INFRARED ..... Pg. 855

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N. Y.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Fostoria Pressed Steel Corp., Fostoria, Ohio
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Miskella Infra-Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
North American Electric Lamp Co., 1520 N. 13 St., St. Louis, Mo.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N.J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tung-Sol Electric, Inc., Newark, N. J.
Verd-A-Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, MERCURY VAPOR

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Cold Cathode Corp., 48–14, 48–18 33rd St., Long Island City, N. Y.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Epic, Inc., 154 Nassau St., New York, N. Y.
Gates, George W. & Co., Hempstead Tpke & Lucille Ave., Franklin Square, N. Y.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Miller-Trojan Co., 3 N. Ridge Ave., Troy, Ohio
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Verd-A-Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, MINIATURE, SUBMINIATURE ..... Pgs. 855–871, 876

Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
American Cystescope Makers, Inc., 8 Pelham Pkwy., Pelham Manor, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bright Star Industries, 600 Getty Ave., Clifton, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 856
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N.Y. – Pgs. 857–871
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif. – Pg. 876
Gem Electric Mfg., Co., 233 37th St., Brooklyn, N. Y.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, 12, Ohio
Hudson Lamp Co., 528 Elm St., Kearny, N. J.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Marco Industries Co., 207 S. Helena St. – P.O. Box 110, Anaheim, Calif.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Tung-Sol Electric, Inc., Newark, N. J.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS, NEON ..... Pgs. 855–858, 862–864, 868, 871, 876–879

Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 856
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N.Y. – Pgs. 857, 858, 862–864, 868, 871
Drake Mfg., Co., 4620 N. Olcott Ave., Chicago, Ill.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif. – Pg. 876
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y. – Pg. 877
Fordham Mfg., Co., 2220 Pearsall Ave., Bronx, N. Y.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio

See YELLOW SECTION for local sales offices, telephones, etc.

LAMPS. NEON (continued)
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hudson Lamp Co., 528 Elm St., Kearny, N. J.
Kirkland, H. R. Co., 8 King St., Morristown, N. J.
Leecraft Mfg. Co., Inc., Dept. E, 58–60 Greene St., New York, N. Y. – Pg.878, 879
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Signalite, Inc., 37–41 Neptune Hway., Neptune, N. J.
Tung–Sol Electric, Inc., Newark, N. J.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS. PHOTOELECTRIC SOURCE ..... Pgs. 850, 851, 855
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Electron–Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio – Pgs. 850, 851
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div. Bloomfield, N.J.
Worner Electronic Devices, Rankin, Ill.

LAMPS. PHOTOFLASH ..... Pg. 545
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Bright Star Industries, 600 Getty Ave., Clifton, N. J.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 545
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Indikon Co., 76 Coolidge Hill Rd., Watertown, Mass.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS. PHOTOFLOOD
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS. PILOT ..... Pgs. 855–871, 876, 878–879
Alden Products Co., 146 N. Main St., Brockton, Mass.
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 856
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857 – 871
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif. – Pg. 876
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Kirkland, H. R. Co., 8 King St., Morristown, N. J.
Leecraft Mfg., Co., Inc., Dept. 3, 58–60 Greene St., New York, N. Y. – Pgs. 878, 879
Leviton Mfg., Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
North American Electric Lamp Co., 1520 N. 13 St., St. Louis, Mo.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Signalite, Inc., 37–41 Neptune Hway., Neptune, N. J.
Sittler Corp., 18 N. Ada St., Chicago, Ill.
Tung–Sol Electric, Inc., Newark, N. J.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS. PROJECTION
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Television Specialty Co., 350 West 31st St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LAMPS. ULTRAVIOLET ..... Pg. 855
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Black Light Eastern Corp., 201–04 Northern Blvd., Bayside, New York
Burton Mfg., Co., 2520 Colorado Ave., Santa Monica, Calif.
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Cold Cathode Corp., 48–18 33rd St., Long Island City, N. Y.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Gates, George W. & Co., Hempstead Tpke & Lucille Ave., Franklin Square, N. Y.
General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Stroblite Co., 75 W. 45 St., New York, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Ultra Violet Products Inc., 5114 Walnut Grove Ave., San Gabriel, Calif.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LEAD & ALLOYS – SEE METALS

LENSES. INSPECTION
American Cystescope Makers, Inc., 8 Pelham Pky., Pelham Manor, N. Y.
Bache, Semon & Co., 636 Greenwich St., New York, N. Y.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Buhl Optical Co., 1009 Beech Ave., Pittsburgh, Pa.
Dazer Mfg. Corp., 4481 Duncan Ave., St. Louis, Mo.
Edmund Scientific Corp., 502 E. Gloucester Pike, Barrington, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fostoria Pressed Steel Corp., Fostoria, Ohio
General Hardware Co., 80 White St., New York, N. Y.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Gordon Enterprises, 5362 N. Cahuengz Blvd., N. Hollywood, Calif.
Kollmorgen Optical Corp., 347 King St., Northampton, Mass.
Lancaster Glass Corp., Lancaster, Ohio
Miskella Infra–Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
Pacific Optical Corp., 120 Glasgow Ave., Inglewood, Calif.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Strat–O–Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Tinsley Labs Inc., 2526 Grove St., Berkeley, Calif.
U. S. Precision Lens & Plastics Inc., 626 Broadway, Cincinnati, Ohio

LENSES. OPTICAL & CAMERA ..... Pgs. 530, 773, 777, 861, 1118
American Cystescope Makers, Inc., 8 Pelham Pky., Pelham Manor, N. Y.
American Optical Co., Instrument Div., Box A, Buffalo, N. Y.
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.
Bache, Semon & Co., 636 Greenwich St., New York, N. Y.
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Berndt–Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Buhl Optical Co., 1009 Beech Ave., Pittsburgh, Pa.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Cartriseal Corp., 3515 W. Touhy Ave., Lincolnwood, Ill.
Dell Optics Co. Ltd., 327 55 St., West New York, N. J. – Pg. 777
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N. Y. – Pg. 861
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Edmund Scientific Corp., 502 E. Gloucester Pike, Barrington, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Goertner Scientific Corp., The, 1261 Wrightwood Ave., Chicago, Ill.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio – Pg. 773
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Isomet Corp., 118 Union St., Palisades Park, N. J.
ITT Industrial Products Div., 15191 Bledsoe St., San Fernando, Calif. – Pg. 530
Keuffel & Esser Co, Hoboken, N. J. – Pg. 1118
Kollmorgen Optical Corp., 347 King St., Northampton, Mass.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lancaster Glass Corp., Lancaster, Ohio
Meller, Adolf, Co., 387 Charles St., Box 702, Providence, R. I.
National Cine Equipment Inc., 209 W. 48 St., New York, N. Y.
Pacific Optical Corp., 120 Glasgow Ave., Inglewood, Calif.
PAR Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Simpson Optical Mfg. Co., 3200 W. Carroll Ave., Chicago, Ill.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Television Zoomar Corp., 500 5th Ave., New York, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Tinsley Labs. Inc., 2526 Grove St., Berkeley, Calif.
U. S. Precision Lens & Plastics Inc., 626 Broadway, Cincinnati, Ohio
Valpey Crystal Corp., 1244 Highland St., Holliston, Mass.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.
Zoomar, Inc., 55 Sea Cliff Ave., Glen Cove, L. I., N. Y.

LENSES. PILOT LIGHTS – SEE JEWELS. PILOT LIGHT

LENSES. R–F
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.

LIE DETECTORS. ELECTRONIC
Associated Research, Inc., 3758 W. Belmont Ave., Chicago, Ill.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.

LIGHTING EQUIPMENT. STUDIO
Mcalister, Inc., 1117 N. McCadden Pl., Hollywood, Calif.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio

LIGHTING ARRESTERS – SEE ARRESTERS. LIGHTING

LIGHTS ALSO SEE LAMPS ..... Pg. 855
Alden Products Co., 146 N. Main St., Brockton, Mass.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill. – Pg. 855
Cold Cathode Corp., 48–14, 48–18 33rd St., L. I. City, N. Y.
Kent Lighting Corp., 500 Johnson Ave., Brooklyn, N. Y.
Luxo Lamp Corp., Dock St., Pt. Chester, N. Y.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110 Anaheim, Calif.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Soderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. AIRCRAFT ..... Pg. 855
Bright Star Industries, 600 Getty Ave., Clifton, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Soderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
U. S. Radium Corp., Morristown, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. AIRPORT APPROACH
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Soderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.

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Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. ARC
Gates, George W. & Co., Hempstead Tpke. & Lucille Ave., Franklin Square, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Strong Electric Corp., 87 City Park Ave., Pleasantville, N. Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Westinghouse Electric Corp.,Lamp Div., Bloomfield, N. J.

LIGHTS. BEACON
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N. Y.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Hughey & Phillips, Inc., 3200 N. San Fernando Blvd., Burbank, Calif.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Soderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. DIAL. PANEL. PILOT & ACCESSORIES ..... Pgs. 532, 855–880, 1089
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Machine & Foundry Co., 11 Bruce Pl., Greenwich, Conn.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Circon Component Corp., Municipal Airport, Goleta, Calif.–Pg. 856
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857–871
Drake Mfg., Co., 4620 Olcott Ave., Chicago, Ill. – Pgs. 872–875
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.–Pg. 1089
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.–Pg. 877
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Johnson, E. F. Co., 1439 2nd Ave., S.W., Waseca, Minn.–Pg. 532
Kirkland, H. R. Co., 8 King St., Morristown, N. J.
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Leecraft Mfg. Co. Inc., 58–60 Greene St., Dept. E, New York, N. Y.–Pg. 878, 879
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Signalite, Inc., 37–41 Neptune Hway., Neptune, N. J.
Skycraft Tool Engrg. Co., 2610 Willo Lane, Costa Mesa, Calif.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn.–Pg. 880
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. FOG ..... Pg. 855
American Printed Circuits Co., Inc., 104 Forrest St., Metuchen, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Soderberg Mfg. Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. INFRARED ..... Pg. 855
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Fostoria Pressed Steel Corp., Fostoria, Ohio
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Kent Lighting Corp., 500 Johnson Ave., Brooklyn, N. Y.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
North American Electric Lamp Co., 1520 N. 13 St., St. Louis, Mo.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Precise Measurements Co., Millbrook Place, Rd 1, Flemington, N. J.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Verd–A–Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. INSPECTION – SEE INSPECTION LIGHTING & EQUIPMENT

LIGHTS. INSTRUMENT ..... Pgs. 855, 876
All American Engineering Co., Dupone Airport, Willmington, Del.
American Machine & Foundry Co., 11 Bruce Pl., Greenwich, Conn.
Art Specialty Co., Flexo Intl Subs., 3720 N. Milwaukee Ave., Chicago, Ill.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
Skycraft Tool Engrg. Co., 2610 Willo Lane, Costa Mesa, Calif.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. MARKER ..... Pg. 855
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Cold Cathode Corp., 48–18 33rd St., L. I. City, N. Y.
Gates, George W. & Co., Hempstead Tpke. & Lucille Ave., Franklin Square, N. Y.
Radiant Lamp Corp., 300 Jelliff Ave., Newark, N. J.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Soderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
U. S. Radium Corp., Morristown, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. NAVIGATIONAL AIDS ..... Pg. 855
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Solderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. NEON TEST ..... Pgs. 855, 877
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Eagle Electric Mfg., Co., 23 10 Bridge Plaza So., L. I. City, N. Y.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.–Pg. 877
Fordham Mfg., Co., 2220 Pearsall Ave., Bronx, N. Y.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Walsco Electronic Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. SIGNAL ..... Pgs. 855, 857–875, 878, 879
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Bright Star Industries, 600 Getty Ave., Clifton, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Dialight Corp. Of America, 60 Stewart Ave., Brooklyn, N. Y.–Pgs. 857–871
Drake Mfg. Co., 4620 Olcott Ave., Chicago, Ill.–Pgs. 872–875
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N. Y.
Haledy Electronics Co., 57 William St., New York, N. Y.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Leecraft Mfg., Inc., 58–60 Greene St., Dept. E, New York, N. Y.– Pgs. 878, 879
Leetronics, 30 Main St., Brooklyn, N. Y.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
North American Electric Lamp Co., 1520 N. 13 St., St. Louis, Mo.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Soderberg Mfg. Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Verd–A–Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. STROBOSCOPIC SOURCE ..... Pg. 855
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Edgerton, Germeshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Wilcox Research Co., 7250 Hinds Ave., No. Hollywood, Calif.

LIGHTS. TEST ..... Pgs. 855–871, 876
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Cartriseal Corp., 3515 W. Touhy Ave., Lincolnwood, Ill.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Dialight Corp. Of America, 60 Stewart Ave., Brooklyn, N. Y.–Pgs. 857–871
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. ULTRAVIOLET ..... Pg. 855
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Art Specialty Co., Flexo Intl Subs., 3720 N. Milwaukee Ave., Chicago, Ill.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Blacklight Corp. Of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Black Light Eastern Corp., 201–04 Northern Blvd., Bayside, N.Y.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Cold Cathode Corp., 48–14, 48–18 33rd St., L. I. City, N. Y.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Epic, Inc., 154 Nassau St., New York, N. Y.
Gates, George W. & Co., Hempstead Tpke & Lucille Ave., Franklin Square, N. Y.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Moulic Specialties Co., 1007 W. Washington St., Bloomington, Ill.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Soderberg Mfg., Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Stroblite Co., 75 W. 45 St., New York, N. Y.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHTS. WARNING ..... Pgs. 855–871, 878, 879
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Bright Star Industries, 600 Getty Ave., Clifton, N. J.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.–Pg. 855
Dialight Corp. of America, 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857–871
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
Fischer–Pierce Co., 170 Pearl St., South Braintree, Mass.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Hughey & Phillips, Inc., 3200 N. San Fernando Blvd., Burbank, Calif.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Korry Mfg., Inc., 223 8th Ave., N. Seattle, Wash.
Leecraft Mfg., Co., Inc., 58–60 Greene St., Dept. E, New York, N. Y. – Pgs. 878, 879
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Skycraft Tool Engrg. Co., 2610 Willo Lane, Costa Mesa, Calif.
Soderberg Mfg. Co., Inc., 628 S. Palm Ave., Alhambra, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Verd–A–Ray Corp., 615 Front St., Toledo, Ohio
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

LIGHT SOURCE. ISOTOPE EXCITED
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
U. S. Radium Corp., Morristown, N. J.

LIMITERS. NOISE
CGS Laboratories, Inc., Routes 7 and 35, Ridgefield, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.

LIMITERS. NOISE (continued)
Electronic Systems Engrg. Co., 903 Cravens, Oklahoma City, Okla.

LIMITERS. PULSE ..... Pg. 1062
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Sylvania Electric Products, Special Tube Opns, 500 Evelyn, Mountain View, Calif.

LINERS. TUBE SHIELD – SEE SHIELDS. TUBE

LINES. SLOTTED
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Alford Mfg., Co., 299 Atlantic Ave., Boston, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

LINKS. ANTENNA
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.

LITHIUM – SEE METALS

LOCATORS. CABLE & LINE FAULT ..... Pgs. 649, 748, 749
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill. – Pg. 649
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Davenport Mfg., Co., 1713 N. Ashland Ave., Chicago, Ill.
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg.
General Communication Co., 677 Beacon St., Boston, Mass.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Peschel Electronics, Inc., Towners Rfd 1, Patterson, N. Y.
Radar Engineers, 4719 Brooklyn, Seattle, Wash.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.–Pgs. 748,749
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.
Stratocon Corp., Box 10, Morristown, N. J.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.

LOCATORS. OPEN–SHORT ..... Pg. 649
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.–Pg. 649
General Communication Co., 677 Beacon St., Boston, Mass.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Stratocon Corp., Box 10, Morristown, N. J.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.

LOCATORS. PIPE & CABLE
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Goldake Co., 1544 W. Glen Oaks Blvd., Glendale, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Stratocon Corp., Box 10, Morristown, N. J.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.

LOCKS. DIAL & SHAFT ..... Pgs. 597, 634
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Dalmore Corp., Div. of Atlas E–E Corp., 47 Prospect St., Woburn, Mass.
General Components, Inc., 225 E. 144th St., New York, N. Y.–Pg. 634
GOE Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Jan Hardware Mfg., Co., 38–01 Queens Blvd., L. I. City, N. Y.
Johnson, E. F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Kilo Engineering, 2121 Third St., Laverne, Calif.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York, N. Y.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Raytheon, Indl. App. Div., Production Apparatus Prod. Dept. 6120MC, Waltham, Mass. – Pg. 597
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

LORAN SYSTEMS – SEE NAVIGATION

LOUDSPEAKERS – SEE SPEAKERS

LOUVERS. VENTILATING CHASSIS ..... Pg. 482
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Blaco Mfg., Co., 6541 Euclid Ave., Cleveland, Ohio
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
M M Enclosurers, Inc., 111 Bloomingdale Rd., Hicksville, L. I., N. Y.
Metal Fabricators Corp., 63 Pond St., Waltham, Mass.
Midget Louver Co., 6 Wall St., Norwalk, Conn.
Nevada Air Products Co., P. O. Box 2472, Reno, Nev.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Technical Development Co., 305 S. Chester Pk., Glenolden, Pa.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.–Pg. 482

LUBRICANTS
Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Alpha Molykote Corp., 65 Harvard Ave., Stamford, Conn.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Beaver Labs., 187–61 Hollis Ave., Hollis, N. Y.
Dakoline Chemical Co., Inc., 357 Atlantic Ave., Brooklyn, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dixon Crucible Co., 167 Wayne St., Jersey City, N. J.
Dow Corning Corp., Midland, Mich.
Electrofilm, Inc., 7116 Laurel Canyon Blvd., N. Hollywood, Calif.
Electronic Chemical Corp., 813 Communipaw Ave., Jersey City, N. J.
Electroparts, P. O. Box 1137, Glendale, Calif.
Grafo Colloids Corp., P. O. Box 195, Sharon, Pa.
Huron Industries, P. O. Box 557, Port Huron, Mich.
Krylon, Inc., Ford & Washington, Norristown, Pa.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
Pyroil Co., Inc., 122 Main St., La Crosse, Wisc.
Quietrole Co., 395 St. John St. – P. O. Box 2607, Spartanburg, S. C.
Robins Industries Corp., 36–27 Prince St., Flushing, N. Y.
Stevenson Bros. & Co., 110 Race St., Philadelphia, Pa.
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.

MACHINES. AUTOMATIC ASSEMBLY ..... Pg. 962
Automation Management, Inc., Adams St., Westboro, Mass.
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa.
Black Light Products, Inc., 53 W. Jackson Blvd., Chicago, Ill.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Design Tool Corp., 80 Washington St., New York, N. Y.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Equip–A–Matic Engrg. Corp., 6045 W. Ogden Ave., Chicago, Ill.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N. J.
Gardner–Denver Co., Front St., Quincy, Ill.
Halm Instrument Co., Inc., Glen Head Rd., Glen Head, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
Mechaneers Inc., Westport, Conn.
Merz Engrg., Inc., 200 S. Harding St., Indianapolis, Ind.
Qualtiy Control Corp., 401 Broadway, New York, N. Y.
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Sheffield Corp., The, Box 893, Dayton, Ohio
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Standard Tool & Mfg., Co., 237 Laurel Ave., Kearny, N. J.
Taft–Pierce Mfg., Co., The, 32 Mechanic Ave., Woonsocket, R. I.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
United Shoe Machinery Corp., 140 Federal St., Boston, Mass.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

MACHINES. BALANCING – SEE BALANCING EQUIPMENT

MACHINES. BENDING ..... Pg. 962
Design Tool Corp., 80 Washington St., New York, N. Y.
Industrial Winding Machinery Corp., 120 Wall St., New York, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
O'Neil–Irwin Mfg., Co., 316 8th Ave., Lake City, Minn.
Peck Stow & Wilcox Co., 217–274 Center St., Southington, Conn.
Sheffield Corp., The, Box 893, Dayton, Ohio
Stueck, Inc., Box 355E, Old Saybrook, Conn.
Taylor–Winfield Corp., 1056 Mahonig, N. W., Warren, Ohio

MACHINES. BLUEPRINT
Dietzgen Eugene Co., 2425 N. Sheffield Ave., Chicago, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Paragon–Revolute Corp., 71 South Ave., Rochester, N. Y.
Peck & Harvey Mfg. Corp., 5650 N. Western Ave., Chicago, Ill.
Weil J.H. & Co., 1332 Cherry St., Philadelphia, Pa.

MACHINES. CAPACITOR MANUFACTURING
Associated American Trading Div., 750 St. Anns Ave., New York, N. Y.
Halm Instrument Co., Inc., Glen Head Rd., Glen Head, N. Y.

MACHINES. COIL–WINDING ..... Pgs. 960–962, 965
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.–Pg. 960
Associated American Trading Div., 750 St. Anns Ave., New York, N. Y.
Bell Products Co., 4251 Forest Pk. Ave., St. Louis, Mo.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Boesch Mfg., Co., 45 River St., Danbury, Conn.
British Industries Corp., Instr. Div., 80 Shore Rd., Pt. Washington, N. Y.
Coil Winding Equip. Co., 19 Maxwell Ave., Oyster Bay, N. Y.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Dare, Inc., Rt. 25, Trum, Ohio
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Electro Devices Co., 580 Main St., Wilmington, Mass.
Halm Instrument Co., Inc., Glen Head Rd., Glen Head, N. Y.
Hirschmann, Carl Co., Inc., 30 Park Ave., Manhasset, N. Y.–Pg. 961
Industrial Winding Machinery Corp., 120 Wall St., New York, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
Knopp, Inc., 1307 66th St., Oakland, Calif.
Martindale Electric Co., Edgewater Br., Box 617, Cleveland, Ohio
Precise Measurements Co., Millbrook Place, Rd 1, Flemington, N. J.
Presin Co., 2014 Broadway, Santa Monica, Calif.
Rea Magnet Wire Co., Inc., East Pontiac St., Fort Wayne, Ind.
Stevens, Geo. Mfg., Co., Inc., 6022 N. Rogers Ave., Chicago, Ill.
Universal Mfg., Co., Inc., 1168 Grove St., Irvington, N. J. – Pg. 965
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

MACHINES. COIL–WINDING TOROIDAL ..... Pgs. 960, 961, 965
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.–Pg. 960
Associated American Trading Div., 750 St. Anns Ave., New York, N. Y.
Coil Winding Equip. Co., 19 Maxwell Ave., Oyster Bay, N. Y.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Hirschmann, Carl Co., Inc., 30 Park Ave., Manhasset, N. Y.–Pg. 961
Industrial Winding Machinery Corp., 120 Wall St., New York, N. Y.
Knopp, Inc., 1307 66th St., Oakland, Calif.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Stevens, Geo. Mfg., Co., Inc., 6022 N. Rogers Ave., Chicago, Ill.
Universal Mfg., Co., Inc., 1168 Grove St., Irvington, N. J.– Pg. 965

MACHINES. COUNTING. PHOTOELECTRIC ..... Pg. 963
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Deitz, S. J. Co., 9 E. Wesley St., So. Hackensack, N. J.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.

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Presin Co., 2014 Broadway, Santa Monica, Calif.–Pg. 963
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.

MACHINES, CRYSTAL CUTTING ..... Pg. 962
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962

MACHINES, CRYSTAL MANUFACTURING ..... Pg. 962
Bassett, Inc., Rex, 1314 N. E. 17th Court – Box 7127, Fort Lauderdale, Fla.
Constantin, L. L. & Co., Route 46, Lodi, N. J.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Hull Corp., Dansville Rd., Hatboro, Pa.
Hunt Corp., The, 453 Lincoln St., Carlisle, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
Lepel High Frequency Labs., 55th & 37th Ave., Woodside, N. Y.
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Palmer Instruments, 1028 Mission St., So. Pasadena, Calif.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

MACHINES, DIODE MANUFACTURING ..... Pg. 962
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N. J.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N. J.
Standard Tool & Mfg., Co., 237 Laurel Ave., Kearny, N. J.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

MACHINES, ENGRAVING & PROFILING – SEE ENGRAVING, PROFILING EQUIPMENT

MACHINES, ETCHING PRINTED CIRCUIT ..... Pg. 962
Circon Component Corp., Municipal Airport, Goleta, Calif.
Dry Screen Process, Inc., 1016 Madison Ave., Pittsburgh, Pa.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Naz–Dar Co., 465 Milwaukee Ave., Chicago, Ill.

MACHINES, FORMING ..... Pg. 962
Design Tool Corp., 80 Washington St., New York, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
O Neil–Irwin Mfg. Co., 316 8th Ave., Lake City, Minn.
Peck Stow & Wilcox Co., 217–274 Center St., Southington, Conn.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Studebaker Hydraulic Products Co., 1733 N. 33 Ave., Melrose Park, Ill.
Taylor–Winfield Corp., 1056 Mahonig, N. W., Warren, Ohio
Technical Devices Co., 2340 Centinela Ave., Los Angeles, Calif.

MACHINES, GLASS BLOWING & WORKING ..... Pg. 962
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N.J.
Forter–Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
Litton Engineering Labs., P. O. Box 949, Grass Valley, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N. J.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N. J.
Syncor Products Co., 30 Western Ave., Malden, Mass.

MACHINES, HERMETIC SEALING
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Hull–Standard Corp., Davisville Rd., Hatboro, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

MACHINES, IMPREGNATING
Barrett, Leon J. Co., The, 1450 Grafton Rd., Worcester, Mass.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N.J.
General Vacuum Corp., 400 Border St., E. Boston, Mass.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Hull Corp., Dansville Rd., Hatboro, Pa.
Hull–Standard Corp., Davisville Rd., Hatboro, Pa.
Meter–Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Red Point Corp., 1907 Riverside Dr., Glendale, Calif.
Stokes, F. J. Corp., 5500 Tabor Rd., Philadelphia, Pa.

MACHINES, LAMINATION STACKING
Associated American Trading Div., 750 St. Anns Ave., New York, N. Y.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio

MACHINES, MARKING & NUMBERING ..... Pg. 1188
Ackerman–Gould Co., 92 Bleecker St., New York, N. Y.
Apex Machine Co., 14–13 118th St., College Point, N. Y.
Brady, N. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc.–Pg. 1188
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Gillies Co., Inc., 66 Central St., W. Boylston, Mass.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N. Y.
Hermes Plastics, Inc., 13–19 University Pl., New York, N. Y.
High Speed Hammer Co., Inc., The, 313 Norton St., Rochester, N. Y.
Hoffman, P. R. Co., 321 Cherry St., Carlisle, Pa.
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N. Y.
Luma Electric Equip. Co., P. O. Box 132, Toledo, Ohio
Matthews & Co., James H., 3832 Forbes Ave., Pittsburgh, Pa.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York, N. Y.
New Hermes Engraving, Machine Corp., 13–19 University Pl., New York, N. Y.
Noble & Westbrook Mfg., Co., 20 Westbrook St., E. Hartford, Conn.
Numberall Stamp & Tool Co., Huguenot Park, Staten Island, N. Y.
Popper & Sons, Inc., 300 Fourth Ave., New York, N. Y.
Preis Engraving Mach. Co., 651 U.S. Hway 22, Hillside, N. J.
Studebaker Hydraulic Products Co., 1733 N. 33 Ave., Melrose Park, Ill.

MACHINES, PHOTOCOPY & WHITEPRINT
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Bruning Co., Inc., 1800 W. Central Rd., Mt. Prospect, Ill.
Dietzgen Eugene Co., 2425 N. Sheffield Ave., Chicago, Ill.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Ozalid, Div. General Aniline & Film Corp., Johnson City, N. Y.
Paragon–Revolute Corp., 71 South Ave., Rochester, N. Y.
Peck & Harvey Mfg. Corp., 5650 N. Western Ave., Chicago, Ill.
Peerless Photo Products, Inc., Shoreham, N. Y.
Weil J. H. & Co., 1332 Cherry St., Philadelphia, Pa.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.

MACHINES, PLATING – ALSO SEE ELECTRO PLATING EQUIPMENT. ..Pgs. 962, 964
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hull Corp., Dansville Rd., Hatboro, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.–Pg. 962
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Ramyr Mfg., Co., 1781 N. Main St., Los Angeles, Calif. – Pg. 964
Rapid Electroplating Process, 1414 S. Wabash Ave., Chicago, Ill.
Stokes, F. J. Corp., 5500 Tabor Rd., Phila., Pa.

MACHINES, RECORD MANUFACTURING
Components Corp., 106 Main St., Denville, N.J.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N. J.

MACHINES, RIVETING ..... Pg. 962
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Chicago Rivet & Mach. Co., Bellwood, Ill.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Eyelet Tool Co., Inc., 236 A Broadway, Cambridge, Mass.
Gardner–Denver Co., Front St., Quincy, Ill.
High Speed Hammer Co., Inc., The, 313 Norton St., Rochester, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg. 962
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Mechaneers, Inc., Westport, Conn.
Milford Rivet & Machine Co., The, Milford, Conn.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Segal, Edward, 72 Spring Street, New York, N. Y.
Tubular Rivet & Stud Co., Weston Ave., Wollaston, Mass.
United Shoe Machinery Corp., 140 Federal St., Boston, Mass.

MACHINES, SHOCK TESTING
Calidyne Co., The, 120 Cross St., Winchester, Mass.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Consolidated Electrodynamics Corp., 1775 Mt. Read Blvd., Rochester, N. Y.
Impact–O–Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
International Radiant Corp., 111 New York Ave., Westbury, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Tatnall Measuring Systems Co., P. O. Box 245, Phoenixville, Pa.

MACHINES, SOLDERING ..... Pg. 962
Cole Radio Works, 86 Westville Ave., Caldwell, N. J.
Design Tool Corp., 80 Washington St., New York, N. Y.
EBY Sales Co., 130 Lafayette St., New York, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Equip–A–Matic Engrg. Corp., 6045 W. Ogden Ave., Chicago, Ill.
Induction Heating Corp., 181 Wythe Ave., Brooklyn, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg. 962
Luma Electric Equip. Co., P. O. Box 132, Toledo, Ohio
Mechaneers Inc., Westport, Conn.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Segal, Edward, 72 Spring Street, New York, N. Y.
Selas Corp. of America, Dresher, Pa.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Wye Industries, 6 General Devine Way, Boston, Mass.

MACHINES, TAPE–WINDING, TOROIDAL
Universal Mfg. Co., Inc., 1168 Grove St., Irvington, N. J.

MACHINES, TRANSISTOR MANUFACTURING ..... Pg. 962
Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg. 962
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N. J.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

MACHINES, TUBE MANUFACTURING ..... Pg. 962
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg. 962
Pioneer Machine Works, 6136 Adam St., W. New York, N. J.
Resistron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N. J.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

MACHINES, VIBRATION FATIGUE TESTING
Baldwin-Lima-Hamilton Corp., Elctrns. & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Calidyne Co., The, 120 Cross St., Winchester, Mass.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
L. A. B. Corp., Onondaga St., Skaneateles, N. Y.
MB Manufacturing Co., Div. Textron, Inc., 781 Whalley Ave., New Haven, Conn.
Miller, L. C., Electrodynamics Div., 5005 E. Slauson Ave., Los Angeles, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Tatnall Measuring Systems Co., P. O. Box 245, Phoenixville, Pa.

MACHINES, WEIGHING
Automation Management, Inc., Adams St., Westboro, Mass.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
Revere Corp. of America, Wallingford, Conn.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

MACHINES, WIRE CUTTING, STRIPPING ..... Pg. 962
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N. J.
High Speed Hammer Co., Inc., The, 313 Norton St., Rochester, N. Y.
Jennings Machine Corp., 3452 Ludlow St., Philadelphia, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J. – Pg. 962
Macdonald & Co., 1324 Ethel St., Glendale, Calif.
Olympic Instrument Labs., Vashon, Wash.
Technical Devices Co., 2340 Centinela Ave., Los Angeles, Calif.
Thomas Instrument Co., Route 1, Phoenix, N. Y.

MAGNESIUM – SEE METALS

MAGNETIZERS & DEMAGNETIZERS ..... Pg. 743
Advance Electronics Co., 8510 N. End Ave., Oak Park, Mich.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
American Time Prod. Co., 580 Fifth Avenue, New York 36, N. Y.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Annis R. B. Co., 1101 N. Delaware St., Indianapolis, Ind.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Audio Accessories, 279 Broadway, Amityville, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Coil Winders, Inc., New York Ave., Westbury, L.I., N. Y.
Crest Transformer Corp., 1834 –36 W. North Ave., Chicago, Ill.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dyna–Empire, Inc., 1075 Stewart Ave., Garden City, N. Y.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Brasing Co., 140 Glenridge Ave., Montclair, N. J.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
Indiana Steel Products Co., Valparaiso, Ind.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Laboratory Equipment Corp., Lakeview & Hilltop Rd., St. Joseph, Mich.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., – Box 550, Burbank, Calif.
Luma Electric Equip. Co., P. O. Box 132, Toledo, Ohio
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Permag Corp., 214 Taaffe Place, Brooklyn, N. Y.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J. – Pg. 743
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Richardson, Kenneth Labs., 254 Vincent Ave., Lynbrook, N. Y.
Robins Industries Corp., 36–27 Prince St., Flushing, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.

MAGNETOSTRICTION DEVICES ..... Pg. 1174
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L.I., N. Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Blackstone Corp., Ultrasonics, 1111 Allen St., Jamestown, N. Y.
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J. – Pg. 1174
Coil Winders, Inc., New York Ave., Westbury, L.I., N. Y.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Deltime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.
Dyna Magnetic Devices, Inc., 110 Duffy Ave., Hicksville, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Gulton Industries, Inc., Vibro Ceramic s Div., 212 Durham Ave., Metuchen, N. J.
Inertia Switch, 527 Lexington Ave., New York, 1, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Murdoch Labs., Div. Blackstone Corp., 921 Pt. Wash. Blvd., Pt. Washington, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

MAGNETS, ELECTRO MAGNETIC
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Electronics Co., 81 Lowry Ave., N.E., Minneapolis, Minn.
Applied Radiation Corp., P.O. Box 725, Walnut Creek, Calif.
Atomic Labs Inc., 3086 Claremont Ave., Berkeley, Calif.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Coil Winders, Inc., New York Avel, Westbury, L.I., N.Y.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh 30, Pa.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N.J.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif.
Electro–Nechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N.Y.
Electro Nechanical Products, 32700 Ford Rd., Garden City, Mich.
Hammond Mfg., Co., Ltd., Guelph, Can.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Houlihan Co., T.J., 2510 W. Lawrence, Chicago 25, Ill.
Hydro–Aire, Inc., Aviation Electrns Div., 3000 Winona Ave., Burbank, Calif.
Inertia Switch, 527 Lexington Ave., New York, N.Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N.J.
North Electric Co., 553 S. Market St., Galion, Ohio
Pickering & Co. Inc., Sunnyside Blvd., Plainview, N.Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Process & Instruments, 15 Stone Ave., Brooklyn, N.Y.
Richardson, Kenneth Labs., 254 Vincent Ave., Lynbrook, N.Y.
Scientific Engineering Laboratory, 1510–6th St., Berkeley 10, Calif.
Schrack Electrical Sales, 45 W. 81st St., New York, N. Y.
Shrader Co., 11623 S. Broadway, Los Angeles, Calif.
Stearns Magnetic Products, 635 S. 28th St., Milwaukee, Wisc.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Varian Associates, Palo Alto, Calif.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

MAGNETS, FOCUSING ..... Pg. 1026
Applied Radiation Corp., P.O. Box 725, Walnut Creek, Calif.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
General Electric, Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
General Magnetic Corp., 10001 Erwin Ave., Detroit, Mich.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calit.
Quam–Nichols Co., Marquette Rd. at Prairie Ave., Chicago, Ill.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.

MAGNETS, PERMANENT ..... Pgs. 599, 606, 1026
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N.J.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Arnold Engineering Co., The, P.O.Box G, Marengo, Ill. – Pg. 599
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88 Mellon Sq., Pittsburgh 30, Pa.
General Ceramics Corp., Keasbey, N.J.
General Electric, Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
General Hardware Co., 80 White St., New York, N.Y.
General Magnetic Corp., 4937 W. Fullerton Ave., Chicago, Ill. – Pg. 606
Gibson Electric Co., Box 555, Delmont, Pa.
Indiana Steel Products Co., Valparaiso, Ind.
Laboratory Equipment Corp., Lakeview & Hilltop Rd., St.Joseph, Mich.
Miller Industries, 1525 Marion, Grand Haven, Mich.
National Moldite Co., 250 South St., Newark, N.J.
Shrader Co., 11623 S. Broadway, Los Angeles, Calif.
Stackpole Carbon Co., St.Marys, Penn.
Steward, D.M. Mfg., Co., East 36th St., Chattanooga 1, Tenn.
Thomas & Skinner, Inc., 1100 E. 23rd St., Indianapolis, Ind.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

MANUALS – SEE SERVICES, PUBLICATIONS

MANGANESE – SEE METALS

MANIPULATORS, NUCLEAR
Actioncraft Products, 2 Yennicock Ave., Port Washington, N.Y.
Allied Nucleonics Corp., Plastics Div., 2421 Blanding Ave., Alameda, Calif.
American Machine & Foundry, Defense Prod. GRP., 1701 K St., N.W., Wash., D.C.
Atomic Acessories, Inc., 244–02 Jamaica Ave., Bellerose 26, N.Y.
Central Research Labs., Red Wing, Minn.
Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N.Y.
Duramark, Inc., 2 Secatoag Ave. – P.O. Box 231, Port Washington, N.Y.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.

MARKERS, WIRE, CODE & TAB ..... Pgs. 602, 1188
Actioncraft Products, 2 Yennicock Ave., Port Washington, N.Y.
American Emblem Co. Inc., P.O. Box 116, Utica, N.Y.
Brady, W.H. Co., 710 W. Glendale Ave., Milwaukee, Wisc. – Pg. 1188
Devon Tape Corp., 110 Hartford Ave., Mt.Vernon, N.Y.
Duramark, Inc., 2 Secatoag Ave. – P.O. Box 231, Port Washington, N.Y.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif. – Pg. 602
Electrovert, Inc., 124 E. 40th St., New York, N.Y.
Emeloid Co. Inc., The, 1239 Central Ave., Hillside, N.J.
Finn–Jaske Co., 717 Sycamore St., Cincinnati, Ohio
General Plastics Corp., 165 3rd Ave., Paterson, N.J.
Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N.Y.
Matthews & Co., James H., 3832 Forbes Ave., Pittsburgh, Pa.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Natvar Corp., 211 Randolph Ave., Woodbridge, N.J.
North Shore Nameplate Inc., 214–27 Northern Blvd., Bayside, N.Y.
Pee Cee Tape & Label Co., 521 N. La Brea Ave., Los Angeles, Calif.
Plymouth Rubber Co. Inc., Canton, Mass.
Teletronic Lab. Inc., 1835 W. Rosecrans Ave., P.O. Box 1314, Gardena, Calif.
Topflight Corp., 160 W. 9th Ave., York, Pa.
Walsco Electronics Mfg., Div Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westline Products Products Div., Western Lithograph, Rose & E. 2nd, Los Angeles, Calif.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

MARKERS, FREQUENCY, MICROWAVE
Electronic Application, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N.Y.
Systems Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.

MARKERS, LUMINOUS
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Mechanical Engraving Co. Inc., 10 Van Cortlandt Ave., E., New York 68, N.Y.
Stroblite Co., 75 W 45th St., New York, N.Y.
U.S. Radium Corp., Morristown, N.J.

MASERS – SEE AMPLIFIERS, MASER

MASKS, APERTURE
Buckbee Mears Co., 4th & Rosabel Sts., St.Paul, Minn.
Pee Cee Tape & Label Co., 521 N. La Brea Ave., Los Angeles, Calif.

MASKS, TELEVISION
Birnbach Radio Co. Inc., 145 Hudson St., New York, N.Y.
Columbia Products Co., Route 3, Columbia, S.C.
Cortland Industries Inc., 4545 W. Cortland St., Chicago, Ill.
Cromane Inc., 6279 Howard St., Chicago 48, Ill.
Dale Products Inc., 1370 28th Ave., Columbus, Nebr.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Waldom Electronics Inc., 4625 W. 53rd St., Chicago, Ill.

MASTS, ANTENNA – SEE ANTENNA TOWERS AND SUPPORTS

MATERIALS HANDLING EQUIPMENT ..... Pg. 967
AA Metal Products Inc., 154 Elliott St. – Box 716, Brattleboro, Vt.
Automation Instruments, Inc., 401 East Green St., Pasadena, Calif.
Automation Management Inc., Adams St., Westboro, Mass.
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Consolidated Diesel, Electric Corp., Ludlow & Canal St., Stamford, Conn.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Del.
Crown Controls Co., Inc., 40–44 S. Washington St., New Bremen, Ohio
Daniels, C.R., Inc., Daniels, Md.
General Metals, Inc., 858 Goldsboro St., Greensboro, N.C.
Gerrardi, A.J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Industrial Components, Inc., 9651 S.W. Canyon Rd., Portland, Ore.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Jeffery Mfg. Co., 803 N. 4 St., Columbus, Ohio
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Merchaneers Inc., Westport, Conn.
Mid–West Metal Prod. Inc., 450 E. Donovan Rd., Kansas City, Kan.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
O'Neil–Irwin Mfg., Co., 316 8th Ave., Lake City, Minn.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N.J.
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Stackbin Corp., 1255 Main St., Pawtucket, R.I.
Wilder Mfg. Co., Inc., Mechanic St. & Erie R.R., Port Jervis, N.Y. – Pg. 967
Wind Turbine Co., East Market St., W. Chester, Pa.

MATERIALS, ACOUSTIC
Armstrong Cork Co., Lancaster, Pa.
Automation Instruments, Inc., 401 East Green St., Pasadena, Calif.
Johns–Manville, 22 E. 40th St., New York, N.Y.

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Kortund Co., Inc., 48–15 32nd Pl., Long Island City, N.Y.
Mundt, Charles & Sons., 53 Fairmount Ave., Jersey City, N.J.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Thompson, H.I. Fiber Glass Co., 1733 Cordova St., Los. Angeles, Calif.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Waber Mfg. Co., 105 Heatherwood Rd., Havertown, Pa.

MATRICES, COMPUTER
Becks, Inc., 298–300 E. 5th St., St. Paul, Minn.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Ceramics Corp., Keasbey, N.J.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
North Electric Co. 553 S. Market St., Galion, Ohio
Telemeter Magnetics, Inc. 2245 Pontius Ave., Los Angeles, Calif.

MEDICAL ELECTRONIC EQUIP. – SEE CARDIOSCOPES, DIATHERMY, ETC.

MEGAPHONES, ELECTRONIC
Argonne Electronics Mfg. Corp., 165-11 South Rd. Jamaica, N. Y.
Audio Equipment Co., Inc. 75 Harbor Rd., Port Washington, N. Y.
Bell Products Co., 4251 Forest Park Ave., St. Louis, Mo.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Falcon Alarm Co., Inc., 243 Broad St., Summit, N. J.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J.
Pye Corp. of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N. J.

MEMORY SYSTEMS, EQUIPMENT & ACCESSORIES ..... Pgs. 538, 779, 1106
Aeronica Mfg. Corp., Indus Res Labs. Div., Hilltop & Frederick, Baltimore, Md.
Aeronutronic Systems, Inc., 1234 Airway, Glendale, Calif.
Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
Assembly Products, Inc., 75 Wilson Mills Road, Chesterland, Ohio
Automation Inc., 212 Worcester St., Wellesley Hills, Mass.
Becks, Inc., 298-300 E. 5th St., St. Paul, Minn.
Bryant Computer Products, Box 620, Springfield, Vt.
Burroughs Corp., Electrodata Div., 460 Sierra Madre Villa, Pasadena, Calif. – Pg. 538
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Computer Control Co., Inc., 92 Broad St., Wellesley, Mass.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Data Systems, Norden Div. United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Daystrom Systems, Div. Daystrom, Inc., La Jolla, Calif.
Deltime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Federal Scientific Corp., 615 W. 131 St., New York, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Ceramics Corp., Keasbey, N. Y. – Pg. 779
General Electric Co. Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Magnetics Research Co., 255 Grove St., White Plains, N.Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Ave., Philadelphia, Pa.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rese Engineering, Inc., 731 Arch St., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Dov., 11711 Woodruff Ave., Downey, Calif.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. –Pg. 1106
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telemeter Magnetics, Inc., 2245 Pontius Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

MERCURY – SEE METALS

METAL PARTS, MACHINED ..... Pgs. 467, 579
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Laubscher Corp., 250 W. 57th Street, New York, N. Y.
Anetsberger Bros., Inc., Northbrook, Ill.
Avionics Corp. of America, Maple Ave. & Horsham Rd. , Horsham, Pa.
Baltic Metal Products Co., Dept. E 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Barlum & Chemicals, Inc., Willoughby, Ohio
Barwood, L.J., Mfg. Co., Inc., 22 Williams St., Everett, Mass.
Belmnt Smelting & Refinig Work., 330 Belmont Ave., Brooklyn 7, N. Y.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Beryllium Corporation, The, P. O. Box 1462, Reading, Pa.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co, 820-65th Ave., Philadelphia, Pa.
Buckbee Mears Co., 4th & Rosabel Sts., St. Paul, Minn.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Christianson, C.B., Co., 164 Pennington St., Newark, N. J.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Diehl Co., 1728 Grand Central Terminal, New York, N. Y.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N.J.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Erca Tool-Die & Stamping Co., 19 Ash Street, Brooklyn 22, N. Y.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Golden Co., 1054 38 St., Brooklyn, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Heli-Coil Corp., Shelter Rock Lane, Danbury, Conn.
Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
Hitchiner Mfg. Co., Inc., P. O. Box 339, Milford, N. H.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N.Y.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N.Y.
International Powder Metallurgy Co., 439 W. Main St., Ridgway, Pa.
Kane Mfg. Co., Kane, Pa.
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
King Laboratories, Inc., 127 Solar St., Syracuse, N. Y.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N. J.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Laminations, Co., 300 Main St., Stamford, Conn.
La Vezzi Machine Works, 4635 W. Lake St., Chicago, Ill.
Master Mechanics Mfg. Co. Inc., 541 Sixth Ave., New York, N. Y.
Mechanical Steel Tubing Corp., 500 Barry St., New York, N. Y.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Milwaukee Stamping Co., 800 S. 72 St., Milwaukee, Wisc.
Mirro Aluminum Co., Manitowoc, Wisc.
Misco Precision Casting Co., 116 W. Gibbs St., Whitehall, Mich.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Mundt, Charles & Sons, 53 Fairmount Ave., Jersey City, N. J.
National Lead Co., 111 Broadway, New York, N. Y.
National-Standard Co., Niles, Mich.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Precision Tube Co., Inc., N. Wales, Pa.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Red Devil Mfg. Co., 1402 N. Ogden Ave., Chicago, Ill.
Research Dev. Mfgr. Inc., 429 E. Collom St., Philadelphia, Pa.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Sinclair Mfg. Co., Chartley, Mass.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Stanley-Judd Div., Stanley Works, Wallingford, Conn.
Stanley Works, The, New Britain, Conn.
Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Sunbank Electronics, Inc., 515 S. Varney, Burbank, Calif. – Pg. 579
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Development Co., 305 S. Chester Pk., Glenolden, Pa.
Technical Research & Development Labs., Box 544, Cincinnati, Ohio
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Thompson, H.I., Fiber Glass Co., 1733 Cordova St., Los Angeles, Calif.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
Torngreen, C. W. Co., Inc.,236 Pearl St., Somerville, Mass.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Universal Mfg. Co., Inc., 1168 Grove St., Irvington, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS, ALNICO ..... Pgs. 598, 599
Arnold Engineering Co., The, P. O. Box G, Marengo, Ill. – Pgs. 598, 599
Austenal, Inc., Microcast Div., 224 E. 39th St., New York, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Crucible Steel Co. of Amer., Oliver Bldg., – Box 88, Mellon Sq., Pittsburgh 30, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
General Magnetic Corp., 10001 Erwin Ave., Detroit, Mich.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Thomas & Skinner, Inc., 1100 E. 23rd St., Indianapolis, Ind.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

METALS, ALUMINUM ..... Pgs. 505, 1108
Accurate Specialties Co., Inc., 37-13 57th Street, Woodside, N. Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brasing Alloys Co., P.O. Box 11, Pelham, N.Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N.Y.–Pg. 1108
Baker J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bingham, J.F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Bunnell & Co., 81 Prospect St., Brooklyn, N.Y.
Channel Master Corp., Ellenville, N.Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Dalweld Co. Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Feiner, P. & Sons, 522 W. 45 St., New York, N.Y.
Gerrardi, A.J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Granite State Machine Co., 124 Joliette St., Manchester, N.H.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Harvey & Co., 41-18 38th St., L.I. City, N.Y.
Hitchiner Mfg. Co., Inc., P.O. Box 339, Milford, N.H.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Mackay, A.D., Inc., 198 Broadway, New York 38, N.Y.
Metpro, Inc., 230 Toronto Ave., Providence, R.I.
Micro Gear, Box 6, Prophetstown, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
National Lead Co., 111 Broadway, New York, N.Y.
Nicholas Prods Co., 325 W. Main St., Moorestown, N.J.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N.Y.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.

METALS, ALUMINUM (continued)
Precision Tube Co., Inc., N. Wales, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N.Y.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
South River Metal Products Co., 377-379 Turnpike, South River, N.J.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N.Y.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N.Y.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS, ANTIMONY
Accurate Specialties Co. Inc., 37-13 57th St., Woodside, N.Y.
Alpha Metals, Inc., 56 Waters St., Jersey City, N.J.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N.Y.
Baker J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N.Y.
Cominco Metal Sales Div., 215 St. James St. W., Montreal, Canada
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
MacKay, A.D., Inc., 198 Broadway, New York 38, N.Y.
National Lead Co., 111 Broadway, New York, N.Y.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.

METALS, ARSENIC ..... **Pg. 505**
Accurate Specialties Co., Inc., 37-13 57th St., Woodside, N.Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N.Y.–Pg. 505
Anchor Metal Co. Inc., 966A Meeker Ave., Brooklyn, N.Y.
Baker J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Drakenfeld, B.F. & Co., Box 519, Washington, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A.D., Inc., 198 Broadway, New York 38, N.Y.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.

METALS, BARIUM ..... **Pg. 505**
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N.Y.–Pg. 505
Baker J.T. Chemical Co., Phillipsburg, N.J.
Bar-Ray Products, Inc., 209 25th St., Brooklyn, N.Y.
Barium & Chemicals, Inc., Willoughby, Ohio
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Buckbee Mears Co., 4th & Rosabel Sts., St. Paul, Minn.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
King Laboratories, Inc., 127 Solar St., Syracuse, N.Y.
Mackay, A.D., Inc., 198 Broadway, New York 38, N.Y.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS, BERYLLIUM
American Silver Co., 36–07 Prince St., Flushing, N.Y.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn, 7, N.Y.
Beryllium Corporation, The, P.O. Box 1462, Reading, Pa.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N.Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Granite State Machine Co., 124 Joliette St., Manchester, N.H.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Hitchiner Mfg. Co., Inc., P.O. Box 339, Milford, N.H.
Instrument Specialties Co. Inc., 254 Bergen Blvd., Little Falls, N.J.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A.D., Inc., 198 Broadway, New York 38, N.Y.
Mallory P.R. & Co. Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Materials for Elctrns, Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N.Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Metpro, Inc., 230 Toronto Ave., Providence, R.I.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Seymour Mfg. Co., The, Seymour, Conn.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N.Y.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N.Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS, BISMUTH
Accurate Specialties Co. Inc., 37-13 57th St., Woodside, N.Y.
Alpha Metals, Inc., 56 Waters St., Jersey City, N.J.
American Metal Climax, Inc., 61 Broadway, New York, N.Y.
Anchor Metal Co. Inc., 966A Meeker Ave., Brooklyn, N.Y.
Baker J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N.Y.
Cominco Metal Sales Div., 215 St. James St. W., Montreal, Canada
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Lichtenstein Harmon & Co., 26 Broadway, New York, N.Y.
Mackay, A.D., Inc., 198 Broadway, New York 38, N.Y.
National Lead Co., 111 Broadway, New York, N.Y.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS, BORON
Accurate Specialties Co. Inc., 37-13 57th St., Woodside, N.Y.
Alpha Metals, Inc., 56 Waters St., Jersey City, N.J.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N.Y.
Baker J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical Chemical Co., 820-65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Granite State Machine Co., 124 Joliette St., Manchester, N.H.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Mackay, A.D. Inc., 198 Broadway, New York 38, N.Y.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N.Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS, BRASS
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N.Y.
American Brasing Alloys Co., P.O. Box 11, Pelham, N.Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Appollo Metal Works, 6651 S. Oak Ave., Chicago, Ill.
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bingham, J.F. Mfg. Co. Inc., 69 Bay State Rd., Lawrence, Mass.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Bunnell & Co., 81 Prospect St., Brooklyn, N.Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Dalweld Co. Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Electronic Parts Mfg. Co., Inc., 508-10 25th St., Union City, N.J.
Gerrardi, A.J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Gibson Electric Co., Box 555, Delmont, Pa.
Granite State Machine Co., 124 Joliette St., Manchester, N.H.
Hitchiner Mfg. Co., Inc., P.O. Box 339, Milford, N.H.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A.D. Inc., 198 Broadway, New York 38, N.Y.
Mallory P.R. & Co. Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind
Metpro, Inc., 230 Toronto Ave., Providence, R.I.
Micro Gear, Box 6, Prophetstown, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Precision Tube Co. Inc., N. Wales, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N.Y.
Riverside-Alloy Metal Div., H.K. Porter Co. Inc., Riverside, N.J.
Seymour Mfg. Co., The, Seymour, Conn.
Somers Brass Co. Inc., 112 Baldwin Ave., Waterbury, Conn.
Stanley-Judd Div., Stanley Works, Wallingford, Conn.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N.Y.
Titan Metal Mfg. Co., Bellefonte, Pa.

METALS, BRONZE
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Brasing Alloys Co., P.O. Box 11, Pelham, N.Y.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Appollo Metal Works, 6651 S. Oak Ave., Chicago, Ill.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Bunnell & Co., 81 Prospect St., Brooklyn, N.Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Dalweld Co. Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Electronic Parts Mfg. Co. Inc., 508-10 25th St., Union City, N.J.
Feiner, P. & Sons, 522 W. 45 St., New York, N.Y.
Gibson Electric Co., Box 555, Delmont, Pa.
Hitchiner Mfg. Co. Inc., P.O. Box 339, Milford, N.H.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A.D. Inc., 198 Broadway, New York 38, N.Y.
Micro Geor, Box 6, Prophetstown, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Nicholas Prods Co., 325 W. Main St., Moorestown, N.J.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Precision Tube Co. Inc., N. Wales, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N.Y.
Riverside-Alloy Metal Div., H.K. Porter Co. Inc., Riverside, N.J.
Seymour Mfg. Co., The, Seymour, Conn.
Somers Brass Co. Inc., 112 Baldwin Ave., Waterbury, Conn.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N.Y.
Titan Metal Mfg. Co., Bellefonte, Pa.

METALS, CADMIUM ..... **Pgs. 505, 600, 1108**
A-1 Precision Products Co., 5454 W. Washington Blvd., Los Angeles, Calif.–Pg. 600
Accurate Specialties Co. Inc., 37-13 57th St., Woodside, N.Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N.Y.–Pg. 505
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Metal Climax, Inc., 61 Broadway, New York, N.Y.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Anchor Metal Co. Inc., 966A Meeker Ave., Brooklyn, N.Y.–Pg. 1108

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Baker, J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N.Y.
Cominco Metal Sales Div., 215 St. James St. W., Montreal, Canada
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Drakenfeld, B.F. & Co., Box 519, Washington, Pa.
Eagle-Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Gibson Electric Co., Box 555, Delmont, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Lichtenstein Harmon & Co., 26 Broadway, New York, N.Y.
Mackay, A.D. Inc., 198 Broadway, New York 38, N.Y.
Octagon Process, Inc., 64 Bank St., Staten Island, N.Y.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS. CALCIUM ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N.Y.–Pg. 505
Baker, J.T. Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
MacKay, A.D., Inc., 198 Broadway, New York 38, N.Y.
Metal Hydridges, Inc., Beverly, Mass.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Union Carbide Metals, Div. Union Carbide Corp., 30 E 42nd St., New York, N.Y.

METALS. CERIUM

Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Isotopes Specialties Co., Box 688, Burbank, Calif.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D. Inc., 198 Broadway, New York 38, N. Y.
New Process Metals, Inc., 45-65 Manufacturers Place, Newark 5, N. J.
Research Chemicals, Inc., 2812 N. San Fernando Blvd., Burbank, Calif.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. CESIUM

Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Hawshaw Chemical Co., 1945 E. 97th St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D. Inc., 198 Broadway, New York, N. Y.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chemical Corp., 16 Hudson St., New York, N.Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. CHROMIUM

Austenal, Inc., Microcast Div., 224 E. 39th St., New York, N. Y.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmnt Smelting & Refinig Work, 330 Belmont Ave., Brooklyn 7, N. Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh 30, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D. Inc., 198 Broadway, New York 38, N. Y.
Metal Hydrides, Inc., Beverly, Mass.
Metal & Thermit Corp., Rahway, N. J.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N.Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. COBALT ..... Pg. 598

Arnold Engineering Co., P. O. Box G, Marengo, Ill. – Pg. 598
Austenal, Inc., Microcast Div., 224 E. 39th St., New York
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N. J.
Mackay, A. D. Inc., 198 Broadway, New York 38, N.Y.
Metal Hydrides, Inc., Beverly, Mass.
National Lead Co., 111 Broadway, New York, N. Y.
Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. COLUMBIUM

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Silver Co., 36-07 Prince St., Flushing, N. Y.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn, 7, N.Y.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No., Chicago, Ill.
Jarrel-Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D. Inc., 198 Braodway, New York 38, N.Y.
Metals & Controls Corp., General Plate Div., 31 Forest St., Attleboro, Mass.
Paul F. H.& Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var-Lac-Oid Chemical Co., 116 Broad St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.

METALS. COPPER ..... Pgs. 505, 1108

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Metal Climax, Inc., 61 Broadway, New York, N.Y.
American Silver Co., 36-07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y. – Pg. 1108
Appollo Metal Works, 6651 S. Oak Ave., Chicago, Ill.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Feiner, P. & Sons, 522 W. 45th St., New York, N. Y.
Gerrardi, A. J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Gibson Electric Co., Box 555, Delmont, Pa.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland, Ohio
International Wire & Cable Co., 1665 N. Milwaukee, Chicago, Ill.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Micro Gear, Box 6, Prophetstown, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Precision Tube Co., Inc., N. Wales, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.
Seymour Mfg. Co., The, Seymour, Conn.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.

METALS. FERRITES ..... Pg. 505

Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N.Y. – Pg. 505
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, 30, Pa.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Ferrotec, Inc., 217 California St., Newton, Mass.
Ferroxcube Corp. of America, 125 E. Bridge St., Saugerties, N. Y.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N.Y.
General Magnetic Corp., 10001 Erwin Ave., Detroit, Mich.
Kearfott Company, Inc., Little Falls, N.J.
Krystinel Corp., Fox Island Rd., Port Chester, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
St. Eloi Corp. , Box 507, Newtown Br., Cincinnati, Ohio
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, 1, Tenn.

METALS. FOIL, ALL TYPES ..... Pg. 598

Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36–07 Prince St., Flushing, N.Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Armco Steel Corp., 703 Curtis St., Middletown, Ohio
Arnold Engineering Co., The, P.O. Box G, Marengo, Ill. – Pg. 598
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bishop J. & Co., Platinum Works, Malvern, Pa.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820 – 65th Ave., Philadelphia, Pa.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R.I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Driver, Wilbur B., Co., 1875 McCarter Hwy., Newark, N.J.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Metallized Products Co., 29 Knight St., Norwalk, Conn.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Paul, F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Republic Foil & Metal Mills, Inc., 55 Triangle St., Danbury, Conn.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
Standard Packaging Corp., Johnston Foil Div., 6106 So. Broadway, St. Louis, Mo.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. GERMANIUM ..... Pg. 505

Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allied Chemical Corp., General Chemical Div, 40 Rector St., New York, N.Y. – Pg. 505
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Eagle–Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Lichtenstein Harmon & Co., 26 Broadway, New York, N. Y.

METALS. GERMANIUM (continued)
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Semimetals, Inc., 133–20 91st Ave., Jamaica, N. Y.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
United Mineral & Chem Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. GOLD ..... **Pg. 1108**
Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
American Metal Climax, Inc., 61 Broadway, New York, N.Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N.Y. – Pg. 1108
Attleboro Refining Co., Inc., 150 Union St., Attleboro, Mass.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cooper & Sons, Inc., 180 Varick St., New York, N.Y.
Davis–K Products Co., 135 W. 29th St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Handy & Harman, 82 Fulton St., New York, N. Y.
Improved Seamless Wire Co., 775 Eddy St., Providence, R. I.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. HIGH PERMEABILITY ALLOYS ..... **Pgs. 598, 1108**
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y. – Pg. 1108
Armco Steel Corp., 703 Curtis St., Middletown, Ohio
Arnold Engineering Co., The, P.O. Box G, Marengo, Ill. – Pg. 598
Austenal, Inc., Microcast Div., 224 E. 39th St., New York, N. Y.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
Handy & Harman, 82 Fulton St., New York, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.

METALS, HIGH PURITY
Cominco Metal Sales Div., 215 St. James St., W. Montreal, Canada

METALS. INDIUM ..... **Pgs. 505, 1108**
Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y. – Pg. 1108
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Cominco Metal Sales Div., 215 St. James St., W., Montreal, Canada
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.

METALS. IRON ..... **Pg. 598**
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Arnold Engineering Co., P. O. Box G, Marengo, Ill. – Pg. 598
Baker, J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Gibson Electric Co., Box 555, Delmont, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mapico Iron Oxide Div., Columbian Carbon Co., 380 Madison Ave., New York, N. Y.
Micro Gear, Box 6, Prophetstown, Ill.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Williams, C. K. & Co., 640 N. 13th Street, Easton, Pa.

METALS. KOVAR
Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N.Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver–Harris Co., 201 Middlesex St., Harrison, N. J.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.

METALS. LAMINATED
Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Alpha Metals, Inc., 56 Waters St., Jersey City, N.J.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Improved Seamless Wire Co., 775 Eddy St., Providence, R. I.
Keller Products, Inc., 41 Union St., Manchester, N. H.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.

METALS. LEAD ..... **Pgs. 505, 1108**
Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y. – Pg. 1108
Baker, J. T. Chemical Co., Phillipsburg, N. J.
Bar–Ray Products, Inc., 209 25th St., Brooklyn, N. Y.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Cominco Metal Sales Div., 215 St. James St., W., Montreal, Canada
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Lichtenstein Harmon & Co., 26 Broadway, New York, N.Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
National Lead Co., 111 Broadway, New York, N. Y.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

METALS. LITHIUM
Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Baker, J. T. Chemical Co., Phillipsburgh, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. MAGNESIUM ..... **Pg. 505**
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brasing Alloys Co., P.O. Box 11, Pelham, N.Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Baker, J. T., Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N.Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. MANGANESE ..... **Pg. 505**
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
Baker, J.T., Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.

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Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. MERCURY

Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Baker, J.T., Chemical Co., Phillipsburg, N.J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
G. M. Mfg. Co., 134 W. 26 St., New York, N. Y.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Hill, C. R. Co., 35 W. Grand River Ave., Detroit, Mich.
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. MOLYBDENUM ..... Pg. 598

Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Mica Insulation Co., Manasquan, N. J.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Arnold Engineering Co., P. O. Box G, Marengo, Ill. – Pg. 598
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Baker, J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cross, H., Co., 15 Beekman St., New York, N.Y.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Elmet Div. North American Phillips Co., Lisbon Rd., Lewiston, Me.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Gibson Electric Co., Box 555, Delmont, Pa.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory, P. R., & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

METALS. MONEL

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver–Harris Co., 201 Middlesex St., Harrison, N. J.
Driver, Wilbur B., Co., 1875 McCarter Hwy., Newark, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Gerrardi, A. J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Gibson Electric Co., Box 555, Delmont, Pa.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
International Nickel Co., Inc., The, 67 Wall St., New York, N. Y.
Jelliff Mfg. Corp., 200 Pequot Ave., Southport, Conn.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Precision Tube Co., Inc., N. Wales, Pa.
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.

METALS. NICKEL ..... Pgs. 505, 1108

Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
American Mica Insulation Co., Manasquan, N. J.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N.Y. – Pg. 1108
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Austenal, Inc., Microcast Div., 224 E. 39th St., New York, N. Y.
Baker, J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Foote Mineral Co., 452 – 18 W. Chelton Ave., Philadelphia, Pa.
Gibson Electric Co., Box 555, Delmont, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
International Nickel Co., Inc., The, 67 Wall St., New York, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Jelliff Mfg. Corp., 200 Pequot Ave., Southport, Conn.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Metal Hydrides, Inc., Beverly, Mass.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
National Lead Co., 111 Broadway, New York, N. Y.
Precision Tube Co., Inc., N. Wales, Pa.
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Seymour Mfg. Co., The, Seymour, Conn.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.

METALS. PALLADIUM

American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cooper & Sons, Inc., 180 Varick St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc. 113 Astor St., Newark, N. J.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Gibson Electric Co., Box 555, Delmont, Pa.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Handy & Harman, 82 Fulton St., New York, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N.Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
Paul, F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
St. Eloi Corp., Box 507, Newton Br., Cincinnati, Ohio
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. PHOSPHORS

American Brasing Alloys Co., P.O. Box 11, Pelham, N. Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820 – 65th Ave., Philadelphia, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Micro Electric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
U. S. Radium Corp., Morristown, New Jersey
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

METALS. PLATINUM ..... Pg. 1108

American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metals Co., Inc., 966A Meeker Ave., Brooklyn, N.Y. – Pg. 1108
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Davis–K Products Co., 135 W. 29th St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Gibson Electric Co., Box 555, Delmont, Pa.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Handy & Harman, 82 Fulton St., New York, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. POLONIUM

Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
U. S. Radium Corp., Morristown, New Jersey

METALS. RADIUM

American Mica Insulation Co., Manasquan, N. J.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
U. S. Radium Corp., Morristown, New Jersey

METALS. RARE EARTH

Isotopes Specialties Co., Box 688, Burbank, Calif.
Research Chemicals, Inc., 2812 N. San Fernando Blvd., Burbank, Calif.

METALS. RHODIUM

American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Davis–K Products Co., 135 W. 29th St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. SELENIUM ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N.Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Jonas, Dr. F., Co., 55 W. 42nd Street, New York, 36, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. SILICON

Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, 30, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kemet Co., Div. Union Carbide Corp., 11901 Madison Ave., Cleveland, Ohio
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Semimetals, Inc., 133–20 91st Ave., Jamaica, 18, N. Y.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Texas Instruments, Inc. 6000 Lemmon Ave., Dallas, Texas
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
U.S. Semi–Conductor Prod., Div. U.S. Elctrns. Div., 3536 W. Osborn, Phoenix, Ariz.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. SILICONES

Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L.I., N. Y.
General Electric Co., Silicone Products Dept., Waterford, N. Y.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.

METALS. SILVER

Accurate Specialties Co., Inc., 37–13 57th Street, Woodside, N. Y.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Attleboro Refining Co., Inc., 150 Union St., Attleboro, Mass.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Cominco Metal Sales Div., 215 St. James St., W., Montreal, Canada
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cooper & Sons, Inc., 180 Varick St., New York, N. Y.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Davis–K Products Co., 135 W. 29th St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Gibson Electric Co., Box 555, Delmont, Pa.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Handy & Harman, 82 Fulton St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland, Ohio
Improved Seamless Wire Co., 775 Eddy St., Providence, R. I.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Metals & Controls Corp., General Plate Div., 31 Forest St., Attleboro, Mass.
Metaplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
Micro Electric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Special Chemicals Corp., 100 S. Water St., Ossining, N. Y.
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

METALS. STEEL, PLATED

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Appollo Metal Works, 6651 S. Oak Ave., Chicago, Ill.
Bunnel & Co., 81 Prospect St., Brooklyn, N. Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Stanley–Judd Div., Stanley Works, Wallingford, Conn.

METALS. STEEL, STAINLESS

Allegheny Ludlum Steel Co., H.W. Oliver Bldg., Pittsburgh, Pa.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
Appollo Metal Works, 6651 S. Oak Ave., Chicago, Ill.
Armco Steel Corp., 703 Curtis St., Middletown, Ohio
Austenal, Inc., Microcast Div., 224 E. 39th St., New York, N. Y.
Bingham, J. F. Mfg. Co., Inc., 69 Bay State Rd., Lawrence, Mass.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.
Carpenter Steel Co., The, Alloy Tube Div., Springfield Road, Union, New Jersey
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, 3 , Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver–Harris Co., 201 Middlesex St., Harrison, N. J.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Firth Sterling Inc., 3113 Forbes St., Pittsburgh, Pa.
Gerrardi, A. J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Kwikset Powdered Metal, 516 E. Santa Ana, Anaheim, Calif.
Mackay, A. D., Inc., 198 Broadway, New York, 38, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O.Box 1558, Indianapolis, Ind.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Precision Tube Co., Inc., N. Wales, Pa.
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Seymour Mfg. Co., The, Seymour, Conn.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Stanley–Judd Div., Stanley Works, Wallingford, Conn.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Timken Roller Bearing Co., Canton, Ohio
U. S. Steel Corp., 525 William Penn Place, Pittsburgh, Pa.
Wallingford Steel Co., Valley St., Wallingford, Conn.
Warren Corp., 2901 Brighton Rd., Pittsburgh, Pa.

METALS. STRONTIUM ..... Pg. 505

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y.–Pg. 505
Baker J. T. Chemical Co., Phillipsburg, N. J.
Barium & Chemicals, Inc., Willoughby, Ohio
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
King Laboratories, Inc., 127 Solar St., Syracuse, N. Y.
Mackay, A. D. Inc., 198 Broadway, New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson Stl, New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. TANTALUM

Accurate Specialties Co., Inc., 37–13 57th St., Woodside, N. Y.
American Mica Insulation Co., Manasquan, N. J.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Fansteel Metallurgical Corp., 220 Sheridan Rd., No. Chicago, Ill.
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.

METALS. TELLURIUM

American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.

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Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Ohio Semiconductor Co., 1035 W. Third Ave., Columbus, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS. THORIUM
American Mica Insulation Co., Manasquan, N. J.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Jonas, Dr. F., Co., 55 W. 42nd St., New York, N. Y.
Mac Nuclear, Inc., 31 Forest St., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Metal Hydrides, Inc., Beverly, Mass.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Lead Co., 111 Broadway, New York, N. Y.
New Process Metals, Inc., 45–65 Manufacturers Place, Newark, N. J.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

METALS. TIN ..... **Pg. 505**
Accurate Specialties Co., Inc., 37–13 57th St., Woodside, N. Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y.–Pg. 505
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Cominco Metal Sales Div., 215 St. James St., W., Montreal, Can.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
National Lead Co., 111 Broadway, New York, N. Y.
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.

METALS. TITANIUM
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
American Mica Insulation Co., Manasquan, N. J.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Carpenter Steel Co., The, Alloy Tube Div., Springfield Road, Union, N. J.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Crucible Steel Co. Of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver–Harris Co., 201 Middlesex St., Harrison, N. J.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Firth Sterling Inc., 3113 Forbes St., Pittsburgh, Pa.
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Metal Hydrides, Inc., Beverly, Mass.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
National Lead Co., 111 Broadway, New York, N. Y.
Republic Steel Corporation, 1441 Republic Bldg., Cleveland, Ohio
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. TUNGSTEN
American Mica Insulation Co., Manasquan, N. J.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cross, H. Co., 15 Beekman St., New York, N. Y.
Crucible Steel Co. Of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Elmet Div., North American Phillips Co., Lisbon Rd., Lewiston, Me.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Firth Sterling Inc., 3113 Forbes St., Pittsburgh, Pa.
Gibson Electric Co., Box 555, Delmont, Pa.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Materials For Elctrns, Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N. J.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

METALS. URANIUM
Baker J. T. Chemical Co., Phillipsburg, N. J.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
MAC Nuclear, Inc., 31 Forest St., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
National Lead Co., 111 Broadway, New York, N. Y.
St. Eloi Corp., Box 507, Newton Br., Cincinnati, Ohio
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.

METALS. ZINC ..... **Pgs. 505, 1108**
Accurate Specialties Co., Inc., 37–13 57th St., Woodside, N. Y.
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.–Pg. 1108
Appollo Metal Works, 6651 S. Oak Ave., Chicago, Ill.
Baker J. T. Chemical Co., Phillipsburg, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Cominco Metal Sales Div., 215 St. James St., W., Montreal, Can.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 62nd Pl., Summit, Ill.
Eagle – Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Lichtenstein Harmon & Co., 26 Broadway, New York, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Micro Gear, Box 6, Prophetstown, Ill.
National Lead Co., 111 Broadway, New York, N. Y.
New Jersey Zinc Co., 160 Front St., New York, N. Y.
Nicholas Prods Co., 325 W. Main St., Moorestown, N. J.
Toman, E. & Co., 8700 W. 47 St., Lyons, Ill.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N.Y.

METALS. ZIRCONIUM
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn 7, N.Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Carpenter Steel Co., The, Alloy Tube Div., Springfield Road, Union, N. J.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Firth Sterling Inc., 3113 Forbes St., Pittsburgh, Pa.
Foote Mineral Co., 452–18 W. Chelten Ave., Philadelphia, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell–Ash Co., 26 Farwell St., Newtonville, Mass.
Jonas, Dr. F., Co., 55 W. 42nd St., New York, N. Y.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Metal Hydrides, Inc., Beverly, Mass.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
National Lead Co., 111 Broadway, New York, N. Y.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Somers Brass Co., Inc., 112 Baldwin Ave., Waterbury, Conn.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Union Carbide Metals, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Var–Lac–Oid Chemical Co., 116 Broad St., New York, N. Y.
Wah Chang Corp., 233 Broadway, New York, N. Y.

METEROROLOGICAL EQUIPMENT. ELECTRONIC – SEE ALTIMETERS. BAROMETERS, ETC.

METERS – ALSO SEE INDICATORS

METERS. ACCELERATION ..... **Pg. 1116**
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Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Cadillac Gage Co., P.O. Box 3806, Detroit, Mich.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y.–Pg. 1116
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Impact–O–Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

METERS. AIR VELOCITY ..... **Pg. 1119**
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Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Dwyer Mfg. Co., P. O. Box 373, Michigan City, Ind.
Flow Corp., 85 Mystic St., Arlington, Mass.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hill, E. V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Instrument Labs., Inc., 828 Evarts St., N. E., Washington, D. C.
Potter Aeronautical Corp., Route 22, Union, N. J.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif. –Pg. 1119
Textran Corp., Box 9207, Austin, Tex.
Trimount Instrument Co., 3119 W. Lake St., Chicago, Ill.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.

METERS. AMMETER. AC ..... **Pgs. 656, 670, 683, 693–699, 701, 740, 741, 759, 762, 764**
Assembly Products, Inc., 75 Wilson Mills Road, Chesterland, Ohio
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Bach–Simpson Ltd., 1255 Brydges St., London, Can.
Beede Electrical Instr. Co., Inc., Penacook, N.H. – Pg. 656
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Mechanical Inst. Co., Perkasie, Pa.–Pg. 670
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Epic, Inc., 154 Nassau St., New York, N. Y.

METERS. AMMETER. AC (continued)
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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.–Pg. 683
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Greibach Instruments Corp., 315 North Ave., New Rochelle, N. Y.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 693
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio–Pgs. 694–698
Hoyt Electrical Instr. Works, Burton–Rogers Co., 42 Carleton St., Cambridge, Mass.–Pg. 699
Ideal Precision Meter Co., Inc., 126 Greenpoint Ave., Brooklyn, N. Y.–Pg. 701
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Metronix Inc., Chesterland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Physics Res. Labs., Inc., 507 Hempstead Turnpike, Box 555, Hempstead, N.Y.–Pgs. 740, 741
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Shurite Meters, Box 1818, 130 Wallace St., New Haven, Conn.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sterling Mfg. Co., 7201 Wentworth, Cleveland, Ohio
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Technique Assocs. Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
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Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Voltron Products, 1010 Mission St., So. Pasadena, Calif.–Pg. 759
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.–Pg. 762
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.–Pg. 764

METERS. AMMETER. DC ..... Pgs. 656, 657, 670, 683, 693–699, 737, 741, 744, 762
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Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Auto Test Inc., 600 S. Michigan Ave., Chicago, Ill.
Bach–Simpson Ltd., 1255 Brydges St., London, Can.
Beede Electrical Instr. Co. Inc., Penacook, N. H.–Pg. 656
Belleville–Hexem Corp., 638 University Ave., Los Gatos, Calif.–Pg. 657
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Design & Mfg. Corp., P. O. Box 237, Burlington, Iowa
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Mechanical Inst. Co., Perkasie, Pa.–Pg. 670
Epic, Inc., 154 Nassau St., New York, N. Y.
Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.–Pg. 683
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Greibach Instruments Corp., 315 North Ave., New Rochelle, N. Y.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio–Pgs. 694–698
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Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
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Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
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Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Pace Electrical Instr., Div. Precision Apparatus, 70–31 84th St., Glendale, N.Y.–Pg. 737
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Physics Research Labs., Inc., 507 Hempstead Turnpike, Box 555, Hempstead, N. Y.–Pg. 741
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Precision Meter Co., 126 Greenpoint Ave., Brooklyn, N. Y.
Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
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Sanborn Co., 175 Wyman St., Waltham, Mass.
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Sterling Mfg. Co., 7201 Wentworth, Cleveland, Ohio
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technique Assocs. Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Technology Instrument Corp., 523 Main St., Acton, Mass.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
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Greibach Instruments Corp., 315 North Ave., New Rochelle, N. Y.
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N.J.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
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Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
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Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
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Meters, Inc., 5353 N. Keystone Ave., Indianapolis, Ind.
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Pace Electrical Instr., Div. Precision Apparatus, 70–31 84th St., Glendale, N. Y.–Pg. 737
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Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
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Weinshel Engineering Co., Kensington, Md.–Pg. 839
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Weston Instruments Div., Daystrom, Inc., Newark, N. J.–Pg. 762

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California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Epic, Inc., 154 Nassau St., New York, N. Y.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
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Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
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Precise Measurements Co., Millbrook Place, Rd 1, Flemington, N. J.
Radar Engineers, 4719 Brooklyn, Seattle, Wash.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.–Pg. 743
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Sierra Electron. Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.–Pgs. 748, 749
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Stratocon Corp., Box 10, Morristown, N. J.
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Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa.–Pg. 654
Boonton Electronics Corp., Morris Plains, N. J.–Pg. 661
Cornell–Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Epic, Inc., 154 Nassau St., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Heath Co., Benton Harbor, Mich.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Magnetic Instrument Co., 546 Commerce St., Thronwood, N. Y.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

METERS. CONDUCTANCE ..... Pg. 661
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Boonton Electronics Corp., Morris Plains, N. J.–Pg. 661
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Epic, Inc., 154 Nassau St., New York, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.

METERS. COUNTING RATE ..... Pg. 702
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
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I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio–Pg. 702
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Landis & Gyr, Inc., 45 W. 45th St., New York, N. Y.
Leighton, H. W. Labs., Sunset La & York Rd., Hatboro, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nuclear Corp. Of America, 2 Richwood Pl., Denville, N. J.
Potter Aeronautical Corp., Route 22, Union, N. J.
Trepac Corp. Of America, 30 W. Hamilton Ave., Englewood, N. J.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

METERS. DARSONVAL ..... Pgs. 656, 697, 699, 701, 737

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Assembly Products, Inc., 75 Wilson Mills Road, Chesterland, Ohio
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Beede Electrical Instr. Co. Inc., Penacook, N. H.–Pg. 656
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Electric Design & Mfg. Corp., P. O. Box 237, Burlington, Iowa
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Greibach Instruments Corp., 315 North Ave., New Rochelle, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio–Pg. 697
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
International Instruments, P. O. Box 2954, New Haven, Conn.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
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National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Pace Electrical Instr., Div. Precision Apparatus, 70–31 84th St., Glendale, N.Y.–Pg. 737
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Precision Meter Co., 126 Greenpoint Ave., Brooklyn, N. Y.
Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
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B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Ballantine Laboratories, Boonton, N. J.
Beede Electrical Instr. Co. Inc., Penacook, N. H.–Pg. 656
Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Electro Mechanical Instrument Co., Perkasie, Pa. – Pg. 670
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hoyt Electrical Instr. Works, Burton–Rogers Co., 42 Carleton St., Cambridge, Mass.–Pg. 699
Ideal Precision Meter Co., Inc., 126 Greenpoint Ave., Brooklyn, N. Y.–Pg. 701
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Pace Electrical Instr., Div. Precision Apparatus, 70–31 84th St., Glendale, N. Y.–Pg. 737
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Precision Meter Co., 126 Greenpoint Ave., Brooklyn, N. Y.
Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
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Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computer–Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif.
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Devol Research Co., Brookside Dr., Greenwich, Conn.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.–Pgs. 666, 667
Electrol, Inc., 9000 W. Pico Blvd., Los Angeles, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Franklin Electronics, Inc., Bridgeport, Pa.–Pg. 674
Haydon Co., 247 N. Elm St., Waterbury, Conn.–Pg. 992
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 693, 812
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
Hymac Corp., 4625 Leahy St., Culver City, Calif.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160 St., Cleveland, Ohio – Pg. 702
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Kin Tel Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Landis & Gyr, Inc., 45 W. 45th St., New York, N. Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.–Pg. 550
Non–Linear Systems, Inc., Del–Mar Airport – Box 728, Del–Mar, Calif.
Photocon Research Products, Box 5485 – 421 N. Altadena Dr., Pasadena, Calif.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N.Y. – Pg. 742
Potter Aeronautical Corp., Route 22, Union, N. J.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Resdel Engineering Corp., 330 Fair Oaks Ave., Pasadena, Calif.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Barker & Williamson, Inc., Canal St., & Beaver Dam Rd., Bristol, Pa.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.–Pg. 673
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 811
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.–Pg. 720
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Stelma, Inc., 190 Henry St., Stamford, Conn.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Boonton Electronics Corp., Morris Plains, N. J.–Pg. 661
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Bklyn, N. Y.–Pg. 678
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

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Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Bach–Simpson Ltd., 1255 Brydges St., London, Can.
Beede Electrical Instr. Co. Inc., Penacook, N. H.–Pg. 656
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Computer–Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Epic, Inc., 154 Nassau St., New York, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.–Pgs. 992, 993
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 709
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Ransom Research, P. O. Box 269, 323 W. 7th St., San Pedro, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sterling Precision Corp., Instr. Div., 17 Matinecock Ave., Pt. Washington, N. Y.
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Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Systron Corp., 950 Galindo St., Concord, Calif.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
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Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Curtiss–Wright Corp., Electr. Div. Instr. Dept., 631 Central Ave., Carlstadt, N.J.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va., Pg. 665
Epic, Inc., 154 Nassau St., New York, N. Y.
General Radio Company, 22 Baker Ave., Concord, Mass.
Keithley Instrument, Inc., 12415 Euclid Ave., Cleveland, Ohio
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y. – Pg. 750
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Daytronic Corp., 216 S. Main St., Dayton, Ohio
Hewson Co., Inc., 443 Broad St., Newark, N. J.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Poole Instruments, Inc., 150 Express St., Dallas, Texas
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Wayne Kerr Corp., 2920 N. 4th St., P. O. Box 801, Philadelphia, Pa.

METERS. ELECTRONIC MICROMETER (continued)
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Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Computer-Measurements Corp., 5528 Vinelad Ave., No. Hollywood, Calif.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio –Pg. 702
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Potter Aeronautical Corp., Rte. 22, Union, N. J.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ransom Research, P. O. Box 269, 323 W. 7th St., San Pedro, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Systron Corp., 950 Galindo St., Concord, Calif.

METERS. EXPOSURE. PHOTOGRAPHIC ..... **Pg. 660**
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De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L.I. City, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Photovolt Corp., 95 Madison Ave., New York, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Welch, W.M., Scientific Co., 1515 Segwick St., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Benco TV Assocs., 27 Taber Rd., Rexdale, Canada
Blonder-Tongue Labs., Inc., 9 Alling St., Newark, N.J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
Ferris Instrument Co., 110 Cornelia St., Boonton, N. J.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Jerrold Electronics, Indl. Prod. Div., Dept. T. E. D., 27 Jerrold Bldg., Phila., Pa.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Nems Clarke, Div. Vitro Corp. of America, 919 Jesup-Blair Dr., Silver Spring, Md.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y. – Pgs. 827, 828
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Scientific-Atlanta, Inc., 2162 Piedmont Rd., N.E., Atlanta, Ga.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Stoddart Aircraft Radio Co., Inc., 6644 Santa Monica Blvd., Hollywood, Calif. – Pg. 751
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Wright Radio Co., 11 Morton Pl., Scituate Harbor, Mass.

METERS. FLOW. ELECTRONIC
Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Avien, Inc., 58-15 Northern Blvd., Woodside, N.Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.
Bentley Scientific Co., 2811 Seventh St., Barkeley, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Flow Measurements Corp., 10506 Wheatley St., Kensington, Md.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Perfomance Measurements Co., 15301 W. McNichols, Detroit, Mich.
Potter Aeronautical Corp., Rte. 22, Union, N. J.
Revere Corp. of America, Wallingford, Conn.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Textran Corp., P. O. Box 9207, Austin, Texas
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
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Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
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Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

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Harvey-Wells Electronics, North St., Southbridge, Mass.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y. – Pg. 744
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Lampkin Laboratories, Inc., Perico Rd., Bradenton, Florida
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
New London Instrument Co., Inc., 82 Union St., P. O. Box 189, New London, Conn.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
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Photovolt Corp., 95 Madison Ave., New York, N. Y.
Welch, W.M., Scientific Co., 1515 Segwick St., Chicago, Ill.

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Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Machine & Foundry, Defense Prod. Grp., 1701 K St., N. W., Wash., D. C.
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Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
Bach-Simpson Ltd., 1255 Brydges St., London, Canada
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
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Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif.
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Demornay-Bonardi, 780 S. Arroyo P'kway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro Precision Corp., Arkadelphia, Arkansas – Pg. 546
Electro-Pulse, Inc., 11861 Teale St., Culver City, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn. – Pg. 459
Elsin Electronics Corp., Eileen Way, Syosset, N. Y. – Pg. 803
Epic, Inc., 154 Nassau St., New York, N. Y.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y. – Pgs. 804, 805
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 683
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Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
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Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lampkin Laboratories, Inc., Perico Rd., Bradenton, Florida
Lavoie Laboratories, Inc., Morganville, N. J. – Pg. 716
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Microwave Associates, Inc., Burlington, Mass.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N.Y. – Pgs. 820, 823
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New England Scientific, Instruments Co., P. O. Box 408, Cambridge, Mass.
Northern Radio Co., Inc., 143 W. 22nd St., New York, N. Y.
Pennsylvania Testing Lab., Inc., Doylestown, Pa.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Potter Aeronautical Corp., Rte. 22, Union, N. J.
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y. – Pg. 750
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Technology Instrument Corp., 523 Main St., Acton, Mass.
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Teletronics Lab., Inc., 54 Kinkel St., Westbury, N. Y.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Voltron Products, 1010 Mission St., So. Pasadena, Calif. – Pgs. 758, 760
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Waveline, Inc., P. O. Box 718, Caldwell, N. J. – Pg. 837
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westberg Mfg. Co., 144 S. Coombs St., P. O. Box 239, Napa, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Century Electronics & Instrs., Inc., 1335 N. Utica St., Tulsa, Okla. – Pg. 765
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif.

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Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
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Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. At 35th St., Phila., Pa.
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New England Scientific, Instruments Co., P. O. Box 408, Cambridge, Mass.
Pace Electrical Instr., Div. Precision Apparatus, 70–31 84th St., Glendale, N. Y. – Pg. 737
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Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Stratocon Corp., P. O. Box 10, Morristown, N. J.
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Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Kruger, Harold Instruments, P. O. Box 164, San Gabriel, Calif.
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Potter Aeronautical Corp., Rte. 22, Union, N. J.
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Roots–Connersville Blower Div., Dresser Ind., 900 W. Mount St., Connersville, Ind.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.

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Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
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Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N. Y.
Heath Co., Benton Harbor, Mich.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Measurements Corp., A. McGraw–Edison Div., Boonton, N. J.
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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
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Physics Research Labs., Inc., 507 Hempstead Turnpike, P. O. Box 555, Hempstead, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
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Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
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Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
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Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N. Y.

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Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Federal Instr., ITT. Indl. Prod. – Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y. – Pg. 677
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General Radio Company, 22 Baker Ave., W. Concord, Mass.
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Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
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Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J. – Pg. 705
Keithley Instrument, Inc., 12415 Euclid Ave., Cleveland, Ohio
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New England Scientific, Instruments Co., P. O. Box 408, Cambridge, Mass.
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Precise Measurements Co., Millbrook Pl., RD 1, Flemington, N. J.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
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Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Minneapolis–Honeywell, Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Scientific, Instruments Co., P. O. Box 408, Cambridge,Mass.
Pace Electrical Instr., Div. Precision Apparatus, 70–31 84th St., Glendale, N. Y. – Pg. 737
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Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Precision Meter Co., 126 Greenpoint Ave., Brooklyn, N. Y.
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Quan–Tech. Labs., 236 Kemble Ave., Morristown, N. J.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
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Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y.
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Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio – Pg. 695
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
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Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamics Instrumentation Co., 1118 Mission St. S., Pasadena, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Computer Co., Inc., 618 Maple St., Conshohoken, Pa.
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Franklin Electronics, Inc., Bridgeport, Pa. – Pg. 674
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Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Microdyne, 300 W. Washington St., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Physics Research Labs.,507 Hempstead Tpke.,Box 555, Hempstead, N.Y.–Pg. 741
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Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
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Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
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J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. – Pgs. 820-822
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Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 683
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio – Pgs. 694-697
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Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
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New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Pace Electrical Instr., Div. Precision Apparatus, 70-31 84th St., Glendale, N. Y. – Pg. 737
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Physics Research Labs.,507 Hempstead Tpke.,Box 555, Hempstead,N.Y.–Pg. 741
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Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Precision Meter Co., 126 Greenpoint Ave., Brooklyn, N. Y.
Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
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Voltron Products, 1010 Mission St., So. Pasadena, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
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Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
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Dunlap Electronics, 764 9th St., Des Moines, Iowa
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Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
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Delmhorst Instrument Co., 601 Cedar St., Boonton, N. J.
G. M. Mfg. Co., 134 W. 26 St., New York, N. Y.
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Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
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Manufacturers Engrg. & Equipment Corp., York & Sunset Lane, Hatboro, Pa.
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Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Sorenson Industrial Elect., Route 10, Dover, N. J.
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Ballantine Laboratories, Boonton, N. J.
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Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
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Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electric Design & Mfg. Corp., P. O. Box 237, Burlington, Iowa
Epic, Inc., 154 Nassau St., New York, N. Y.
Federal Instr., ITT. Indl. Prod., Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
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The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
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Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
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Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
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Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
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Epic, Inc., 154 Nassau St., New York, N. Y.
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Federal Instr., ITT. Indl. Prod., Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Greibach Instruments Corp., 315 North Avenue, New Rochelle, N.Y.
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
Joslyn-Hudson, Inc., Subs. Amelco, 2040 Colorado Ave., Santa Monica, Calif.
Keithley Instrument, Inc., 12415 Euclid Ave., Cleveland, Ohio
Kin Tel Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Non-Linear Systems, Inc., Del-Mar Airport, Box 728, Del-Mar, Calif.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
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Radio Kits, Inc., 120 Cedar St., New York, N. Y.
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Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Slaughter Co., Piqua, Ohio
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Sticht Co., Inc., H. H., 27 Park Pl., New York 7, N. Y.
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Trio Laboratories, Inc., Plainview, L. I., N. Y. – Pg. 757
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Federal Instr., ITT. Indl. Prod., Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Pace Electrical Instr., Div. Precision Apparatus, 70-31 84th St., Glendale, N. Y.–Pg. 737
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
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Alco Electronics Mfg. Co., 3 Wolcott Avenue, Lawrence, Mass.
Assembly Products, Inc., 75 Wilson Mills Road, Chesterland, Ohio
Bach-Simpson, Ltd., 1255 Brydges St., London, Canada
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Beede Electrical Instr. Co., Inc., Penacook, N. H.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L. I. City, N. Y.
Electric Design & Mfg. Corp., P. O. Box 237, Burlington, Iowa
Electro Mechanical Instrument Co., Perkasie, Pa. – Pg. 670
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
General Electric Co., Apparatus Sales, 1 River Rd., Schenectady, N. Y. – Pg. 683
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Greibach Instruments Corp., 315 North Avenue, New Rochelle, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio–Pgs. 695, 696, 698
Hoyt Electrical Instru., Div. Burton–Rogers Co., 42 Carleton, Cambridge, Mass.–Pg. 699
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
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J. B. T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pgs. 708, 709
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Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Pace Electrical Instr., Div. Precision Apparatus, 70-31 84th St., Glendale, N. Y.– Pg. 737
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Physics Research Labs., Inc., 507 Hempstead Turnpike, Box 555, Hempstead, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Precision Meter Co., 126 Greenpoint Ave., Brooklyn, N. Y.
Q. V. S., Inc., 20 N. 15th St., East Orange, N. J.
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Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
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Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J. – Pg. 762
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National Elctrns. Labs., Sub. Thiokol Chem., 1713 Kalorama N.W., Washington, D. C.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.

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Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Beckman/Scientific Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Lamotte Chemical Products Co., Chestertown, Md.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
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Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dytronics, P. O. Box 3676, Columbus, Ohio
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
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Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
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Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
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Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Physics Research Labs., 507 Hempstead Tpke., Box 555, Hempstead, N.Y. – Pg. 741
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Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Polarad Electronics Corp., 43-20 34 St., L. I. City, N. Y. – Pgs. 828, 829
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Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
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Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
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Curtiss-Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.–Pg. 663
Epic, Inc., 154 Nassau St., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
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Minneapolis-Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
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Thermo Electric Co., Inc., Saddle Brook, N. J.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Federal Instr., ITT Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N.J.
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Heath Co., Benton Harbor, Mich.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. — Pg. 706
Kay Electric Co., 14 Maple Ave., Pine Brook, N.J.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, 32, Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Riggs Nucleonics Corp., 717 N. Victory Blvd., Burbank, Calif.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
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Minneapolis&Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Potter Aeronautical Corp., Route 22, Union, N. J.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
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Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 667
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pgs. 804, 805
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
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Hymac Corp., 4625 Leahy St., Culver City, Calif.
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Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Micro Electric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.
Non–Linear Systems, Inc., Del–Mar Airport––Box 728, Del–Mar, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Systron Corp., 950 Galindo St., Concord, Calif.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
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Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 667
Epic, Inc., 154 Nassau St., New York, N. Y.
Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 683
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Leupold & Stevens Instrs., Inc., 4445 N.E. Glisan, P.O. Box 5082, Portland, Ore.
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National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
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Budd–Stanley Co., Inc., 43–01 22 St., L.I. City, N.Y. – Pg. 796
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Electro Impulse Labs., 208 River St., Red Bank, N. J. – Pg. 802
Epic, Inc., 154 Nassau St., New York, N. Y.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photovolt Corp., 95 Madison Ave., New York, N. Y.
Welch, W.M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.

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Heath Co., Benton Harbor, Mich.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, 31, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

METERS. S UNITS
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Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.

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B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Beede Electrical Instr. Co., Inc., Penacook, N. H.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L.I. City, N. Y.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Kin Tel Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Transducers, Inc., 2957 Honolulu Ave., La Crescenta, Calif.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, 49, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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B.& K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Barker & Williamson, Inc., Canal St.&Beaver Dam Rd., Bristol, Pa.
Beede Electrical Instr. Co., Inc., Penacook, N.H. – Pg. 656
British Industries Corp., Instr. Div., 80 Shore Rd., Pt. Washington, N.Y.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Microwave Associates, Inc., Burlington, Mass.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N.Y.

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Polytechnic Res.& Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville,L.I.,N.Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N.Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Wacline, Inc., 35 St. Claire St., Dayton, Ohio
Waveline, Inc., Box 718, Caldwell, N. J. – Pg. 837
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

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Airpax Products Co., Central Engrg. Div.,P.O.Box 8488, Ft.Lauderdale, Fla.
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Auto Test , Inc., 600 S. Michigan Ave., Chicago, Ill.
Bach–Simpson Ltd., 1255 Brydges St., London, Canada
Beckman–Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Beede Electrical Instr. Co., Inc., Penacook, N. H.
Bristol Company, The, P.O. Box 1790, Waterbury, 20, Conn.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Tachometer Corp., The, 68th & Upland Sts., Philadelphia, Pa.
Electro Products Labs., 4501–EM, N. Ravenswood,Ave., Chicago, Ill. – Pg. 1114
Epic, Inc., 154 Nassau St., New York, N. Y.
Esterline–Angus Co., Inc., P.O.Box 596, Indianapolis, Ind.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
General Meters, Inc., P.O.Box 1701, Grand Junction, Colo.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Hoffman. H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hoyt Electrical Instr. Works, Burton–Rogers Co., 42 Carleton St., Cambridge, Mass.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
I–L–S Instrument Div., Meriam Instrument Co., 4525 W. 160th St.,Cleveland, Ohio – Pg.702
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Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
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Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass.
Meters, Inc., 5353 N. Keystone Ave., Indianapolis, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.
Performance Measurements Co., 15301 W. McNichols, Detroit, Mich.
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Potter Aeronautical Corp., Route 22, Union, N. J.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Servo-Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 745
Sticht Co., Inc., H. H., 27 Park Pl., New York 7, N. Y.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Systron Corp., 950 Galindo St., Concord, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Westberg Mfg. Co., 144 S. Coombs St., Box 239, Napa, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

METERS. TENSION
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Boulin Instrument Corp., 10-1st St., Pelham, N. Y.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Industrial Winding Machinery Corp., 120 Wall St., New York 5, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tensitron, Inc., P. O. Box 185, Harvard, Mass.
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Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central, Carlstadt, N.J. – Pg. 663
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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
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Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
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Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Meters, Inc., 5353 N. Keystone Ave., Indianapolis, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Performance Measurements Co., 15301 W. McNichols, Detroit, Mich.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N. J.
Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Royco Instruments, Inc., 874 Fabian Way, Palo Alto, Calif.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Smith, E.C. Mfg. Co., Conshohocken, Pa.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
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Thermo Electric Co., Inc., Saddle Brook, N. J.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
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Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Epic, Inc., 154 Nassau St., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y. – Pg. 683
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio – Pg. 695,698
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Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves, Philadelphia, Pa.
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Pacific Transducer Corp., 11836 W. Pico Blvd., Los Angeles, Calif.
Phoenix Precision Instrument Co., 3803 N. 5th St., Phila., Pa.
Precision Thermometer & Instrument Co., 1434 Brandywine St., Phila., Pa.
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Sanborn Co., 175 Wyman St., Waltham, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
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Bristol Co., The, P.O. Box 1790, Waterbury 20, Conn.
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Dimco–Gray Co., 207 E. 6th St., Dayton, Ohio
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Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
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General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
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Industrial Timer Corp., 1407 McCarter Hwy., Newark, N.J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves.,Philadelphia, Pa.
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Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Sticht Co., Inc., H. H., 27 Park Pl., New York, N. Y.
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Systron Corp., 950 Galindo St., Concord, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

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Alpha Instrument Co., 43 Hempstead St., New London, Conn.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Anchor Products Co., 2712 W. Montrose Ave., Chicago, Ill.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Bach–Simpson Ltd., 1255 Brydges St., London, Canada
Ballantine Laboratories, Boonton, N. J. – Pgs. 651–653
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Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
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Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N.J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., L. I. City, N. Y.
Electronic Measurements Corp., 625 Broadway, New York, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Federal Instr., ITT. Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N.J.
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Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 693
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Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
Jennings Radio Mfg. Corp., 970 McLaughlin Ave.,P.O.Box 1278,San Jose, Calif–Pg.500
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Keithley Instrument, Inc., 12415 Euclid Ave., Cleveland, Ohio
Leitch–Huard Corp., Stark & Commercial Sts. – Box 1024, Manchester, N.H.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J. – Pg. 718
Metronix, Inc., Chesterland, Ohio
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N.J.
North Atlantic Industries, Inc., 603 Main St., Westbury, N.Y. – Pg. 725
Paco Electronics Co., Inc., 70–31 84th St., Glendale, N.Y.
Precise Development Corp. 2 Neil Ct., Oceanside, N.Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N. Y.
Radio Corp. of America, Electron. Tube Div., 415 S. Fifth St., Harrison, N. J.
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Republic Electronic Industries Corp., 111 Gazza Blvd., Farmingdale, N.Y.
Seco Mfg., Co., 5015 Penn Ave., Minneapolis, Minn.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
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Solarton, Inc., 530 Cooper St., Camden, N.J.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., P. O. Box 13058, Houston, Texas
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Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Trio Laboratories, Inc., Plainview, L. I., N. Y. – Pg. 757
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Waveforms, Inc., 333 6th Ave., New York, N.Y.

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Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Products Labs., 4501–EM N. Ravenswood Ave., Chicago, Ill. – Pg. 1115
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Impact–O–Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
Indikon Co., 76 Collidge Hill Rd., Watertown, Mass.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
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Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., P. O. Box 13058, Houston, Tex.
Statistical Inst. Co., 330 Haven Ave., New York, N.Y.
Tel–Instrument Elect. Corp., 728 Garden St., Carlstadt, N.J.
Wacline, Inc., 35 S. St.Claire St., Dayton, Ohio
Wayne Kerr Corp., 2920 N. 4th St. – P. O. Box 801, Phila., Pa.
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Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Alpha Instrument Co., 43 Hempstead St., New London, Conn.
American Machine & Foundry,Defense Prod. GRP., 1701 K St., N.W., Wash., D.C.
Assembly Products, Inc., 75 Wilson Mills Rd., Chesterland, Ohio
Associated Research, Inc., 3773 W.Belmont Ave., Chicago, Ill.
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Bach–Simpson Ltd., 1255 Brydges St., London, Canada
Ballantine Labs., Boonton, N.J. – Pg. 651–653
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Beede Electrical Instr. Co., Inc., Penacook, N. H. – Pg. 656
Belleville–Hexem Corp., 638 University Ave., Los Gatos, Calif. – Pg. 657
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Demolab Corp., 1550 N. Highland Ave., Hollywood, Calif.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
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Electric Design & Mfg. Corp., P. O. Box 237, Burlington, Iowa
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 666,667
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Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Federal Instr., ITT. Indl. Prod.–Microwave Dept., 100 Kingsland Rd., Clifton, N. J.
Federal Pacific Electric Co., 50 Paris St., Newark, N. J.
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Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Industrial Test Equipment Co., 55 E. 11th St., New York, N.Y.
Instrument Masters, Inc., Hamburg Tpke., Riverdale, N.J.
International Instruments, P.O. Box 2954, New Haven, Conn.
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Leeds & Northrup Co., 4970 Stenton Ave., Phila., Pa.
Marion Electrical Instr. Co., Grenier Field, Manchester, N.H.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Metronix, Inc., Chesterland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
National Coil Co., P.O.Box 1237, Sheridan, Wyo.
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Non–Linear Systems, Inc., Del–Mar Airport –– Box 728, Del–Mar, Calif.
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San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose,Calif.
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Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
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Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
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Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
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Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.– Pg. 762
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Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
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Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
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MICROPHONES. PRESSURE ..... Pg. 464
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
General Phones Corp., 5711 Howe St., Pittsburgh, Pa.
Intersearch, Inc., 7 Arcadia Place, Cincinnati, Ohio
Knowles Electronics, Inc., 10545 Anderson Pl., Franklin Park, Ill.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Roanwell Corp., 180 Varick St., New York, N. Y. – Pg. 464
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.
Tannoy, Ltd., 38 Pearl St., New York, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.

MICROPHONES. SOUND POWERED ..... Pg. 458
Audiosears Corp., Shepard Hill Rd., Roxbury, N. Y. – Pg. 458

MICROPHONES. RIBBON
American Microphone Mfg., Div. GC–Textron, 400 So. Wyman Street, Rockford, Ill.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Tannoy, Ltd., 38 Pearl St., New York, N. Y.

MICROPHONES. THROAT
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Universal Microphone Co., Box 55, Inglewood, Calif.

MICROPHONES. TRANSISTORIZED ..... Pgs. 464, 465
Astatic Corp, Conneaut, Ohio
Electro-Voice, Inc., Cecil & Corral Sts., Buchanan, Mich.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Omega Instrument Co., 103 E Altadena Dr., Altadena, Calif.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Roanwell Corp., 180 Varick St., New York, N. Y. – Pg. 464
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Sonotone Corp., Electronic Applications Div., Dept. CCC-39, Elmsford, N. Y. – Pg. 465
Soundscriber Corp., The, 6 Middletown Ave, No. Haven, Conn.
Superscope, Inc., 8520 Tujunga Ave., Sun Valley, Calif.
Telephonics Corp., Park Ave., Huntington, N. Y.
Turner Co., The, 909 17th St., N. E., Cedar Rapids, Ia.

MICROPHONES. VELOCITY
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.

MICROPHONES. WIRELESS
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fisher–Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Port-O-Vox Corp., 521 W. 43 St., New York, N. Y.
Stancil-Hoffman Corp., 921 N. Highland Ave, Hollywood, Calif.
Stephens Tru-Sonic, Inc., 8538 Warner Dr., Culver City, Calif.
Superscope, Inc., 8520 Tujunga Ave., Sun Valley, Calif.

MICROSCOPES
Duotone Co., Inc., Locust St., Keyport, N. J.
Edmund Scientific Corp., 502 E. Gloucester Pike, Barrington, N. J.

MICROSCOPES. ELECTRON
American Optical Co., Instrument Div., Box A, Buffalo, N. Y.
Ercona Corp., Electro. Div.,16 W. 46th St., New York, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
National Instrument Labs., Inc., 828 Evarts St., N. E., Washington, D. C.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.

MICROWAVE EQUIPMENT – SEE AMPLIFIERS. ANTENNAS. CONVERTERS. COUPLINGS. RECEIVERS. TRANSMITTERS. ETC.

MICROWAVE TRANSMISSION LINES – SEE TRANSMISSION LINE. MICROWAVE

MIRRORS ALL TYPES. PRISMS. OPTICS
Advance Electronics Co., 8510 N. End Ave., Oak Park, Mich.
American Optical Co., Instrument Div., Box A, Buffalo, N. Y.
Bache, Semon & Co., 636 Greenwich St., New York, N. Y.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Dell Optics Co. Ltd., 327 55 St., West New York, N. J.
General Hardware Co., 80 White St., New York, N. Y.
Jones & Lamson Machine Co., Springfield, Va.
Metavac, Inc., 45-68 162nd St., Flushing, N. Y.
Pacific Optical Corp., 120 Glasgow Ave., Inglewood, Calif.
Pacific Universal Products Co., 168 Vista Ave., Pasadena, Calif.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Quality Control Corp., 401 Broadway, New York, N. Y.
Simpson Optical Mfg. Co., 3200 W. Carroll Ave., Chicago, Ill.
Tinsley Labs., Inc., 2526 Grove St., Berkeley, Calif.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, N. Y.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N. Y.

MIXERS. AUDIO. MICROPHONE
Simpson, Mark Mfg. Co., Inc., 32-28 49th St., L. I. City, N. Y.

MIXERS. CRYSTAL ..... Pgs. 594, 673, 707, 791, 798, 804, 820, 821, 834, 1062
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 E. 1st Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Ind., 200 E. Hanover Ave., Morris Plains, N. J.
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
American Electronic Labs., Inc., 121 N. 7th St., Phila., Pa.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Demornay-Bonardi Corp., 780 S. Arroyo Pkwy., Pasadena, Calif. – Pg. 798
Diamond Antenna & Microwave Corp., 7 North Ave, Wakefield, Mass.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Jerrold Electronics Indl. Prod. Div., Dept Ted, 27 Jerrold Bldg., Phila., Pa. – Pg. 707
LEL, Inc., 380 Oak St., Copiague, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whitier, Calif.
Microlab, 71 Okner Pkway, Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 821
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y. – Pg. 834
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Raytheon Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Reeves-Hoffman Div., Dynamics Corp. of Amer., Carlisle, Pa. – Pg. 594
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

MIXERS. ELECTRON TUBE
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Electromation Co., 1646 18th St., Santa Monica, Calif.

MIXERS, ELECTRON TUBE (continued)
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Forbes & Wagner, Inc.,346 Central Ave., Silver Creek, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Kinevox Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
LEL, Inc., 380 Oak St., Copiague, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Raytheon Manufacturing Co., Receiving Tube Div., 55 Chapel St., Newton, Mass.
Simpson, Mark Mfg., Co., Inc., 32–28 49th St., L. I. City, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Tung-Sol Electric, Inc., Newark, N. J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

MIXERS, MICROWAVE .. Pgs. 673, 791, 796, 798–801, 803, 818, 820, 821, 834, 1062, 1145, 1150
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
American Electronic Labs Inc., 121 N. 7th St., Philadelphia, Pa.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Bomac Laboratories, Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1150
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pgs. 800, 801
Elsin Electronics Corp., Eileen Way, Syossett, N. Y. – Pg. 803
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y. – Pg. 673
General Communication Co., 677 Beacon St., Boston, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
LEL, Inc., 380 Oak St., Copiague, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Maury & Associates, 10373 Mills Ave, Montclair, Calif.
Meridian Metalcraft, Inc.,8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner Pkway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass. – Pg. 1062
Microwave Development Labs, Inc., 92 Broad St., Babson Park, Wellesley, Mass. – Pg. 818
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N.Y. – Pgs. 820, 821
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Design Corp., P. O. Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N. Y. – Pg. 834
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Scientific-Atlanta, Inc., 2162 Piedmont Rd, N.E., Atlanta, Ga
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 First Ave., Waltham, Mass.
Sylvania Electric Products, Special Tube Opns, 500 Evelyn, Mountain View, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

MODEL SHOP SERVICES – SEE SERVICES, MODEL SHOP

MODEMS
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.

MODULATORS, A–M ..... Pgs. 718, 958
American Mica Insulation Co., Manasquan, N. J.
American Research & Mfg., Co., 920 Halpine Ave., Rockville, Maryland
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Collins Radio Co., 855 35th St. N.E., Cedar Rapids, Iowa
Dynair Electronics, Inc., Box 1103, El Cajon, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Harvey-Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel . & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 718
Maxson, W. L. Corp., 475 Tenth Ave, New York, N. Y.
Measurements Corp., A McGraw-Edison Div., Boonton, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958

MODULATORS, FERRITE
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Cascade Research, Div. Monogram Industries, 53 Victory La, Los Gatos, Calif.
Ferrotec, Inc., 217 California St., Newton, Mass.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.

MODULATORS, F–M ..... Pg. 958
American Mica Insulation Co., Manasquan, N. J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N Hollywood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Dynair Electronics, Inc., P. O. Box 1103, El Cajon, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D, 27 Jerrold Bldg., Phila., Pa.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church. Va.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958

MODULATORS, MAGNETIC ..... Pgs. 583, 923, 958, 1077, 1142
Acromag, Inc., 22519 Telegraph Rd., Detroit 41, Mich.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Research & Mfg., Co., 920 Halpine Ave., Rockville, Maryland
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Centronix, Inc.,4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Magnetics, Inc., 135 Bloomfield Ave., Bloomfield, N. J.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Control Co., 805 Albin Ave., Lindenhurst, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 583
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y. – Pg. 923
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Milro Controls Co., Park Ridge, N. J.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York – Pg. 1077
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

MODULATORS, PHASE ..... Pgs. 755, 958
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N Hollywood, Calif.
Bradley Semiconductor Corp., 275 Welton St., New Haven, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J. – Pg. 755
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.

MODULATORS, PULSE ..... Pgs. 775, 827, 958, 1153–1155
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Bradley Semiconductor Corp., 275 Welton St., New Haven, Conn.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eitel–McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pg. 1153
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Harvey-Wells Electronics North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
International Elctrns., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Magnetic Research, 3160 W. El Segundo Blvd., Hawthorne, Calif.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J.
Maxson, W.L.Corp., 475 Tenth Ave., New York, N.Y.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Polarad Electronics Corp., 43-20 34th St., L.I. City, N.Y.–Pg. 827
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

See YELLOW SECTION for local sales offices, telephones, etc.

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MODULATORS. TV
Custom Electronics Corp., 738 Speedwell Ave., Morris Plains, N.J.
Jerrold Electronics, Indl. Prod. Div., Dept. T.E.D. 27, Jerrold Bldg., Phila., Pa.

MODULATORS. VIBRATING CAPACITOR ..... **Pg. 1178**
Stevens-Arnold, Inc., 7 Elkins St., So. Boston, Mass.–Pg. 1178

MODULES ..... **Pgs. 510, 515, 516, 542, 543, 546, 560, 646, 666, 687, 725, 892–894, 923, 953, 955, 1036, 1102, 1106, 1136**
Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif.
Advance Instrument Corp., 1109 Sixth Ave., Neptune, N.J.
Advanced Electronics Mfg. Corp., 2116 S. Sepulveda Blvd., Los Angeles, Calif. – Pg. 646
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
American Mica Insulation Co., Manasquan, N.J.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digital Equipment Corp., Maynard, Mass.–Pgs. 542,543
Dressen-Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif.–Pgs. 892-894
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 666
Electro Precision Corp., Arkadelphia, Arkansas–Pg. 546
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.–Pg. 510
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Good Electronic, Box 2706, West Palm Beach, Fla.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs.687, 1102
Harvey-Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N.Y.–Pg. 923
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. – Pg. 1136
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.–Pg. 560
North Atlantic Industries, Inc., 603 Main St., Westbury, N.Y.–Pg. 725
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Precision Mechanisms Corp., 577 Newbridge Ave., East Meadow, N.Y.
Research Dev. Mfgr., Inc., 429 E. Collom St., Phila., Pa.
RHO Engineering Co., 2242 Sepulveda Blvd., Los Angeles, Calif.–Pg. 515
Sanders Associates, Inc., 95 Canal St., Nashua, N.H.
Spectrol Electronics, Dept. E. 59, 1704 S. Del Mar Ave., San Gabriel, Calif.–Pg. 1036
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N.Y.–Pg. 1106
Tel–Instrument Electronics Corp., 728 Garden St., Carlsteadt, N.J. – Pg. 955
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif. – Pg. 953
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif.–Pg. 516

MOLYBDENUM – SEE METALS

MONEL – SEE METALS

MONITORS. FREQUENCY ..... **Pgs. 655, 658, 763, 1106**
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Antlab Incorporated, 6330 Proprietors Road, Worthington, Ohio
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.–Pg. 655
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.–Pg. 658
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electric Regulator Corp., Pearl St., Norwalk, Conn.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Lampkin Laboratories, Inc., Perico Rd., Bradenton, Fla.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.
Northern Radio Co., Inc., 143 W. 22nd St., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N.Y.–Pg. 1106
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Waterman Products Co., Philadelphia, Pa.–Pg. 763
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.

MONITORS. LINE AND PROGRAM
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Conrac, Inc., 19217 E. Foothill Blvd., Glendora, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Penatron Dev. Div., Delta Broadcasting System, 941 Shedborne Ave., Dayton, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ratelco, Inc., 820 Minor Ave., N. Seattle 9, Wash.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Television Utilities Co., 112-33 Colonial Ave., Corona, N.Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas

MONITORS. MODULATION ..... **Pgs. 720, 763**
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Collins Radio Co., 855 35th St. N.E., Cedar Rapids, Iowa
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrend Products Corp., St. Joseph, Mich.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Lampkin Laboratories, Inc., Perico Rd., Bradenton, Fla.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J.–Pg. 720
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
New London Instrument Co., Inc., 82 Union St., Box 189, New London, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Waterman Products Co., Philadelphia, Pa.–Pg. 763

MONITORS. PHASE ANGLE ..... **Pgs. 706, 755, 763**
Bergen Laboratories, 247 Crooks Ave., Clifton, N.J.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Control Electronics Co. Inc., Ten Stepar Pl., Huntington Station, N.Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P.O. Box 3676, Columbus, Ohio
Hycon Manufacturing Co., 1030 So. Arroyo Pkwy. – P. O. Bin N, Pasadena, Calif.
Industrial Test Equipment Co., 55 E. 11th St., New York, N.Y.-Pg. 706
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Systron Corp., 950 Galindo St., Concord, Calif.
Theta Instrument Corp., 48 Pine St., E. Paterson, N.J.–Pg. 755
Waterman Products Co., Philadelphia, Pa.–Pg. 763
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.

MONITORS. POWER. AC & DC ..... **Pg. 583**
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Regulator Corp., Pearl St., Norwalk, Conn.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J. – Pg. 583

MONITORS. POWER. R–F ..... **Pgs. 712, 748, 749, 800, 801, 806**
American Electronic Labs., Inc., 121 N. 7th St., Phila., Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Douglas Microwave Co., Inc., 252 E. 3rd St., Mt. Vernon, N. Y. – Pgs. 800, 801
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Regulator Corp., Pearl St., Norwalk, Conn.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Itek Corp., 1559 Trapelo Rd., Waltham, Mass. – Pg. 806
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn. – Pg. 712
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Scientific-Atlanta, Inc., 2162 Piedmont Rd. N.E., Atlanta, Ga.
Sierra Elctrn. Corp., 5442 E. Bohannon Dr., Menlo Park, Calif. – Pgs. 748, 749
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

MONITOR. RADIATION. NUCLEAR ..... **Pg. 848**
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N.Y.–Pg. 848
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Nuclear–Electronics Corp., 2925 N. Broad St., Phila., Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Riggs Nucleonics Corp., 717 N. Victory Blvd., Burbank, Calif.

MONITORS. SHIFT
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Northern Radio Co., Inc., 143 W. 22nd St., New York, N. Y.

MONITORS. TRANSMITTER. A–M & F–M
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Amtron Corp., 17 Felton St., Waltham, Mass.
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Continental Electronics Mfg., Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Knight, Ewan Corp., 206 A. St., Needham, Mass,
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.

MONITORS. TRANSMITTER. TV ..... **Pgs. 528, 530, 533, 813**
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Blonder–Tongue Labs., Inc., 9 Arling St., Newark, N. J. – Pg. 528
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Conrac, Inc., 19217 E. Foothill Blvd., Glendora, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 813
ITT, Industrial Products Div., 15191 Bledsoe St., San Fernando, Calif.–Pg. 530
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kay Electric Co., 14 Maple Ave., Pine Brook, N.J.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.–Pg. 533
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Frods., Front & Cooper, Bl. 15-1, Camden, N.J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.

MONITORS. VOR
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Collins Radio Co., 855 35th St. N.E., Cedar Rapids, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hazeltine Electronics Corp., 59-25 Little Neck Pkwy., Little Neck, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

MONITORS. WAVEFORM ..... **Pg. 763**
Boonton Electronics Corp., Morris Plains, N.J.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
General Electric Co., Indl. Elec. Div.-Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
Hoffman H.L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hycon Manufacturing Co., 1030 So. Arroyo Pkwy. – P. O. Bin N, Pasadena, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.

MONITORS. WAVEFORM (continued)
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tektronix, Inc., P.O. Box 831, Portland, Oreg.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Waterman Products Co., Philadelphia, Pa.–Pg. 763

MOTION PICTURE EQUIPMENT – SEE CAMERAS. PROJECTORS. ETC.

MOTORS. AC. DC ..... Pgs. 609, 613, 840–843, 845–847, 854
Adel Precision Prod. Div., General Metals, 10777 Vanowen St., Burbank, Calif.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Air Marine Motors, Inc., 369 Bayview Ave., Amityville, N.Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N.J.
Aircraft Instr. Div., Allen, R.C. Bus. Mach., 333 Commerce SW., Grand Rapids, Mich.
Allard Instrument Corp., 146 E. 2nd St., Mineola, N.Y.–Pg. 854
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
Allis-Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisconsin
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N.Y.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.–Pg. 840
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Barber-Colman Co., Dept. F, 1410-7 Rock St., Rockford, Ill.–Pg. 842
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bill Jack Scientific Instr. Co., P.O. Box C-3, Solano Beach, Calif.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Boehm, R.A. Co., 58 Brooklyn Ave., Merrick, N.Y.
Bogue Electric Mfg., Co., 52 Iowa Ave., Paterson, N. J.
Cadre Industries Corp., Box 150, Endicott, N.Y.
Carter Motor Co., 2733 W. George St., Chicago 18, Ill.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.–Pg. 845
Continental Electric Co., 334 Ferry St., Newark, N.J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Digitac, Inc., 143 S. Cedros, Solana Beach, Calif.
Dumore Co., 1300 17th St., Racine, Wisc.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Machinery Mfg., Co., 800 Central Ave., Minneapolis, Minn.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electric Specialty Co., 300 South St., Stamford, Conn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Hansen Mfg., Co., Inc., Princeton, Ind.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Heinze Electric Co., 685 Lawrence St., Lowell, Mass.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hill, E.V. & Co., P.O. Box 189, Lake Geneva, Wisc.
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston 19, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Ideal Electric & Mfg., Co., 300 E. First St., Mansfield, Ohio
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James International, 855 6th Ave., New York City, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Lamb Electric Co., Lake St., Kent, Ohio
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Luther Mfg. Co., 7312 Varna Ave., No. Hollywood, Calif.
Mamco Corp., 532 Fourth St., Racine, Wis.
Marble–Card Electric Corp., Gladstone, Mich.
Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Oster, John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Rae Motor Corp., P. O. Box 269, 2009 Kewauned, Racine, Wisc.
Redmond Co., Inc., Owosso, Mich.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Syntorque, Inc., Box 75 – Blarsville P. O., Woodstock, N. Y.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
United Pressed Products Co., 900 So. Des Plaines, Chicago, Ill.
Universal Electric Co., 300 E. Main St., Owosso, Mich.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

MOTORS. CLOCK
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electyme Motor Prod., S. Brown St., Genoa, Ill.
Gleason, Avery Co., Auburn, N. Y.
Hagen Mfg., Co., Inc., 202 20th St., Moline, Ill.
Hansen Mfg., Co., Inc., Princeton, Ind.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Ingraham Co., The, Bristol, Connecticut
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Steel, Herman D. Co., Lafayette Bldg., Phila., Pa.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.

MOTORS. CONTROL ..... Pgs. 843, 846, 847, 992
A & D Electronics, Inc., Mt. Pascal Rd., Hackettstown, N. J.
Air Marine Motors, Inc., 369 Bayview Ave., Amityville, N. Y.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Carson Mfg., Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Carter Motor Co., 2733 W. George St., Chicago 18, Ill.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Crow Controls Co., Inc., 40–44 S. Washington St., New Bremen, Ohio
Dales, Franklin Co., 180 E. Mill St., Akron, Ohio
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electro–Devices, Inc., 4–6 Godwin Ave., Paterson, N. J.
G–M Laboratories, Inc., 4300–N. Knox Ave., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Gleason Avery Co., Auburn, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 992
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston 19, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Oster, John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Redmond Co., Inc., Owosso, Mich.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., Box 75 – Blarsville P. O., Woodstock, N. Y.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

MOTORS. DRAG CUP ..... Pgs. 843, 846
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., Box 75 – Blarsville P. O., Woodstock, N. Y.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

MOTORS. 400 CPS. ..... Pgs. 609, 613, 841–843, 846, 854
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Air Marine Motors, Inc., 369 Bayview Ave., Amityville, N. Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allard Instrument Corp., 146 E. 2nd St., Mineola, N. Y. – Pg. 854
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
Allis–Chalmers Mfg., Co., 935 S. 70th St., Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bill Jack Scientific Instr. Co., P. O. Box C–3, Solano Beach, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Diehl Mfg. Co., 1221 Finderne Ave., Somerville, N.J.
Digitac, Inc., 143 So. Cedros, Solana Beach, Calif.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
G–M Laboratories, Inc., 4300 N. Knox Ave., Chicago, Ill.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Lamb Electric Co., Lake St., Kent, Ohio
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Luther Mfg., Co., 7312 Varna Ave., No. Hollywood, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.

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Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Syntorque, Inc., Box 75 – Blarsville P. O., Woodstock, N. Y.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

MOTORS. FRACTIONAL HP ..... Pgs. 609, 613, 840–843, 846–848, 854, 1075

Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Adel Precision Prod. Div., General Metals, 1077 Vanowen St., Burbank, Calif.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allard Instrument Corp., 146 E. 2 St., Mineola, N. Y. – Pg. 854
Alliance Mfg., Co., The, Alliance, Ohio
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N. Y.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 840
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Brevel Products Corp., 601 West 26th St., New York, N. Y.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Carson Mfg., Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Carter Motor Co., 2733 W. George St., Chicago, Ill.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Crown Controls Co., Inc., 40–44 S. Washington St., New Bremen, Ohio
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Diehl Mfg. Co., 1221 Finderne Ave., Somerville, N. J.
Digitac, Inc., 143 S. Cedros, Solana Beach, Calif.
Dumore Co., 1300 17th St., Racine, Wisc.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Motor & Specialties, Inc., King & Hamsher Sts., Garrett, Ind.
Electric Specialty Co., 300 South St., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Industries Co., The, Taylor & Olive St., Elyria, Ohio
Gleason Avery Co., Auburn, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston 19, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James International, 855 6th Ave., New York, N. Y.
Kasson Die & Motor Corp., 34–08 Northern Blvd., Long Island City, N. Y.
Kroker Engrg. & Devel. Co., 3022 N. 77 Ct., Elmwood Park, Ill.
L & R Mfg., Co., 580 Elm St., Arlington, N. J.
Lamb Electric Co,, Lake St., Kent, Ohio
Lear, Inc., 3171 S. Bundy Dr., Santa Minica, Calif.
Mamco Corp., 532 Fourth St., Racine, Wis.
McGraw–Edison Co., Power Tool Div., 110 Main St., Burlington, Vt.
Merkel–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Ind. Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1075
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Oster, John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N. Y.
RAE Motor Corp., P. O. Box 269, 2009 Kewauned, Racine, Wisc.
Redmond Co., Inc., Owosso, Mich.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reeves–Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., Box 75, Blarsville, P. O., Woodstock, N. Y.
Task Corp., 1099 E. Vermont, Anaheim, Calif.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Times Facsimile Corp., 540 W. 58th St., New York, N. Y. – Pg. 848
U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
United Pressed Products Co., 900 So. Des Plaines, Chicago, Ill.
Universal Electric Co., 300 E. Main St., Owosso, Mich.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

MOTORS. GEAR ..... Pgs. 609, 613, 841–843, 845–847, 1075

Air Marine Motors, Inc., 369 Bayview Ave., Amityville, N. Y.
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
Allis–Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisc.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Ashland Electric Prod., Inc., 32–02 Queens Blvd., Long Island City, N. Y. – Pgs. 609, 841
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Brevel Products Corp., 601 West 26th St., New York, N. Y.
Cadre Industries Corp., P. O. Box 150, Endicott, N. Y.
Carter Motor Co., 2733 W. George St., Chicago, Ill.
Clifton Precision Products Co., Inc., Clifton Hts., Pa. – Pg. 845
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Diehl Mfg., Co., 1221 Finderne Ave., Somerville, N. J.
Dumore Co., 1300 17th St., Racine, Wisc.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Foote Bros. Gear & Machine Corp., 4545 S. Western Blvd., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Gleason Avery Co., Auburn, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Heinze Electric Co., 685 Lawrence St., Lowell, Mass.
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kasson Die & Motor Corp., 34–08 Northern Blvd., L. I. City, N. Y.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Lamb Electric Co., Lake St., Kent, Ohio
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Luther Mfg., Co., 7312 Varna Ave., No. Hollywood, Calif.
Mamco Corp., 532 Fourth St., Racine, Wis.
Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1075
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Rae Motor Corp., P. O. Box 269, 2009 Kewauned, Racine, Wisc.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Revco, Inc., 1900 Lyndale Ave., S., Minneapolis, Minn.
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pgs. 613, 847
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., P. O. Box 75, Blarsville P. O., Woodstock, N. Y.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N. Y.
U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
United Pressed Products Co., 900 So. Des Plaines, Chicago, Ill.
Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Winzeler Mfg. & Tool Co., 7355 W. Wilson Ave., Chicago, Ill.

MOTORS. HYDRAULIC

Adel Precision Prod. Div., General Metals, 10777 Vanowen St., Burbank, Calif.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Eastern Industries, Inc., 100 Skiff St., Box 4372 Hamden, Conn.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydraulic Press Mfg., Co., Mt. Gilead, Ohio
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.

MOTORS. HYSTERESIS ..... Pgs. 609, 776, 840, 841, 843, 846

Advanced Products Co., 59 Broadway, No. Haven, Conn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 840
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Bekey Electric Co., Inc., 2242 No. Figueroa St., Los Angeles 65, Calif.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Bristol Motor Div., Vocaline Co. Of America, Inc., Old Saybrook, Conn.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Hertner Electric Co., The 12690 Elmwood Ave., Cleveland, Ohio
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston 19, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Hurst Tool & Mfg., Co., Inc., Princeton, Ind.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Induction Motors Corp., 570 Main St., Westbury, N.Y. – Pg. 846
Ingraham Co., The Bristol, Connecticut
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Luther Mfg., Co., 7312 Varna Ave., N. Hollywood, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.

MOTORS. HYSTERESIS (continued)
Syntorque, Inc., Box 75, Blarsville P. O., Woodstock, N. Y.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N. Y.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

MOTORS. INCREMENTAL ..... **Pgs. 604, 843, 988**
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Curtiss–Wright Corp., Electr. Div., Comp. Dept.,620 Passaic Ave., W.Caldwell, N.J. –Pg. 988
Curtiss–Wright Corp., Electr. Div., Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Digitran Co., 45 W. Union St., Pasadena, Calif.
GAP Instrument Corp., 116 E. Merrick Rd., Freeport, L. I., N. Y. – Pg. 604
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Haydon, A.W. Co., 247 N. Elm St., Waterbury, Conn.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Leland, G. H., Inc., 123 Webster St., Dayton, Ohio
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

MOTORS. MINIATURE ..... **Pgs. 609, 613, 841–843, 846, 847, 854, 1072**
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allard Instrument Corp., 146 E. 2nd St., Mineola, N. Y. – Pg. 854
American Electronic, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 1072
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Brevel Products Corp., 601 West 26th St., New York, N. Y.
Carter Motor Co., 2733 W. George St., Chicago, 18, Ill.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Diehl Mfg., Co., 1221 Finderne Ave., Somerville, N. J.
Dynamic Instrument Corp., 59 New York Ave., Westbury, N. Y.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Hagen Mfg., Co., Inc., 202 20th St., Moline, Ill.
Hansen Mfg., Co., Inc., Princeton, Ind.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Hill, E. V. & Co., P.O. Box 189, Lake Geneva, Wisc.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Ingraham Co., The Bristol, Connecticut
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kasson Die & Motor Corp., 34–08 Northern Blvd., L.I. City, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Kroker Engrg. & Devel. Co., 3022 N. 77 Ct., Elmwood Park, Ill.
Lamb Electric Co., Lake St., Kent, Ohio
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Luther Mfg., Co., 7312 Varna Ave., No. Hollywood, Calif.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y.– Pg. 613
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., Box 75 – Blarsville P.O., Woodstock, N. Y.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Universal Electric Co., 300 E. Main St., Owosso, Mich.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS. PHONOGRAPH ..... **Pg. 842**
Alliance Mfg., Co., The, Alliance, Ohio
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N.Y.
General Industries Co., The, Taylor & Olive St., Elyria, Ohio
Gleason Avery Co., Auburn, N. Y.
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N.J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
James International, 855 6th Ave., New York City, N. Y.
Mamco Corp., 532 Fourth St., Racine, Wis.
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Redmond Co., Inc., Owosso, Mich.
Sonograf Electric Co., 37 E. 28th St., New York, N. Y.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N. Y.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.

MOTORS. REMOTE CONTROL ..... **Pgs. 842, 847**
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N.Y.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, 19, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
James International, 855 6th Ave., New York City, N. Y.
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St.Louis, Mo.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS. SELSYN ..... **Pg. 1072**
Allis–Chalmers Mfg., Co., 935 S. 70th St., Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 1072
Bendix Aviation Corp., Montrose Div., S. Montrose, Pa.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L.I.City, N.Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kearfott Company, Inc., Little Falls, N. J.
Ketay Dept., Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Turner, W.R. & Co., 4831 W. Jefferson Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS. SERVO ..... **Pgs. 613, 842–844, 846, 847, 1072, 1075**
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 1072
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bekey Electric Co., Inc., 2242 No. Figueroa St., Los Angeles, 65, Calif.
Bill Jack Scientific Instr. Co., P.O. Box C–3, Solano Beach, Calif.
Bogue Electric Mfg., Co., 52 Iowa Ave., Paterson, N. J.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa. – Pg. 844
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Diehl Mfg., Co., 1221 Finderne Ave., Somerville, N. J.
Digitac, Inc., 143 So. Cedros, Solana Beach, Calif.
Dynamic Instrument Corp., 59 New York Ave., Westbury, N. Y.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N. J.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L.I. City, N. Y.
G–M Laboratories, Inc., 4300–N. Knox Ave., Chicago, Ill.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Greenleaf Mfg., The, Div. Mandrel, Inc., 7814 Maplewood Ind. Ct., St. Louis, Mo.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hill, E.V. & Co., P.O. Box 189, Lake Geneva, Wisc.
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N. J.
Kearfott Company, Inc., Little Falls, N. J.
Ketay Dept., Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Luther Mfg., Co., 7312 Varna Ave., No. Hollywood, Calif.
Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Regulator Co., Boston Div., 40 Life St., Boston, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1075
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Power Supplies, Inc., P.O. Box 269, Route 143, Highland, Ill.
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Servomechanisms, Canada Limited, Rexdale Blvd., & Kipling Ave., Toronto, Can.
Syntorque, Inc., Box 75 – Blarsville P.O., Woodstock, N. Y.
Thompson Ramo–Wooldridge, Tapco Grp., 23555 Euclid Ave., Cleveland, Ohio
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St.Louis, Mo.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS. SPEED REGULATED ..... **Pgs. 843, 846, 847**
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Boehm, R.A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Bogue Electric Mfg., Co., 52 Iowa Ave., Paterson, N. J.
Carson Mfg., Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, 39, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N. J.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James International, 855 6th Ave., New York, N. Y.
Kroker Engrg. & Devel. Co., 3022 N. 77 Ct., Elmwood Park, Ill.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.

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Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Milro Controls Co., Park Ridge, N. J.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Revco, Inc., 1900 Lyndale Avenue, S., Minneapolis, Minn.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N.J. – Pg. 847
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N. Y.
U.S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS, SQUIRREL CAGE ..... Pgs. 609, 613, 841, 846, 854
Allard Instrument Corp., 146 E. 2nd St., Mineola, N. Y. – Pg. 854
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
Allis–Chalmers Mfg., Co., 935 S. 70th St., Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Cadre Industries, Corp., Box 150, Endicott, N. Y.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Continental Electric Co., 334 Ferry St., Newark, N.J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Machinery Mfg., Co., 800 Central Ave., Minneapolis, Minn.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Fasco Industries, Inc., P.O. Box 509, Rochester, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Ideal Electric & Mfg., Co., 300 E. First St., Mansfield, Ohio
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P. M. Industries, Inc., 375 Coit St., Irvington, N. J.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James International, 855 6th Ave., New York City, N. Y.
Lamb Electric Co., Lake St., Kent, Ohio
Luther Mfg., Co., 7312 Varna Ave., No. Hollywood, Calif.
Marble–Card Electric Corp., Gladstone, Mich.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Syntorque, Inc., Box 75 – Blarsville P.O., Woodstock, N. Y.
U.S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif.
Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS, SYNCHRONOUS ..... Pgs. 609, 613, 840–843, 846, 848, 1075, 1083
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Allis Co., 427 E. Stewart St., Milwaukee, Wisc.
Allis–Chalmers Mfg., Co., 935 S. 70th St., Milwaukee, Wisconsin
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 840
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Ashland Electric Prod., Inc., 32–02 Queens Blvd., L. I. City, N. Y. – Pgs. 609, 841
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bekey Electric Co., Inc., 2242 No. Figueroa St., Los Angeles, Calif.
Bill Jack Scientific Instr. Co., P.O. Box C–3, Solano Beach, Calif.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.
Controls Company of America, Schiller Park, Ill. – Pg. 1083
Craig Corp., 50 Eastern Ave., Boston, Mass.
Cramer Controls Corp., P. O. Box 13, Centerbrook, Conn.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eastern Air Devices, Inc., 385 Central Ave., Dover, N. H.
Edison, Thomas Ind., Instr. Div. Mc Graw Edison, 81 Lakeside Ave., W. Orange, N.J.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, 39, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Machinery Mfg., Co., 800 Central Ave., Minneapolis, Minn.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electyme Motor Prod., S. Brown St., Genoa, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Gleason Avery Co., Auburn, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Hagen Mfg., Co., Inc., 202 20th St., Moline, Ill.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Hurst Tool & Mfg., Co., Inc., Princeton, Ind.
Ideal Electric & Mfg., Co., 300 E. First St., Mansfield, Ohio
Induction Motors Corp., 570 Main St., Westbury, N. Y. – Pg. 846
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N.J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kearfott Company, Inc., Little Falls, N. J.
Kollsman Motor Corp., 122 E. 42nd St., New York, N. Y.
Lamb Electric Co., Lake St., Kent, Ohio
Luther Mfg., Co., 7312 Varna Ave., No. Hollywood, Calif.
Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1075
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Paragon Electric Co., 1600 – 12th St., Two Rivers, Wisc.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Rotating Components, Inc., 269 Green St., Brooklyn, N. Y. – Pg. 613
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servomechanisms, Inc., 1250 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Syntorque, Inc., Box 75 – Blarsville P.O., Woodstock, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y. – Pg. 848
Turner, W. R. & Co., 4831 W. Jefferson Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, 30, Pa.

MOTORS, TIMING ..... Pgs. 724, 745, 843, 847, 992, 993
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Edison, Thomas Ind., Instr. Div. Mc Graw Edison, 81 Lakeside Ave., W. Orange, N.J.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood, Calif.
Electyme Motor Prod., S. Brown St., Genoa, Ill.
Exact Engineering & Mfg., Inc., P.O. Box 668, Oceanside, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, 5, N. Y.
Gleason Avery Co., Auburn, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hagen Mfg., Co., Inc., 202 20th St., Moline, Ill.
Hansen Mfg., Co., Inc., Princeton, Ind.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pgs. 992, 993
Holtzer Cabot Div., National Pneumatic Co., 125 Armory St., Boston, 19, Mass.
Hurst Tool & Mfg., Co., Inc., Princeton, Ind.
Ingraham Co., The, Bristol, Connecticut
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N. J.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Merkle–Korff Gear Co., 213 N. Morgan St., Chicago, Ill.
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Norman Laboratories, Williams Bay, Wisc. – Pg. 724
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wisc.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Paragon Electric Co., 1600– 12th St., Two Rivers, Wisc.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pgs. 745, 847
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Valco Div., Valianos, Inc., 11747 Vose St., North Hollywood, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

MOTORS, TORQUE
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.

MOTORS, UNIVERSAL ..... Pgs. 843, 847
Bodine Electric Co., 2500 W. Bradley Pl., Chicago, Ill.
Boehm, R. A. Co., 58 Brooklyn Ave., Merrick, N. Y.
Carter Motor Co., 2733 W. George St., Chicago, 18, Ill.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Craig Corp., 50 Eastern Ave., Boston, Mass.
Dumore Co., 1300 17 St., Racine, Wisc.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, 39, Ill.
El Ray Motor Co., Inc., 11747 Vose St., N. Hollywood Calif.
Electric Indicator Co., Inc., Camp Ave., Springdale, Conn.
Electric Specialty Co., 300 South St., Stamford, Conn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Heinze Electric Co., 685 Lawrence St., Lowell, Mass.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Howard Industries, Inc., 1760 State St., Racine, Wis.
Instrument Motors Div., P.M. Industries, Inc., 375 Coit St., Irvington, N.J.
Lamb Electric Co., Lake Street, Kent, Ohio
Mamco Corp., 532 Fourth St., Racine, Wis.
McGraw–Edison Co., Power Tool Div., 110 Main St., Burlington, Vt.
Motordyne, Inc., 2661 S. Myrtle Ave., Monrovia, Calif.
Oster John Mfg., Co., Avionic Div., 1 Main St., Racine, Wis.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Rae Motor Corp., P.O. Box 269, 2009 Kewauned, Racine, Wisc.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J. – Pg. 847
Small Motors, Inc., 2076 Elston Ave., Chicago, Ill.
Universal Electric Co., 300 E. Main St., Owosso, Mich.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.
Wincharger Corp., E. 7Th & Division Streets, Box 1168, Sioux City, Iowa

MOUNTINGS, CAR TOP SPEAKER
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.

MOUNTS, ANTENNA – SEE ANTENNA TOWERS & SUPPORTS

MOUNTS, CRYSTAL .. Pgs. 452, 631, 790, 796, 798–800, 804, 808, 810, 811, 817, 818, 830, 837
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Amerac, Inc., Dunham Rd., Beverly, Mass. - Pg, 790
American Electronic Labs., Inc., 121 N. 7th St., Phila., Pa. – Pg. 452
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass. - Pg. 631
Blinn, Delbert Co., The, P.O. Box 757, Pomona, Calif.
Budd–Stanley Co., Inc., 43–01 22nd St., L. I. City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Constantin, L. L. & Co., Route 46, Lodi, N.J.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. – Pg. 800
Eby Sales Co., 130 Lafayette St., New York, N.Y.
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y. - Pg. 804
Frequency Standards, Inc., P. O. Box 504, Asbury Park, N. J.
General Communication Co., 677 Beacon St., Boston, Mass.
General RF Fittings, Inc., 702 Beacon St., Boston, Mass.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 808, 810, 811
Howard Crystal Holders, Inc., 2600 Grand Ave., Kansas City, Mo.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.

MOUNTS. CRYSTAL (continued)
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Master Mobile Mounts, Inc., 1306 Bond St., Los Angeles, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner Pkway., Livingston, N.J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Developments Labs., 92 Broad, Babson Park 57, Wellesley, Mass. - Pg. 818
Microwave Eng. Lab., 943 Industrial Ave., Palo Alto, Calif.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N.Y.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Inc.
Polytechnic Res. & Dev., Co., Inc., 202 Tillary St., Brooklyn, N.Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y. - Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Schutter, Carl W., Co., 80 E. Montauk Pkwy., Lindenhurst, N.Y.
Scientific Electronic Labs., Inc., 866 Bergen St., Newark, N.J.
Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
T. E. M., Inc., 71 Okner Pkwy., Livingston, N.J. - Pg. 817
Texas Crystals Div., Westronix Corp., 8538 W. Grand, River Grove, Ill.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Warren Components Div., El-Tronics, Inc., Warren, Pa.
Waveline, Inc., Box 718 W. Caldwell, N.J. – Pg. 837

MOUNTS. MICROWAVE ... Pgs. 790, 792–794, 796, 798–800, 803, 804, 808, 809, 817, 822, 830, 837
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y. – Pgs. 792–794
Admittance-Namco Corp., 5 Marine St., Farmingdale, L.I., N.Y.
Aircom., Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Airtron, Inc., Div., Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Amerac, Inc., Dunham Rd., Beverly, Mass. - Pg. 790
American Electronic Labs., Inc., 121 N. 7th St., Phila., Pa.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N.Y. – Pg. 796
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. - Pg. 800
Elsin Electronic Corp., Eileen Way, Syossett, N.Y. - Pg. 803
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y.- Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. - Pgs. 808, 809
Houston-Fearless Corp., 11801 W. Olympic Blvd., Los Angeles, Calif.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
MB Manufacturing Co., Division Textron, Inc., 781 Whalley Ave., New Haven, Conn.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, In., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N.Y. - Pg. 822
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y. - Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
T. E. M., Inc., 71 Okner Pkwy., Livingston, N.J. – Pg. 817
Telerad Mfg., Corp., 1440 Broadway, New York, N.Y.
Tri-Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waveline, Inc., Box 718, W. Caldwell, N.J. - Pg. 837

MOUNTS. MOBILE ANTENNA
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N.Y.
Houston-Fearless Corp., 11801 W. Olympic Blvd., Los Angeles, Calif.
MB Manufacturing Co., Division Textron, Inc., 781 Whalley Ave., New Haven, Conn.
Premax Products Div., Chisholm-Ryder Co., Niagara Falls, N.Y.
Tri-Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
White, J. L. & Son, 374 Verona Ave., Newark, N. J.

MOUNTS. MOTOR. CLEATS
Pic Design Corp., Div., Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y.
Titchener, E. H. & Co., 67 Clinton St., Binghamton, N.Y.

MOUNTS. PRINTED CIRCUIT CARD – SEE CAGE

MOUNTS. SHOCK & VIBRATION ..... Pgs. 481, 714, 715, 1048
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Barry Controls, Inc., 946 Pleasant St., Watertown, Mass.
Centronix, Inc., 4000 N. W., 28th St., Miami, Fla.
Crown Controls Co., Inc., 40-44 S. Washington St., New Bremen, Ohio
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Felters Co., The, 210 South St., Boston, Mass.
Finn, T. R. & Co., 200 Central Ave., Hawthorne, N.J.
Greene, L. C., Co., 314 Washington St., Newton, Mass.
Johnson, K. W. & Co., Inc., 1825 Webster St., Dayton, Ohio
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
MB Manufacturing Co., Division Textron, Inc., 781 Whalley Ave., New Haven, Conn.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Radio Corp. of America, Indl. Electronic Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Robinson Aviation, Inc., Teterboro, N.J.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Schuyler Mfg., Corp., 84 Porete Ave., North Arlington, N.J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N.J.
Ucinite Co., Div., United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Victory Engineering Corp., P.O. Box 373, Union, N.J. - Pg. 1048
Watson Mfg., Co., Inc., 4800 Taylor St., Jamestown, N.Y. - Pg. 481

MOUNTS. THERMISTOR ..... Pgs. 804, 808, 810, 811, 834, 1045, 1047
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y. - Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. - Pgs. 808, 810, 811
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N.Y.
Narda Microwave Corp., The, 118-160 Herricks Rd., Mineola, N.Y.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y. - Pg. 834
Telerad Mfg., Corp., 1440 Broadway, New York, N.Y.
Victory Engineering Corp., P. O. Box 373, Union, N. J. – Pgs. 1045, 1047
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio

MULTIPLEXERS ..... Pg. 800
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N.Y.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. - Pg. 800
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Precision Laboratory, Inc., 63 Bedford Rd., Pleasantville, N.Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lewyt Mfg., Corp., 43-22 Queens St., Long Island City, N.Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., Box 550, Burbank, Calif.
Mattson Electronics Corp., 11645-47 Mc Bean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Radiation, Inc., P.O. Box 37, Melbourne, Fla.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon Mfg., Co., Communications Products Dept., 100 River St., Waltham, Mass.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Sherwood Electronic Labs., Inc., 4300 N. California Ave., Chicago, Ill.
Solid State Electronics Co., Dept., E. 8158 Orion St., Van Nuys, Calif.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N.Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westronics, Inc., 3605 Mc Cart St., Fort Worth, Texas

MULTIPLIERS. CRYSTAL ..... Pgs. 798–800
Demornay-Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. - Pgs. 798, 799
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. - Pg. 800
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microlab, 71 Okner Pkway., Livingston, N.J.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Raytheon Semiconductor Div. , 215 First Ave., Needham Heights, Mass.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telectro Industries Corp., 35-16 37th St., L. I. City, N.Y.

MULTIPLIERS. DIODE ..... Pg. 515
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Microwave Associates, Inc., Burlington, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Philco Corp. Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Raytheon Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Reeves Instrument Corp., East Gate Blvd., Garden City, N.Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
RHO Engineering Co., 2242 Sepulveda, Los Angeles, Calif. - Pg. 515
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Technical Apparatus Builders, QPO Liberty St., New York, N.Y.
Weston Instruments Div., Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

MULTIPLIERS. ELECTRONIC ..... Pgs. 515, 655
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Centronix, Inc., 4000 N. W., 28th St., Miami, Fla.
Chadwick-Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Dorsett Laboratories, Inc., P.O. Box 862, 401 Boyd St., Norman, Oklahoma
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engineering, 1124 South 3rd St., Minneapolis, Minn.
Electronic Associates, Inc., Long Branch, N.J.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
Hamner Electronics Co., Inc., P.O. Box 531, Princeton, N.J.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
LEL, Inc., 380 Oak St., Copiague, N.Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N.Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Reeves Instrument Corp., East Gate Blvd., Garden City, N.Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
RHO Engineering Co., 2242 Sepulveda, Los Angeles, Calif. - Pg 515
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.

MULTIPLIERS. FREQUENCY ..... Pgs. 527, 724, 791, 798, 799
Amerac, Inc., Dunham Rd., Beverly, Mass. – Pg. 791
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N.Y. - Pg. 527
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Delta-F, Inc., 113 E. State St., Geneva, Ill.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engineering, 1124 South 3rd St., Minneapolis, Minn.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N.Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.

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General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass.
Instruments for Industry, Inc., 101 New South Rd., Hicksville, N.Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
LEL, Inc., 380 Oak St., Copiague, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microwave Associates, Inc., Burlington, Mass.
Milro Controls Co., Park Ridge, N.J.
Norman Laboratories, Williams Bay, Wisc. – Pg. 724
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N.Y.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Sperry Gyroscope Co., Electronic Tube Div., Great Neck, N.Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York

MULTIPLIERS. MAGNETIC ..... Pg. 807

American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Magnetics, Inc., 135 Bloomfield Ave., Bloomfield, N.J.
Hewlett-Packard Co., 4801R, Page Mill Rd., Palo Alto, Calif. - Pg. 807
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Magnetics Research Co., 255 Grove St., White Plains, N.Y.
Milro Controls Co., Park Ridge, N.J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.

MULTIPLIERS. METER ..... Pg. 807

Bach-Simpson, Ltd., 1255 Brydges St., London, Canada
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 807
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Physics Research Labs., Inc., 507 Hempstead Tumpike, Box 555, Hempstead, N.Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Shallcross Mfg., Co., Preston St., Selma, N.C.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.

MULTIPLIERS. SERVO ..... Pg. 546

Belock Instrument Corp., 112-03 14th Ave., College Point 56, N.Y.
Centronix, Inc., 4000 N. W., 28th St., Miami, Fla.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electric Specialty Co., 300 South St., Stamford, Conn.
Electro Precision Corp., Arkadelphia, Ark. - Pg. 546
Electronic Associates, Inc., Long Branch, N.J.
Feedback Controls, Inc., 899 Main St., Waltham, Mass.
Ketay Dept., Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N.Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N.Y.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pic Design Corp., Div., Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y.
Reeves Instrument Corp, East Gate Blvd., Garden City, N.Y.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Waldorf Instr. Co., Div., F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.
Westronics, Inc., 3605 Mc Cart St., Fort Worth, Texas

MULTIVIBRATORS ..... Pgs. 510, 511, 513, 516, 542, 543, 550, 553

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Digital Equipment Corp., Maynard, Mass. - Pg. 542, 543
Dorsett Laboratories, Inc., P.O. Box 862, 401 Boyd St., Norman, Oklahoma
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engineering, 1124 South 3rd St., Minneapolis, Minn.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. - Pgs. 510, 511
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Lewyt Mfg., Corp., 43–22 Queens St., L. I. City, N.Y.
Navigation Computer Corp., 1621 Snyder Ave., Phila., Pa. – Pg. 550
M. F. Electronics Co., 122 E. 25th St., New York, N.Y. – Pg. 513
Ransom Research, P. O. Box 269, 323 W. 7th St., San Pedro, Calif. – Pg. 553
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Walkirt, 141 W. Hazel St., Inglewood, Calif. - Pg. 516

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NAVIGATION. COMMAND CONTROLS

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Burton Mfg., Co., 2520 Colorado Ave., Santa Monica, Calif.
Central Dynamics, Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring., Md.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th St., Bronx, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Kearfott Company, Inc., Little Falls, N.J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg., Corp., 43-22 Queens St., Long Island City, N.Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N.Y.
Minneapolis-Honeywell Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N.Y.
Ramo Wooldridge Div., Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sequoia Wire & Cable Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Stromberg-Carlson Div., General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Waldorf Instr. Co., Div., F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westronics of California, Div., Electromation, 318 E. Calaveras, Altadena, Calif.

NAVIGATION. EQUIP.. AIRBORNE ..... Pgs. 687, 1076, 1101, 1102

Admiral Corp., Govt. Sales Div., 3800 Cortland St., Chicago, Ill.
Aeronutronic Systems, Inc., 1234 Airway, Glendale, Calif.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N.Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Avion Div., A.C.F. Industries, Inc., 7 Park Pl., Paramus, N.J. - Pg. 1101
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Radio Div., Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brelonix, Inc., 1425 10th West, Seattle, Washington
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N.J.
Burton Mfg., Co., 2520 Colorado Ave., Santa Monica, Calif.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Central Dynamic, Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa.
Collins Radio Co., 855 35th St., N. E. Cedar Rapids, Iowa
Computing Devices of Canada, Ltd., P.O. Box 508, Ottawa, Canada
Dare, Inc., Route 25, Troy, Ohio
Detroit Controls Div., Amer. Radiator & Stand., Corp., 100 Morse St., Norwood, Mass.
Dynamic Electronics N.Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eclipse-Pioneer Div., Bendix Aviation Corp., Teterboro, N.J.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Federal Mfg. & Engineering Co., 1055 Stewart Ave., Garden City, N.Y.
Ford Instrument Co., Div., Sperry Rand Corp., 31-10 Thomson Ave., L.I. City, N.Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N.Y.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hallamore Elctrns.Co., Div., Siegler Corp., 8352 Brookhurst Ave., Anaheim, Cal.–Pgs. 687, 1102
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hoffman Labs., Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Kearfott Company, Inc., Little Falls, N.J.
Kinevox Div., Electromation Co., 1646 18th St., Santa Monica, Calif.
Kollsman Instrument Sub. Standard Coil Products., 80-08 45th Ave., Elmhurst, N.Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg., Corp., 43-22 Queens St., Long Island City, N.Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N.Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N.Y.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
Navigation Electronics Corp., 11616 Hart St., N. Hollywood, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div., Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Ryan Aeronautical Co., Harbor Drive, San Diego, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N.H.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Sequoia Wire & Cable, Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd., & Kipling Ave., Toronto, Canada
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Stromberg-Carlson, Div., General Dynamic, 100 Carlson Rd., Rochester, N.Y.
Stromberg-Carlson Special Prod. Div., 1700 University Ave., Rochester, N.Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 First Ave., Rochester, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Ten Bosch, M., Inc., Application & Sales Dept., Pleasantville, N.Y. - Pg. 1076
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Waldorf Instr., Co., Div., F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westronics of California, Div., Electromation, 318 E. Calaveras, Altadena, Calif.

NAVIGATION. EQUIP.. CELESTIAL ..... Pg. 1101

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Avion Div., A C F Industries, Inc., 7 Park Pl., Paramus, N. J. - Pg. 1101
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Central Dynamics, Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N. Y.
Ford Instrument Co., Div., Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N.Y.
Kollsman Instrument, Sub. Standard Coil Products, 80-08 45th Ave., Elmhurst, N.Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

NAVIGATION. EQUIP.. GROUND ..... Pgs. 687, 1102

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N.Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N.Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Crosley Div., Avco Mfg., Corp., 1329 Arlington St., Cincinnati, Ohio
Davidson Mfg., Co., 2223 Ramona Blvd., West Covina, Calif.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.

NAVIGATION. EQUIP., GROUND (continued)
Ford Instrument Co., Div., Sperry Rand Corp., 31-10 Thomson Ave., L. I. City, N.Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Hallamore Elctrns.Co., Div., Siegler Corp.,8352 Brookhurst Ave., Anaheim, Cal.–Pgs. 687, 1102
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
Kearfott Company, Inc., Little Falls, N.J.
Lewyt Mfg., Corp., 43-22 Queens St., Long Island City, N.Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Link Aviation, Inc., Binghamton, N.Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N.Y.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N.Y.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div., Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Stromberg-Carlson, Div., General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 First Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Waldorf Instr. Co., Div., F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.
Waterman Products Co., Philadelphia, Pa.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

NAVIGATION. EQUIP., INERTIAL – SEE INERTIAL GUIDANCE

NAVIGATION. INFRARED EQUIPMENT
American Speedlight Corp., 63-01 Metroplitan Ave., Middle Village, N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Avion Div., A. C. F. Industries, Inc., 7 Park Pl., Paramus, N.J.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Barnes Engineering Co., 30 Commerce Road, Stamford, Conn.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N.Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N.Y.
Fireye Div., Electronics Corp., of America, One Memorial Dr., Cambridge, Mass.
Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N.Y.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. & Bin N, Pasadena, Calif.
Lewyt Mfg., Corp., 43-22 Queens St., Long Island City, N.Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge Div., Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.

NAVIGATION. RADAR BEAM EQUIPMENT
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N.Y.
Hallamore Electronics Co., Div., Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Lewyt Mfg., Corp., 43-22 Queens St., Long Island City, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Raytheon Mfg., Co., Marine Products Dept., 100 River St., Waltham, Mass.
Sylvania Electric Products, Elctrn. Systems Div., 100 First Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg., Corp., 1440 Broadway, New York, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

NEEDLES – SEE STYLI

NETWORKS. CROSSOVER
Argonne Electronics Mfg., Corp., 165-11 South Rd., Jamaica, N.Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Coil Winders, Inc., New York Ave., Westbury, L. I., N.Y.
Dero Electronics, 134 Nassau Rd., Roosevelt, N.Y.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eby Sales Co., 130 Lafayette St., New York, N.Y.
El–Rad Mfg., Co., 2800 Cullom Ave., Chicago, Ill.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Heath Co., Benton Harbor, Mich.
Jensen Mfg., Co., 6601 S. Laramie Ave., Chicago, Ill.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N.Y.
Sherwood Electronic Labs., Inc., 4300 N. California Ave., Chicago, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N.Y.
Utah Radio Products Corp., 1124 E. Franklin St., Huntington, Ind.
Vidaire Electronics Mfg., Corp., 44 Church Street, Baldwin, New York
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Wharfedale Div., British Industries Corp., 80 Shore Rd., Pt. Washington, N.Y.

NETWORKS. DIRECTIONAL ANTENNA PHASING ..... Pg. 793
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 793
Admittance-Namco Corp., 5 Marine St., Farmingdale, L. I., N.Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper Bl. 15-1, Camden, N.J.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

NETWORKS, MATCHING ..... Pgs. 550, 803
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
CGS Laboratories, Inc., Routes 7 and 35, Ridgefield, Conn.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hway., Lees Summit, Mo.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. - Pg. 803
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Julie Research Lab., Inc., 556 West 168th St., New York, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Navigation Computer Corp., 1621 Snyder Ave., Phila., Pa. – Pg. 550
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sage-Craft, Inc., Norwich, N.Y.
Shallcross Mfg., Co., Preston St., Selma, N. C.
Tech Laboratories, Inc., Palisades Park, N.J.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
White Instrument Labs., Box 9006, Austin, Texas

NETWORKS. PHASE ..... Pg. 755
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Industrial Test Equipment Co., 55 E. 11th St., New York, N.Y.
Julie Research Lab., Inc., 556 West 168th St., New York, N.Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Morey Corp, The, 2014 N. Major Ave., Chicago, Ill.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Theta Instrument Corp., 48 Pine St., E. Paterson, N.J. - Pg. 755
Transonic Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Wintronics, 213 S. Hawthrone Blvd., Hawthorne, Calif.

NETWORKS. POTTED – SEE ENCAPSULATED ASSEMBLIES

NETWORKS. PULSE ..... Pgs. 619, 778, 824, 1104, 1136
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N.J.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
All-Tronics, Inc., 43 Bond St., Westbury, L. I., N. Y. - Pg. 619
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Clegg Laboratories, Div., Clegg, Inc., Morristown, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N.J.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Electrical & Physical Instrument Corp., 42-19 27th St., Long Island City, N.Y.
Essex Electronics, Berkeley Heights, N.J.
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N.Y.
Fisher Engineering, Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. - Pg. 778
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N.J.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Texas
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Micamold Electronics Mfg., Corp., 1087 Flushing Ave., Brooklyn, N.Y.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif. - Pg. 1136
New Haven Clock & Watch Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
Parsons, R. M. Co., Elctrns. Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 824, 1104
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Pulse Engineering, Inc., 2657 Spring St., Redwood City, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Rheem Mfg., Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sprague Electric Co., 91 Marshall St., North Adams, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg., Corp., 1440 Broadway, New York, N.Y.
Telex, Telex Park, St. Paul, Minn.
Tobe-Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.

NICKEL – SEE METAL

NUCLEAR EQUIPMENT – SEE ACCELERATORS. ANALYZERS. ETC.

NUCLEAR RADIATION SOURCES
American Machine & Foundry Defense Prod. Grp., 1701 K St., N. W. Washington, D. C.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Atomic Labs., Inc., 3086 Claremont Ave., Berkeley, Calif.

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Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn 7, N.Y.
Bendix Aviation Corp., Cincinnati Div., 3130 Wasson Rd., Cincinnati, Ohio
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Curtiss-Wright Corp., Princeton Div., Princeton, N.J.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Nuclear-Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N.J.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Picker X-Ray Corp., 25 S. Broadway, White Plains, N.Y.
Radiation Dynamics, Inc., 1800 Shames Drive, Westbury, N.Y.
Radiation Research Corp., 1114 1st Ave., New York, N.Y.
Special Instruments Lab., Inc., 312 W. Vine Ave., Knoxville, Tenn.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Volk Radiochemical Co., 5412 N. Clark St., Chicago, Ill.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

NUCLEAR. SHIELDING. RADIATION – SEE SHIELDING. NUCLEAR

NULL DETECTORS – SEE DETECTORS. NULL

NUTS. METAL ..... **Pgs. 519, 633, 641, 644, 857–871**
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N.Y.
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
American Screw Co., Willimantic, Conn.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N.Y.
Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N.Y.
Autoscrew Co., 216-222 W. 18th St., New York, N.Y.
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. - Pg. 519
Central Screw Co., 3501 Shields Ave., Chicago, Ill.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Circon Component Corp., Municipal Airport, Goleta, California - Pg. 633
Dialight Corp., 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857–871
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
General Cement Mfg., Co., Div. of Textron, Inc., 400 S. Wyman St., Rockford, Ill. - Pgs. 633, 862, 871
Hallett Mfg., Co., 5910 Bowcroft St., Los Angeles, Calif.
Hercules Fastener Co., 2722 N. Clybourn Ave., Chicago, Ill.
Jacobson Nut Mfg., Corp., Box 177, Kenilworth, N.J.
Kaynar Co., Box 2001 Terminal Annex, Los Angeles, Calif.
Klincher Locknut Corp., 2153 Hillside Ave., Indianapolis, Ind.
Lamson & Sessions Co., The, 5000 Tiedeman Road, Cleveland, Ohio
Morris, J. I. Co., 372 Elm St., Southbridge, Mass. - Pg. 641
National Co., Inc., 61 Sherman St., Malden, Mass.
National Screw & Mfg., Co., 2440 E. 75th St., Cleveland, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
North & Judd Mfg., Co., New Britain, Conn.
Palnut Co., The, 61 Glen Rd., Mountainside, N.J.
Pheoll Mfg., Co., 5700 Roosevelt Rd., Chicago, Ill.
Pic Design Corp., Div., Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y.
Rattan Mfg., Co., 10 Wall St., New Haven, Conn.
Reliance Div., Eaton Mfg., Co., 25 Charles Ave., S. E. , Massillon, Ohio
Republic Steel Corporation, 1441 Republic Bldg., Cleveland, Ohio
Rosan, Inc., 2901 West Coast Hyway., Newport Beach, Calif.
Russell, Burdsell & Ward, Bolt & Nut Co., Port Chester, N.Y.
Shakeproof Div., Illinois Tool Works, St. Charles Rd., Elgin, Ill.
Sinclair Mfg., Co., Chartley, Mass.
Standard Locknut & Lockwasher, Inc., 2250 Valley Ave., Indianapolis, Ind.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Sterling Bolt Co., 363-405 W. Erie St., Chicago, Ill.
Tinnerman Products, Inc., P. O. Box 6688, Cleveland, Ohio
Torrington Co., Specialties Div., 59 Field St., Torrington, Conn.
Townsend Co., Box 237, New Brighton, Pa.
Tru-Lock Fasteners, Inc., Woodbury, Conn.
Tubular Rivet & Stud Co., Weston Ave., Wollaston, Mass.
U. S. Engineering Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
United-Carr Fastener Corp., 31 Ames St., Cambridge, Mass.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. - Pg. 644
Walsco Electronics Mfg., Div., Textron, 3225 Exposition Pl., Los Angeles, Calif.
Waltham Screw Co., 77 Rumford Avenue, Waltham, Mass.

NUTS. PLASTIC ..... **Pg. 559**
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
American Screw Co., Willimantic, Conn.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N.Y.
Atlas E-E Corp., 47 Prospect St., Woburn, Mass. - Pg. 559
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Dimco-Gray Co., 207 E. 6th St., Dayton, Ohio
Dura Plastics of N. Y., Inc., 303-5th Avenue, New York, N.Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Fastex Div., Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Delaware
Gries Reproducer Corp., 162 Beechwood Ave., New Rochelle, N.Y.
JAN Hardware Mfg., Co., 38–01 Queens Blvd., L. I. City, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Nicholas Products Co., 325 W. Main St., Moorestown, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Nylogrip Products, 449 Watertown St., Newton 58, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Sinclair Mfg., Co., Chartley, Mass.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, N.Y.
Tru-Lock Fasteners, Inc., Woodbury, Conn.
Weckesser Co., 5701 Northwest Hway., Chicago, Ill.

NYLON – SEE INSULATION MATERIAL

ONE SHOT – SEE MULTIVIBRATORS

OPTICAL EQUIPMENT & SPECIALTIES – SEE LENSES. MICROSCOPES. MIRRORS. ETC.

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Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
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Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex.
Greenray Industries, Electronics Div., Mechanicsburg, Pa.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
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Instruments for Industry, Inc., 101 New South Rd., Hicksville, N. Y.
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Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marconi Instruments, 111 Cedar Lane, Englewood, N. J.–Pg. 720
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Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
Northern Radio Co., Inc., 143–West 22nd St., New York, N. Y.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Paco Electronics Co., Inc., 70–31 84th St., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
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Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
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Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Tel–Instrument Elect. Corp., 728 Garden St., Carlstadt, N. J. – Pg. 955
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
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Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N. H.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Wayne Kerr Corp., 2920 N. 4th St.–Box 801, Philadelphia, Pa.
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Clough–Brengle Co., 6014 Broadway, Chicago, Ill.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
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Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
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Menlo Park Engineering, 721 Hamilton Ave., Menlo Park, Calif.
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Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Solarton, Inc., 530 Cooper St., Camden, N. J.
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Electro–Mechanical Research, Inc., P. O. Box 3041, Sarasota, Fla.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
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Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
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Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Midwestern Instruments, Inc., P. O. Box 7186, Tulsa, Okla.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Parsons, Ralph, Co., Electronics Div., 151 S. Delacy Ave., Pasadena, Calif.–Pg. 1104
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Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
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Waltham Electronics Corp., 751 Main St., Waltham, Mass.
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Clegg Laboratories, Div., Clegg, Inc., Morristown, N. J.
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Dunlap Electronics, 764 9th St., Des Moines, Iowa
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Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
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Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
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Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
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Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
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Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Research Assoc.,Inc., 67 Factory Pl., Cedar Grove, N. J.
Elsin Electronics Corp., Eileen Way, Syosset, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Greenray Industries, Electronics Div., Mechanicsburg, Pa.
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General Devices, Inc., P. O. Box 253, Princeton, N. J.
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Instruments Div., W. L. Maxson Corp., 475 10th Ave., New York, N. Y.
Instruments For Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
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Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
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Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
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Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
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Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
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EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro–Medical Lab., Inc., S. Woodstock, Vt.
Electronic Tube Corp., 1200 E. Mermaid Lane, Phila., Pa.
Epic, Inc., 154 Nassau St., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sanborn Co., 175 Wyman St., Waltham, Mass.
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Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hathaway Instrument Div., Hamilton Watch Co., 5800 Jewell, Denver, Colo.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
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Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla. –Pg. 765
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
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Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
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Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
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Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio-Pg. 766
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.-Pg. 765
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro-Medical Lab., Inc., S. Woodstock, Vt.
Electronic Tube Corp., 1200 E. Mermaid Lane, Phila., Pa.
Epic, Inc., 154 Nassau St., New York, N. Y.
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hathaway Instrument Div., Hamilton Watch Co., 5800 Jewell, Denver, Colo.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Impact-O-Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
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Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla.-Pg. 765
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Minneapolis-Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
New England Scientific, Instruments Co., Box 408, Cambridge, Mass.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Sanborn Co., 175 Wyman St., Waltham, Mass.

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Bach-Simpson Ltd., 1255 Brydges St., London, Can.
Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.-Pg. 664
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Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Industries, State Road, Patterson, N. Y.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., L. I. City, N. Y.
Electronic Measurements Corp., 625 Broadway, New York, N. Y.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.-Pg. 671
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.-Pg. 688, 689
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio-Pg. 698
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Hymac Corp., 4625 Leahy St., Culver City, Calif.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.-Pg. 530
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Lavoie Laboratories, Inc., Morganville, N. J.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Lumatron Electronics, Inc., Box 174, Great Neck, N. Y.
Marconi Instruments, 111 Cedar Lane, Englewood, N. J.-Pg. 720
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
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Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
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Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
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Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
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Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
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Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
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Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.-Pg. 664
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.-Pg. 671
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Essential Electronics Corp., 1011 Power Ave., Cleveland, Ohio
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Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hughes Prod.-Hughes Aircraft, Semicond. Div., Intl. Apt., Los Angeles, Calif.-Pg. 700
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Lavoie Laboratories, Inc., Morganville, N. J.
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Pacific Technical Co., 2047 Sawtelle Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
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Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.-Pg. 748
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Sylvania Electric Products, Elctrn. Tubes Div., 1740 Broadway, New York, N. Y.
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Waterman Products Co., 2445-63 Emerald St., Philadelphia, Pa.-Pg. 763
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Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Instrument Co., Inc., 33-00 Northern Blvd., L. I. City, N. Y.
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio-Pg. 698
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Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. & Bin N, Pasadena, Calif.
Hymac Corp., 4625 Leahy St., Culver City, Calif.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Lavoie Laboratories, Inc., Morganville, N. J.
Lumatron Electronics, Inc., Box 174, Great Neck, N. Y.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Republic Electronic, Industries Corp., 111 Gazza Blvd., Farmingdale, N. Y.
Scopes Co. Inc., Box 56, Monsey, N. Y.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.-Pg. 748
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
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Clark Crystal Co., Farm Rd., Marlboro, Mass.
Cox & Co., Inc., 115 E. 23rd St., New York, N. Y.
Delta-F, Inc., 113 E. State St., Geneva, Ill.
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
Elektro-Serv Co., 480 Johnson Ave., Brooklyn, N. Y.
Hevi-Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.
Hull Corp., Dansville Rd., Hatboro, Pa.
Hunt Corp., The, 453 Lincoln St., Carlisle, Pa. - Pg. 591
International Crystal Mfg., Co., 18 N. Lee St., Oklahoma City, Okla.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Keystone Electronics Co., 65 Seventh Ave., Newark, N. J.
Knights James K. Co., The, 101 E. Church St., Sandwich, Ill.
Lavoie Laboratories, Inc., Morganville, N. J.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Magnetic Controls Co., 6405 Cambridge St., Minneapolis, Minn.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
McCoy Electronics Co., Chestnut & Watts St., Mt. Holly Springs, Pa.
Monitor Products Co., 815 Fremont Ave., South Pasadena, Calif.-Pg. 593
Northern Engineering Labs., Inc., 372 Wilmot Ave., Burlington, Wisc.
Palmer Instruments, 1028 Mission St., So. Pasadena, Calif.
Piezo Crystal Co., 265 E. Pomfret St., Carlisle, Pa.
Precision Crystal Lab., 2223 Warwick Ave., Santa Monica, Calif.
Premier Research Labs., Inc., 89 7th Ave., New York, N. Y.
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Reeves-Hoffman, Div. Dynamics Corp. of America, Carlisle, Pa. - Pg. 594
Robertshaw-Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Sherold Crystals, Inc., 1510 McGee St., Kansas City, Mo.

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Valpey Crystal Corp., 1244 Highland St., Holliston, Mass.–Pg. 595
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wright Electronics, Inc., 2537 Grand Ave., Kansas City, Mo.

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American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bliley Electric Co., Union Station Bldg., Erie, Pa.–Pg. 588
Blue M., Electric Co., 138th & Chatham St., Blue Island, Ill.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Can.
Despatch Oven Co., 619 S. E. 8th St., Minneapolis, Minn.
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
Forter–Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
Fostoria Pressed Steel Corp., Fostoria, Ohio
Grieve–Hendry Co., Inc., 1401–17 W. Carroll Ave., Chicago, Ill.
Hayes, C. I., Inc., 862 Wellington Ave., Cranston, R. I.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Hudson Bay Co., Div. of Labline, Inc., 3070 W. Grand Ave., Chicago, Ill.
Hunt Corp., The, 453 Lincoln St., Carlisle, Pa. – Pg. 591
Huppert Co., K. H., 6830–40 S. Cottage Grove Ave., Chicago, Ill.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Labline, Inc., 3070–82 W. Grand Ave., Chicago, Ill.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Mech–Tranic Equipment Co., P. O. Box 510, Silver Spring, Md.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Metta Engrg. & Sales Co., 252 E. 16th St., Paterson, N. J.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Monitor Prod. Co., 815 Fremont Ave., So. Pasadena, Calif.–Pg. 593
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
Pereny Equipment Co., 893 Chambers Rd., Columbus, Ohio
Scientific Engineering Laboratory, 1510–6th St., Berkeley, Calif.
Temperature Engrg. Corp., U. S. Highway 130, Riverton, N. J.
Valverde Labs., 252 Lafayette St., New York, N. Y.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Young Bros. Co., 1843 Columbus Rd., Cleveland, Ohio

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Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Fostoria Pressed Steel Corp., Fostoria, Ohio
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Mech–Tranic Equipment Co., P. O. Box 510, Silver Spring, Md.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Miskella Infra–Red Co., E. 73rd & Grand Ave., Cleveland, Ohio
N. J. Thermex Co., Inc., 533 Bergen St., Harrison, N. J.
Selas Corp. of America, Dresher, Pa.
Temperature Engrg. Corp., U. S. Highway 130, Riverton, N. J.

OXIDE. ALUMINUM – SEE METALS. SEE INSULATING COMPOUNDS
PACKAGING SERVICES – SEE SERVICES PACKAGING
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Armstrong Cork Co., Lancaster, Pa.
Blocksom & Co., Michigan City, Ind.
Celanese Corp. of America, Plastics Div., 744 Broad St., Newark, N. J.
Continental Can Co., Inc., 100 E. 42nd St., New York, N. Y.
Corrugated Paper Products, Inc., 2233 Utica Ave., Brooklyn, N.Y.
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Dow Chemical Co., Midland, Mich.
Electro Chemical Co., 230 E. 127 St., New York, N. Y.
Felters Co., The, 210 South St., Boston, Mass.
Floquil Prods., Inc., Cobleskill, N. Y.
Gerrardi, A. J. Co., 1950 Hawthorne Ave., Melrose Park, Ill.
Hinde & Dauch, Div. W. Virginia Pulp & Paper Co., 407 Decatur St., Sandusky, Ohio
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Nopco Chemical Co., Plastics Div., 175 Schuyler Ave., North Arlington, N. J.
Permacel, U. S. Highway 1, New Brunswick, N. J.
Peter Partition Corp., 124 Boerum Pl., Brooklyn, N. Y.
Republic Rubber, Div–Lee Rubber & Tire Corp., 1410 Albert St., Youngstown, Ohio
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., P. O. Box 1037, Culver City, Calif.
Thompson, H. I. Fiber Glass Co., 1733 Cordova St., Los Angeles, Calif.
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Bel Fuse, Inc., 198 Van Vorst St., Jersey City, N. J. – Pg. 506
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
General Cement Mfg., Co., Div. of Textron, Inc., 400 S. Wyman St., Rockford, Ill. – Pg. 506
Handy & Harman, 82 Fulton St., New York, N. Y.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Huron Industries, P. O. Box 557, Port Huron, Mich.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Metaplast Co., Inc., 34-51 56th St., Woodside, N. Y.
Micro-Circuits Co., New Buffalo, Mich.
Pettinos, Charles, Inc., 1 E. 42nd St., New York, N. Y.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.
Walsco Electronics Mfg., Div. of Textron, 3225 Exposition Pl., Los Angeles, Calif.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.

PAINTS. CRYSTAL FINISH
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

PAINTS. FLUORESCENT
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Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Black Light Eastern Corp., 201-04 Northern Blvd., Bayside, New York
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Floquil Prods., Inc., Cobleskill, N. Y.
Naz-Dar Co., 465 Milwaukee Ave., Chicago, Ill.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Stroblite Co., 75 W. 45th St., New York, N. Y.
U. S. Radium Corp., Morristown, New Jersey
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.

PAINTS. LUMINOUS
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Black Light Eastern Corp., 201-04 Northern Blvd., Bayside, New York
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Floquil Prods., Inc., Cobleskill, N. Y.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Stroblite Co., 75 W. 45th St., New York, N. Y.
U. S. Radium Corp., Morristown, New Jersey

PAINTS. METALLIC ..... **Pg. 506**
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Bart Mfg. Corp., 227 Main St., Belleville, N. J.
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
Bel Fuse, Inc., 198 Van Vorst St., Jesey City, N. J. – Pg. 506
Champion Bronze & Powder Co., 2101 Elston Ave., Chicago, Ill.
Constad Labs., 85-02 162 St., Jamaica, N. Y.
Dixon Crucible Co., 167 Wayne St., Jersey City, N. J.
Drakenfeld, B. F. & Co., Box 519, Washington, Pa.
Floquil Prods., Inc., Cobleskill, N. Y.
Krylon, Inc., Ford & Washington, Norristown, Pa.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Micro-Circuits Co., New Buffalo, Mich.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.

PAINTS. PRESSURE SENSITIVE
Clark Electronic Labs., Box 165, Palm Springs, Calif.

PAINTS. PROTECTIVE
Amercoat Corp., 4808 Firestone Blvd., South Gate, Calif.
Argos Products Co., 301 Main St., Genoa, Ill.
Atlas Mineral Products Co., Mertztown, Pa.
Babbitt Chemical Co., 38 Prospect St., New Bedford, Mass.
Bart Mfg. Corp., 227 Main St., Belleville, N. J.
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
Carboline Co., 32 Hanley Ind. Ct., St. Louis, Mo.
Constad Labs., 85-02 162 St., Jamaica, N. Y.
Dixon Crucible Co., 167 Wayne St., Jersey City, N. J.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Floquil Prods., Inc., Cobleskill, N. Y.
General Cement Mfg., Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Insl–X Co., Inc., Water St., Ossining, N. Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Metal & Thermit Corp., Rahway, N. J.
Micro-Circuits Co., New Buffalo, Mich.
National Lead Co., 111 Broadway, New York, N. Y.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
Sauereisen Cements Co., Sauereisen Bldg., Pittsburgh, Pa.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N. Y.
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Vorac Co., The, 146 Meadow Rd., Rutherford, N. J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

PAINTS. RADIOACTIVE
Amercoat Corp., 4808 Firestone Blvd., South Gate, Calif.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Isotopes Specialties Co., Box 688, Burbank, Calif.

PAINTS. REFLECTIVE
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Floquil Prods., Inc., Cobleskill, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.

PAINTS. RESISTIVE
Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Amercoat Corp., 4808 Firestone Blvd., South Gate, Calif.
Argos Products Co., 301 Main St., Genoa, Ill.
Carboline Co., 32 Hanley Ind. Ct., St. Louis, Mo.
Dry Screen Process, Inc., 1016 Madison Ave., Pittsburgh, Pa.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Floquil Prods., Inc., Cobleskill, N. Y.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Insl–X Co., Inc., Water St., Ossining, N. Y.
Micro-Circuits Co., New Buffalo, Mich.
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N. Y.
Vorac Co., The, 147 Meadow Rd., Rutherford, N. J.

PAINTS. RIPPLE FINISH ..... **Pg. 506**
Bee Chemical Co., Logo Div., 12933 S. Stony Island Ave., Chicago, Ill.
General Cement Mfg., Div. of Textron, Inc., 400 S. Wyman St., Rockford, Ill. – Pg. 506
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

PALLADIUM – SEE METALS
PANEL EQUIPMENT – SEE DIALS. CONNECTORS. JACKS. LIGHTS. ETC.
PANELS. BAKELITE
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ackerman Engravers, 458 Broadway, New York, N. Y.
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Audio Accessories, 279 Broadway, Amityville, N. Y.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Como Plastics, Inc., 97-24 Albert Rd., Ozone Park, N. Y.
Conn-Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Hampden Mfg., Co., Inc., 3 Rivers, P. O. Box 89, Palmer, Mass.
Hermes Plastics, Inc., 13-19 University Pl., New York, N. Y.
Howard Crystal Holders, Inc., 2600 Grand Ave., Kansas City, Mo.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Krengel Mfg., Co., Inc., 227 Fulton St., New York, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.

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Maryland Etching Co., Inc., Andewood Lane, Towson, Md.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prdts., Inc., 271 Central St., W. Acton, Mass.
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N. J.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Trimm, Inc., 400 Lake St., Libertyville, Ill.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Wilmington Fibre Specialty Co., New Castle, Dela.

PANELS. COOLING

Rotron Mfg., Co., Inc., Woodstock, N. Y.

PANELS. FIBRE

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Como Plastics, Inc., 97-24 Albert Rd., Ozone Park, N. Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle-Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Hampden Mfg., Co., Inc., 3 Rivers, P. O. Box 89, Palmer, Mass.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Masonite Corp., 111 W. Washington St., Chicago, Ill.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Permonite Mfg., Co., 444 Lake Shore Dr., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
U. S. Engrg. Co. Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Wilmington Fibre Specialty Co., New Castle, Dela.

PANELS. FUSE

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Cadre Industries Corp., Box 150, Endicott, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
General Electric Co., Distribution Assemblies Dept., Plainville, Conn.
Kolton Electric Mfg., Co., 123 New Jersey R. R. Ave., Newark, N. J.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Pilgrim Prdts., Inc., 271 Central St., W. Acton, Mass.

PANELS. INDICATOR

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Machine & Foundry Co., 11 Bruce Pl., Greenwich, Conn.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Circon Component Corp., Municipal Airport, Goleta, California
Dura Plastics of N. Y., Inc., 303-5th Ave., New York, N. Y.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Panel Controls Co., 3105 Madison Ave., S. E., Grand Rapids, Mich.
Partrick & Wilkins Co., 51 N. 7 St., Philadelphia, Pa.
Plasteck, Inc., Poteau, Okla.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
U. S. Radium Corp., Morristown, New Jersey
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

PANELS. JACK ..... Pg. 1099

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Albano Co., Inc., The, Honeycomb Div., 549-555 W. 54th St., New York, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Audio Accessories, 279 Broadway, Amityville, N. Y.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cadre Industries Corp., Box 150, Endicott, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Industrial Wiring & Cable Co., 103 Foundry St., Wakefield, Mass.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Smith, E. C. Mfg., Co., Conshohocken, Pa.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Trimm, Inc., 400 Lake St., Libertyville, Ill.
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

PANELS. METAL ..... Pgs. 467, 470, 473, 475, 480–482

Ackerman Engravers, 458 Broadway, New York, N. Y.
Alpitec, Inc., 49 Gleason Ave., Stamford, Conn.
American Emblem Co., Inc., P. O. Box 116, Utica, N. Y.
Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Baumker Mfg., Co., Comm. Prod. Div., 3826–28 Summit St., Toledo, Ohio
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chicago Thrift-Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Dare, Inc., Route 25, Troy, Ohio
Donnelly Mfg., Co., Div. of The Indian Co., 580 Winter St., Waltham, Mass.
Dynamics Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Etched Products Corp., 39-01 Queens Blvd., Long Island City, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Aviation & Elect. Mfg., Co., 179 Berger St., Wood Ridge, N. J.
Golden Co., 1054 38 St., Brooklyn, N. Y.
Golding Mfg., Co., 52 Elm St., Newark, N. J. – Pg. 470
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Hammond Mfg., Co., Ltd., Guelph, Canada
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N. Y.
Krengel Mfg., Co., Inc., 227 Fulton St., New York, N. Y.
L. M. B., 2528 W. 9th St., Los Angeles, Calif.
Lynch, R. H. Mfg., Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
M M Enclosurers, Inc., 111 Bloomingdale Rd., Hicksville, L. I., N. Y. – Pg. 473
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Maryland Etching Co., Inc., Andewood Lane, Towson, Md.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Middletown Mfg. Co., Middletown, Conn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mobil Electronics Mfg., Co., 1111 State Rd., Anderson, Ind.
Nameplates, Inc., 421 East 101st St., Brooklyn, N. Y.
New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Northern Engraving & Mfg., Co., Fourth & Vine Sts., La Crosse, Wis.
Nutron Mfg., Co., Inc., 67 Monroe Ave., Staten Island, N. Y.
Overly-Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Premier Metal Products Co., 337 Manida St., New York, N. Y. – Pg. 475
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Technical Development Co., 305 S. Chester Pk., Glenolden, Pa.
Teletronics Labs., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 480
Trimm, Inc., 400 Lake St., Libertyville, Ill.
U. S. Plywood Corp., Electr. Structures Dept., 55 W. 44th St., New York, N. Y.
U. S. Radium Corp., Morristown, New Jersey
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Watson Mfg., Co., Inc., 4800 Taylor St., Jamestown, N. Y. – Pg. 481
Western Devices, Inc., 600 W. Florence Avenue, Inglewood, Calif. – Pg. 482
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.

PANELS. METER ..... Pg. 480

Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eastern Specialty Co., 3619 N. Eighth St., Philadelphia, Pa.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Hammond Mfg., Co., Ltd., Guelph, Canada
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Middletown Mfg., Co., Middletown, Conn.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mobil Electronics Mfg., Co., 1111 State Rd., Anderson, Ind.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sterling Mfg., Co., 7201 Wentworth, Cleveland, Ohio
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Teletronics Lab., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 480
U. S. Radium Corp., Morristown, New Jersey
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.

PANELS. MONITOR
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
U. S. Radium Corp., Morristown, New Jersey
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.

PANELS. PATCH – SEE PANELS. JACK

PANELS. PLASTIC
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ackerman Engravers, 458 Broadway, New York, N. Y.
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Bodnar Industries, Inc., 238 Huguenot St., New Rochelle, N. Y.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Conn-Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dare, Inc., Route 25, Troy, Ohio
Dura Plastics of N. Y., Inc., 303-5th Ave., New York, N. Y.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle-Pieher Co., Pkway. & Walnut, Cincinnati, Ohio
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N. J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Felsenthal, G. & Sons, Inc., 3500 N. Kedzie, Chicago, Ill.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Hermes Plastics, Inc., 13-19 University Pl., New York, N. Y.
Howard Crystal Holders, Inc., 2600 Grand Ave., Kansas City, Mo.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Krengel Mfg., Co., Inc., 227 Fulton St., New York, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Maryland Etching Co., Inc., Andewood Lane, Towson, Md.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Panel Controls Co., 3105 Madison Ave., S. E., Grand Rapids, Mich.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Pilgrim Prdts., Inc., 271 Central St., W. Acton, Mass.
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Iowa
Plasteck, Inc., Poteau, Okla.
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N. J.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Schjeldahl Co., Northfield, Minn.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Synthane Corp., 12 River Rd., Oaks, Pa.
U. S. Radium Corp., Morristown, New Jersey
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

PANELS. POWER BUS
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Machinery Mfg., Co., 800 Central Ave., Minneapolis, Minn.
Fisher & Crome, 110 N. Camac St., Phila., Pa.
General Electric Co., Distribution Assemblies Dept., Plainville, Conn.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Mullenbach Div., Electric Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.

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Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
Cadre Industries Corp., Box 150, Endicott, N. Y.
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
General Aviation & Elect. Mfg., Co., 179 Berger St., Wood Ridge, N. J.
Golding Mfg., Co., 52 Elm St., Newark, N. J. – Pg. 470
Hammond Mfg., Co., Ltd., Guelph, Canada
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Middletown Mfg., Co., Middletown, Conn.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mobil Electronics Mfg., Co., 1111 State Rd., Anderson, Ind.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
Par Metal Products Corp., 32-48 49th St., L. I. City, N. Y.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Premier Metal Products Co., 337 Manida St., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Teletronics Lab., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 480
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.

PANELS. TEST
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Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Cadre Industries Corp., Box 150, Endicott, N. Y.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dare, Inc., Route 25, Troy, Ohio
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Electronic Research Labs., 85 Surrey St., Brighton, Mass.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Mechaneers, Inc., Westport, Conn.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Mid-West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Mullenbach Div., Electric Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
Potter Aeronautical Corp., Route 22, Union, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Slaughter Co., Piqua, Ohio
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
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Wright Equipment Co., 128 N. Main St., Milltown, N. J.
York Metal Products, Inc., 350 Greenwich St., New York, N. Y.

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Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
General Electric, App. Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 683
Hogal Laboratories, Inc., 155 Perry St., New York, N. Y.
Keuffel & Esser Co., Hoboken, N. J.
Leupold & Stevens Instrs., Inc., 4445 N. E. Gilsan, P. O. Box 5082, Portland, Ore.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
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Westronics, Inc., 3605 McCart St., Fort Worth, Texas

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Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
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Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Sequoia Wire & Cable Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
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Dytronics, P. O. Box 3676, Columbus, Ohio
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
ITT Federal Div., Div. Intl., Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. – Pg. 706
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Lear, Inc. 3171 S. Bundy Dr., Santa Monica, Calif.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper Bl. 15.1, Camden, N. J.

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AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
ARRA Corporation, Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y.

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American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Control Electronics Co., Inc., Ten Stepar Pl., Huntington Station, N. Y.
Crown Controls Co., Inc , 40–44 S. Washington St., New Bremen, Ohio
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Diehl Mfg., Co., 1221 Finderne Ave., Somerville, N. J.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okl.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Dytronics, P. O. Box 3676, Columbus, Ohio
Electronics Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ferrotec, Inc., 217 California St., Newton, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
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Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y. – Pg. 706
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Knopp, Inc., 1307 66th Street, Oakland, Calif.
Kollsman Motor Corp., 123 E. 42nd St., New York, N. Y.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs, Inc., 92 Broad St., Babson Park 57, Wellesley, Mass.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Panoramic Radio Prod., Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 730
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solartron, Inc., Western Division, 10761 Burbank Blvd., N. Hollywood, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Theta Instrument Corp., 48 Pine St., E. Paterson, N.J. – Pg. 755
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.

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Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Budd–Stanley Co., Inc., 43–01 22nd St., L. I. City, N. Y. – Pg. 796
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y. – Pg. 803
Ferrotec, Inc., 217 California St., Newton, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N. Y.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Waveline, Inc., Box 718, W. Caldwell, N. J. – Pg. 837

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Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N. Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Ortho–Sonic Instruments, Inc., 66 Mechanic St., New Rochelle, N. Y.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Rek–O–Kut Co., 38–19 108 St., Corona, N. Y.
Ronette Acoustical Corp., 190 Earle Ave., Lynbrook, N. Y.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N. Y.
Weathers Industries, Div. Advanced Industries, 66 E. Gloucester, Barrington, N. J.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

PHONOGRAPHS
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
American Elite, Inc., 48–50 34th St., Long Island City, N. Y.
Andrea Radio Corp., 27–01 Bridge Plaza N., Long Island City, N. Y.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Indiana
Audio–Master Corp., 17 E. 45th St., New York, N. Y.
Autocrat Electronics Co., 5024 Elm St., Skokie, Ill.
Califone Corp., 1041 N. Sycamore Ave., Hollywood, Calif.
Carron Mfg., Co., 900 So. Desplaines, Chicago, Ill.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electron Enterprises, 6917–19–21 Stanley Ave., Berwyn, Ill.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N. Y.
Fisher Radio Corp., 21–21 44th Dr., Long Island City, N. Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Granco Products, Inc., 36–17 20th Ave., Long Island City, N. Y.
Greene, L. C. Co., 314 Washington St., Newton, Mass.
Kent Television, Inc., 505 Driggs Ave., Brooklyn 11, N. Y.
Lincoln Sound Prods., 2124 N. Lincoln Ave., Chicago, Ill.
MP Engineering Co., Fairfield, Conn.
Major Electronics, 762 Wythe Ave., Brooklyn, N. Y.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Pyramid Enterprises, 3815 Trimble St., Nashville, Tenn.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Simpson, Mark Mfg., Co., Inc., 32–28 49th St., L. I. City, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Toman, E. & Co., 8700 W. 47th St., Lyons, Ill.
Tri–Phi, Inc., Div. Tripoint Plastics, 141 Albertson Ave., Albertson, N. Y.
V–M Corp., Park & Fourth, Benton Harbor, Mich.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Waters Conley Co., Inc , 17 E. Chestnut St., Chicago, Ill.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.

PHONOGRAPHS. TRANSISTOR
Audio–Master Corp., 17 E. 45th St., New York, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eastman Kodak Co., Special Prod., Sls. Div., Rochester, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electron Enterprises, 6917–19–21 Stanley Ave., Berwyn, Ill.
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.
Lincoln Sound Prods., 2124 N. Lincoln Ave., Chicago, Ill.
Major Electronics, 762 Wythe Ave., Brooklyn, N. Y.
Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Pyramid Enterprises, 3815 Trimble St., Nashville, Tenn.
Tri–Phi, Inc., Div. Tripoint Plastics, 141 Albertson Ave., Albertson, N. Y.
Valandy Electronics Corp., 15 W. 44th St., New York, N. Y.

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PHOTOELECTRIC EQUIPMENT – SEE ALARMS, CONTROLS, COUNTERS, ETC.

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Avion Div., A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Mahler Research Foundation, Box 1159, New York, N. Y.
Pacific Universal Products Co., 168 Vista Ave., Pasadena, Calif.
Rowe Engravers, 262 E. 16th St., Paterson, N. J.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Tri–Phi, Inc., Div. Tripoint Plastics, 141 Albertson Ave., Albertson, N. Y.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.

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American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Beattie–Coleman, Inc., 1000 N. Olive St., Anaheim, Calif.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Missilonics, Inc., Melbourne Airport, Melbourne, Florida
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
National Cine Equipment, Inc., 209 W. 48th St., New York, N. Y.
Nems Clarke, Div. Vitro Corp. of America, 919 Jesup–Blair Dr., Silver Springs, Md.
Precise Measurements Co., Millbrook Place, Rd I, Flemington, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Wilcox Research Co., 7250 Hinds Ave., N. Hollywood, Calif.

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PHOTOMETERS
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Eastman Kodak Co., Special Prod., Sls. Div., Rochester, N. Y.
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Epic, Inc., 154 Nassau St., New York, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photovolt Corp., 95 Madison Ave., New York, N. Y.
Quantametric Devices, Inc., Box 1107, Binghamton, N. Y.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.
Weston Instruments Div., Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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PICKUPS. MUSICAL INSTRUMENT
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Argonne Electronics Mfg., Corp., 165–11 South Rd., Jamaica, N. Y.
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Electro–Ceramics, Inc., 2645 S. 2nd W. Salt Lake City, Utah
Ekectro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Ercona Corp., Electro. Div., 16 W 46th St., New York, N. Y.
Rowe Industriee, 1702 Wayne St., Toledo, Ohio
Simpson, Mark Mfg., Co., Inc., 32–28 49th St., L. I. City, N. Y.
Sound Projects Co., 4221 W. Harrison, Chicago, Ill.
Toman, E. & Co., 8700 W. 47th St., Lyons, Ill.
Turner Co., The, 909, 17th St., N. E., Cedar Rapids, Iowa

PICKUPS. PHONO–CAPACITANCE
Astatic Corp., Conneaut, Ohio
Weathers Industries Div., Advanced Industries, 66 E. Gloucester, Barrington, N. J.

PICKUPS. PHONO–CERAMIC ..... Pg. 465
American Microphone Mfg., Div. GC–Textron, 400 S. Wyman Street, Rockford, Ill.
Astatic Corp., Conneaut, Ohio
CBS–Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.

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Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Sonotone Corp., Electronic Applications Div., Dept. CCC 39, Elmsford, N. Y. – Pg. 465
Weathers Industries Div., Advanced Industries, 66 E. Gloucester, Barrington, N. J.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

PICKUPS. PHONO–CRYSTAL ..... Pg. 460
American Microphone Mfg., Div. GC–Textron, 400 S. Wyman Street Rockford, Ill.
Astatic Corp., Conneaut, Ohio
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Federal Electronics Sales Div., Fedtro Elctrns. Bldg., Rockville Centre, N. Y. – Pg. 460
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Jensen Industries, Inc., 7333 W. Harrison St., Forest Park, Ill.
North American Philips High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N. Y.
Pacific Transducer Corp., 11836 W. Pico Blvd., Los Angeles, Calif.
Ronette Acoustical Corp., 190 Earle Ave., Lynbrook, N. Y.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Turner Co., The 909 17th St., N. E., Cedar Rapids, Iowa
Webster Electric Co., 1900 Clark St., Racine, Wisc.

PICKUPS. PHONO–DYNAMIC
Astatic Corp., Conneaut, Ohio
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.

PICKUPS. PHONO–MAGNETIC
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Astatic Corp., Conneaut, Ohio
Dyna–Empire, Inc., 1075 Stewart Ave., Garden City, N. Y.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N.Y.
Fen-Tone Corp., 106 5th Ave., New York, N.Y.
North American Philips, High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N.Y.
Pacific Transducer Corp., 11836 W. Pico Blvd., Los Angeles, Calif.
Pickering & Co. Inc., Sunnyside Blvd., Plainview, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Music Corp., 84 S. Water St., Port Chester, N. Y.
Recoton Corp., 52-35 Barnett Ave., L.I. City, N.Y.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Tannoy Ltd., 38 Pearl St., New York, N.Y.

PICKUPS. PHONO–RIBBON
Fen-Tone Corp., 106 5th Ave., New York, N.Y.

PICKUPS. PHONO–STEREO
Fairchild Recording Equip. Co., 10–40 45th Ave., L. I. City, N. Y.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N.Y.

PICKUPS. PHOTOELECTRIC ..... Pg. 655
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.–Pg. 655
Deitz, S.J. Co., 9 E. Wesley St., So. Hackensack, N.J.
De-Tec-Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Schirmer–National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Servo-Tek Products Co., 1086 Goffle Rd., Hawthorne, N.J.

PICKUPS. PROXIMITY ..... Pg. 1114
Electro Products Laboratories, 4501 Ravenswood, Chicago, Ill.–Pg. 1114

PICKUPS. RESISTANCE ..... Pg. 1120
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif.–Pg. 1120
Vapor Heating Corp., 80 E. Jackson Blvd., Chicago, Ill.
Wiancko Engr. Co., 255 N. Halstead - Box 5020, Pasadena, Calif.

PICKUPS. VIBRATION ..... Pgs. 1114, 1120
American Microphone Mfg., Div. GC–Textron, 400 So. Wyman St., Rockford, Ill.
Astatic Corp., Conneaut, Ohio
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Biophysical Insts., Inc., 20 Herman St., Phila., Pa.
Chesapeake Instrument Corp., Shadyside, Md.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Dayton Electronic Products Co., Depco, 320 Vermont Ave., Dayton, Ohio
Decker Corp., The, 45 Monument Rd., Bala Cynwyd, Pa.
Dyna-Empire, Inc., 1075 Stewart Ave., Garden City, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Products Labs., 4501-EM, N. Ravenswood Ave., Chicago, Ill.– Pg. 1114
Endevco Corp., 161 E. California St., Pasadena, Calif.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Kistler Instrument Co., 15 Webster St., N. Tonawanda, N.Y.
Land-Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
MB Manufacturing Company, A Division of Textron, Inc., 781 Whalley Ave., New Haven, Conn.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Pace Engineering Co., 13035 Saticoy St., N. Hollywood, Calif.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Schirmer-National Alarm Co., 20 Westside Ave., Bergenfield, N. J.
Sheffield Corp., The, P. O. Box 893, Dayton, Ohio
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif. – Pg. 1120
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Wiancko Engrg. Co., 255 N. Halstead, Box 5020, Pasadena, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

PILOT LAMPS – SEE LAMPS. PILOT AND LIGHTS. PILOT

PINS ..... Pgs. 600, 607, 633
A-1 Precision Prod. Co., 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600
Acme Industrial Co., 200-222 N. Laffin St., Chicago, Ill.
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Allen Mfg., Co., The, Drawer 570, Hartford, Conn.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N. Y.
Bead Chain Mfg., Co., The, 110 Mountain Grove St., Bridgeport, Conn.
General Cement Mfg., Co., Div. of Textron, Inc., 400 S. Wyman St., Rockford, Ill. – Pg. 633
Groov-Pin Corp., 1125 Hendricks Causeway, Ridgefield, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y. – Pg. 607
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Sinclair Mfg., Co., Chartley, Mass.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Torrington Co., Specialties Div., 59 Field St., Torrington, Conn.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Waterbury Companies, Inc., Waterbury, Conn.

PITCH – SEE INSULATING COMPOUNDS

PLASTIC MATERIALS. ALKYD POLYESTER ..... Pgs. 782, 783
Allied Chemical, Plastics & Coal Chemicals Div., 40 Rector, New York, N.Y. – Pgs. 782, 783

PLASTIC MATERIALS. ALLYLS
Cast Optics Corp., 123-125 Newman St., Hackensack, N. J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Food Machinery & Chem. Corp., Chem. & Plastics Div., 161 E. 2nd St., New York, N. Y.

PLASTIC MATERIALS. CELLULOSE ACETATE ..... Pg. 785
Ace Plastic Co., 91-54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Products Mfg. Co., 8127-33 Oleander Street, New Orleans, Louisiana
Arlin Mfg., Co., 12 Perkine St., Lowell, Mass.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Celanese Corp. of America, Plastics Div., 744 Broad St., Newark, N. J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middletown, Conn.
Gering Products, Inc., N. 7th St. at Monroe Ave., Kenilworth, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Rosenberg Bros., 100 Landing Ave., Smithtown, N. Y.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. CELLULOSE ACETATE BUTYRATE ..... Pg. 785
Ace Plastic Co., 91-54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Arlin Mfg. Co., 12 Perkine St., Lowell, Mass.
Blum & Co., Inc., Julius, Carlstadt, N. J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Gering Products, Inc., N. 7th St. at Monroe Ave., Kenilworth, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. CELLULOSE NITRATE ..... Pg. 785
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS, EPOXY RESINS ..... Pgs. 602, 785, 786
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Aries Labs., Inc., 45-33 Davis Street, Long Island City, N. Y.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Chemfab Corp., 40-30 23rd St., Long Island City, N. Y.
Ciba Products Corp., Kimberton, Pa.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Plastics Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif. – Pg. 602
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela. – Pg. 786
New England Tape Co., Hudson, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nureco, Inc., 1100 Pontiac Ave., Cranston, R. I.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Products Research Co., 3126 Los Feliz Blvd., Los Angeles, Calif.
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N. Y.
Smooth-On Mfg. Co., 572 Communipaw Ave., Jersey City, N. J.
Synthane Corp., 12 River Rd., Oaks, Pa.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Union Carbide Plastics, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.

PLASTIC MATERIALS, ETHYL CELLULOSE ..... Pg. 785
Ace Plastic Co., 91-54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Products Mfg. Co., 8127-33 Oleander Street, New Orleans, Louisiana
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.

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Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.

PLASTIC MATERIALS. MELAMINE FORMALDEHYDE ..... Pgs. 782, 783, 785, 786

Allied Chemical, Plastics & Coal Chem. Div., 40 Rector, New York, N.Y. – Pgs. 782, 783
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Bomyte Co., The, Green St., Silverdale, Pa.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Farley & Loetscher Mfg. Co., Plastics Div., Dubuque, I owa
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
National Vulcanized Fibre Co., Dept. A-2, Wilmington, Dela. – Pg. 786
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N. Y.
Synthane Corp., 12 River Rd., Oaks, Pa.

PLASTIC MATERIALS. METHYL METHACRYLATE ..... Pg. 785

Ace Plastic Co., 91-54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Products Mfg. Co., 8127-33 Oleander Street, New Orleans, Louisiana
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Cast Optics Corp., 123-125 Newman St., Hackensack, N. J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dupont E.I. Denemours, Poly. Chemical Div., 10th & Market St., Wilmington, Del.
Dura Plastics of N. Y., Inc., 303–5th Ave., New York, N. Y .
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Franklin Fibre – Lamitex Co., P. O. Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Hermes Plastics, Inc., 13–19 University Pl., New York, N. Y .
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I.,N. Y.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. PHENOL FORMALDEHYDE PHENOLICS .....Pgs. 785, 786

Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave., & Stack St., Middletown, Conn.
Bomyte Co., The, Green St., Silverdale, Pa.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y .
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Durez Plastics, Div. Hooker Electrochemical, 1921 Walck Rd.,N. Tonawanda, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Farley & Loetscher Mfg. Co., Plastics Div., Dubugue, Iowa
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Chem. & Metallurgical Div., 1 Plastics Ave., Pittsfield, Mass.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Hermes Plastics, Inc., 13–19 University Pl., New York, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Plastics Engineering Co., 1607 Geele Ave., Sheboygan, Wis.
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N. Y.
Synthane Corp., 12 River Rd., Oaks, Pa.
Union Carbide Plastics, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Wilmington Fibre Specialty Co., New Castle, Del.

PLASTIC MATERIALS. POLYETHYLENE ..... Pgs. 785, 1205

Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Allied Nucleonics Corp., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
American Products Mfg. Co., 8127 – 33 Oleander Street, New Orleans, Louisiana
Auburn Mfg. Co., Pease Ave., & Stack St., Middletown, Conn.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Catalin Corp. of America, 1 Park Ave., New York, N. Y.
Celanese Corp. of America, Plastics Div., 744 Broad St., Newark, N.J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Continental Can Co., Inc., 100 E. 42nd St., New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
Dupont E. I. Denemours, Poly. Chemical Div., 10th & Market St., Wilmington, Del.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre–Lamitex Co., P. O. Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middletown, Conn.
Gering Products, Inc., N. 7th St. at Monroe Ave., Kenilworth, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.– Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Koppers Co., Inc., Koppers Bldg., Pittsburgh, Pa.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Plymouth Rubber Co., Inc., Canton, Mass.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass.– Pg. 1205
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Schjeldahl Co., Northfield, Minn.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
U.S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Union Carbide Plastics, Div. Union Carbide Corp., 30 E. 42nd St., New York, N,. Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. POLYSTYRENE ..... Pgs. 785, 1205

Ace Plastic Co., 91–54 Van Wyck Exprwy, Jamaica, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Products Mfg. Co., 8127 – 33 Oleander Street, New Orleans, Louisiana
Blum & Co., Inc., Julius, Carlstadt, N. J.
Catalin Corp. of America, 1 Park Ave., New York, N. Y.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y .
Dielect, Inc., Cedar & Cross Sts., Fords, N. J.
Dow Chemical Co., Midland, Mich.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Gering Products, Inc., N. 7Th St. At Monroe Ave., Kenilworth, N. J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.– Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Koppers Co., Inc., Koppers Bldg., Pittsburgh, Pa.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Natvar Corporation, 211 Randolph Avenue, Woodbridge, N. J.
Neosil Products Co., 10E. 39th St., New York, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Union Carbide Plastics, Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. POLYTRIFLUOROCHLORETHYLENE .... Pgs. 505, 785, 1205

Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y. – Pg. 505
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Moxness Prod., Inc., 1914 Indiana Ave., Racine, Wisc.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. TETRAFLUOROETHYLENE. RESIN ..... Pg. 785

Acheson Colloids Co., 1950 Washington Ave., Port Huron, Mich.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dupont, E. I. De Nemours, Poly. Chemical Div., 10th & Market St., Wilmington, Del.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Moxness Prod., Inc., 1914 Indiana Ave., Racine, Wisc.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Resistoflex Corp., Roseland, N. J.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLASTIC MATERIALS. TEFLON, RODS, SHEETS, TUBING ..Pgs. 780, 785, 787, 1183, 1184, 1186, 1187

Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pg. 1183
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Beemer Engineering Co., 401 N. Broad St., Philadelphia, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Commercial Plastics & Supply, 630 Broadway, New York, N. Y.
Continental Diamond Fibre Corp., Sub Budd Co., 16 Chapel St., Newark, Dela.
Cortland Industries Inc., 4545 W. Cortland St., Chicago, Ill.
Crane Packing Co., 6400 Oakton St., Morton Grove, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Dixon Corp., Burnside St., Bristol, R.I.
Driver–Harris Co., 201 Middlesex St., Harrison, N.J.
Dura Plastic of N.Y., Inc., 303–5th Ave., New York, N.Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Fluorulon Labs., Inc J Box 305, Caldwell, N.J.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg., Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.

PLASTIC MATERIALS. TEFLON. RODS. SHEETS. TUBING (continued)
Johns–Manville, 22 E. 40th St., New York, N.Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Mica Corp., 4031 Elenda St., Culver City, Calif.
Mica Fabricating Co. ,53 Central Ave., Rochelle Park, N.J.
Mica Insulator, Div. Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
New England Tape Co., Hudson, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Nylon Molding Corp., 141 South Ave., Garwood, N.J.
Penna Fluorocarbon Co., Inc., 1115 N. 38th St., Philadelphia, Pa.
Permacel, U.S. Highway 1, New Brunswick, N.J.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Resistoflex Corp., Roseland, N.J.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio.
Shamban, W.S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Sparta Mfg. Co., Dover, Ohio
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.
Tri–Point Plastics, Inc., 175–177 I.U. Willets Rd., Albertson,L.I., N.Y. – Pgs. 780,787
Walsco Electronics Mfg , Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

PLASTIC MATERIALS. UREA FORMALDEHYDE ..... Pgs. 782, 783, 785
Allied Chemical, Plastics & Coal Chem. Div., 40 Rector, New York, N.Y. –Pgs. 782, 783
Commercial Plastics & Supply, 630 Broadway, New York, N.Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N.Y.

PLASTIC MATERIALS. VINYL COMPOUNDS ..... Pg. 785
Adhesive Products Corp., 1660 Boone Ave., New York, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Products Mfg. Co., 8127–33 Oleander St., New Orleans, La.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Borden Co., The – Chemical Div., Resinite Dept., Box 1589, Santa Barbara, Calif.
Chemical Products Corp., King Phillip Rd., E. Providence, R. I.
Commercial Plastics & Supply, 630 Broadway, New York, N.Y.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Dow Chemical Co., Midland, Mich.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Gering Products, Inc., N. 7th St., At Monroe Ave., Kenilworth, N.J.
Goodrich, B.F. Chemical Co., 3135 Euclid Ave., Cleveland, Ohio
Goodrich, B.F. Industrial Prods. Co., Plastic Products Div., Marietta, Ohio
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Morningstar–Paisley,Inc., 630 W. 51st St., New York, N.Y.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Natvar Corp., 211 Randolph Ave., Woodbridge, N.J.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
New England Tape Co., Hudson, Mass.
Nopco Chemical Co., Plastics Div., 175 Schulyer Ave., North Arlington, N.J.
Plymouth Rubber Co., Inc., Canton, Mass.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.
U.S. Rubber Co., 1230 Ave. of the Americas, New York, N.Y.
Union Carbide Plastics, Div. Umon Carbide Corp., 30 E. 42nd St., New York, N.Y.
Westlake Plastics Co., 133 W. Lenni Rd., Lenni, Pa.

PLATES. CERAMIC
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Frenchtown Procleain Co., Frenchtown, N.J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Laboratory Equipment Corp., Lakeview & Hilltop Rd., St.Joseph, Mich.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Norton Co., 1 New Bond St., Worcester, Mass.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.
Western Gold & Platinunm Co., 525 Harbor Blvd., Belmont, Calif.
Wisconsin Porcelain Co., Sun Prairie, Wis.

PLATES. COLD
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.

PLATES. GLASS ..... Pg. 777
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago, Ill.
Dell Optics Co. Ltd., 327 55th St., West New York, N.J. – Pg. 777
Lancaster Glass Corp., Lancaster, Ohio

PLATES. INSTRUCTIONAL ..... Pg. 1188
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Brady Co., W.H., 710 W. Glendale Ave., Milwaukee, Wis., – Pg. 1188
C & H Supply Co., Box 338, 415 E. Beach Ave., Inglewood, Calif.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Conn–Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Crown Electronics Div., Marathon Metal Prod., 67 Huntington St., Cortland, N.Y.
Dietz, Henry G. Co., 12–16 Astoria Blvd., L.I. City, N.Y.
Dietzgen Eugene Co., 2425 N. Sheffield Ave., Chicago, Ill.
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Etching Co. of Calif., Q Circuits, Div., 1208 Howard St., San Francisco, Calif.
Hermes Plastics, Inc., 13–19 University Pl. New York, N.Y.
Identification Service Corp., 144 W. 46th St., New York, N.Y.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N.Y.
Maryland Etching Co., Inc., Andewood Lane, Towson, Md.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co., 10 Van Cortlandt Ave., E. New York, N.Y.
Metalphoto of Cincinnati, 9 E. 75th St., Cincinnati, Ohio
Metalphoto Corp., 6811 Superior Ave., Cleveland, Ohio
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N.J.
Topflight Corp., 160 E. 9th Ave., York, Pa.

PLATES. METAL ..... Pgs. 709, 1096
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
American Emblem Co., Inc., P. O. Box 116, Utica, N. Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
C & H Supply Co., Box 338, 415 E. Beach Ave., Inglewood, Calif.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Conn–Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cronane, Inc., 6279 Howard St., Chicago, Ill.
Crown Electronics Div., Marathon Metal Prod., 67 Huntington St., Cortland, N.Y.
Dietz, Henry G. Co., 12–16 Astoria Blvd., L.I. City, N.Y.
Etched Products Corp., 39–01 Queens Blvd., L.I. City, N.Y.
Etching Co. of Calif., Q Circuits Div., 1208 Howard St., San Francisco, Calif.
Feiner, P. & Sons, 522 W. 45th St., New York, N.Y.
Golden Co., 1054 38th St., Brooklyn, N.Y.
H. K. Metalcraft Mfg., Co., 3785 10th Ave., New York, N. Y.
Hermes Plastics, Inc., 13–19 University Pl., New York, N.Y.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N.Y.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N.Y.
J. B. T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pgs. 709, 1096
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N.Y.
Maryland Etching Co. Inc., Andewood Lane, Towson, Md.
Massey, A.H. Inc., 111 3rd St., Derby, Conn.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E. New York, N.Y.
Metalphoto of Cincinnati, 9 East 75th St., Cincinnati, Ohio
Metalphoto Corp., 6811 Superior Ave., Cleveland, Ohio
Nameplates, Inc., 421 E. 101st St., Brooklyn, N.Y.
Norgren Stemac, 5400 So. Delaware, Littleton, Colo.
Northern Engraving & Mfg. Co., Fourth & Vine Sts., La Crosse, Wis.
Park Nameplate Co. Inc., 34–10 Linden Pl. Flushing, N.Y.
Reynolds Metals Co. 3rd & Grace St., Richmond, Va.
Rimak, Inc., 10929 Vanowen St., N.Hollywood, Calif.
Star–A Electric Mfg. Co., 269 Meserol St., Brooklyn, N.Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Topflight Corp., 160 E. 9th Ave., York, Pa.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Wrought Washer Mfg. Co., 2252 South Bay St., Milwaukee, Wisc.

PLATES. NAMEPLATES ..... Pgs. 1188, 1213
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Emblem Co. Inc., P.O. Box 116, Utica, N.Y.
Audio Accessories, 279 Broadway, Amityville, N.Y.
Brady, W.H. Co., 710 W. Glendale Ave., Milwaukee, Wisc., – Pg. 1188
C & H Supply Co., Box 338, 415 E. Beach Ave., Inglewood, Calif.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N.Y.
Cardy–Lundmark Co., 1801 W. Byron St., Chicago, Ill.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Conn–Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Continental Diamond Fibre Corp., Sub. Bubb Co., 16 Chapel St., Newark, Dela.
Control Devices Inc., 8299 E Nine Mile Rd., Warren, Mich.
Croname, Inc., 6279 Howard St., Chicago, Ill.
Crown Electronics Div., Marathon Metal Prod., 67 Huntington St., Cortland, N.Y.
Dietz, Henry G. Co., 12–16 Astoria Blvd., L.I. City, N.Y.
Dura Plastics of N.Y., Inc., 303–5th Ave., New York, N.Y.
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Emeloid Co. Inc., The, 1239 Central Ave., Hillside, N.J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Etched Products Corp., 39–01 Queens Blvd., L.I. City, N.Y.
Etching Co. of Calif., Q Circuits Div., 1208 Howard St., San Francisco, Calif.
Fabra–Print Inc., 801 S.E. 8th St., Minneapolis 14, Minn.
Felsenthal, G. & Sons, Inc., 3500 N. Kedzie, Chicago, Ill.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
GM Adhesive Metal Nameplate, 3131 Western Ave., Seattle, Wash.
H.K. Metalcraft Mfg. Co., 3785 10th Ave., New York, N.Y.
Hermes Plastics, Inc., 13–19 University Pl. New York, N.Y.
Identification Service Corp., 144 W. 46th St., New York, N.Y.
Industrial Engravers Inc., 2212 McDonald Ave., Brooklyn, N.Y.
Jodee Plastics Inc., 36 Crescent St., Brooklyn, N.Y.
Keil Engrg. Products Co., 6833 Manchester St., St. Louis, Mo.
Krengel Mfg Co. Inc., 227 Fulton St., New York, N.Y.
Laminated Sheet Products Corp., 449 Neponset St., P.O.Box 390, Norwood, Mass.
Mahler Research Foundation, Box 1159, New York, N.Y.
Maryland Etching Co. Inc., Andewood Lane, Towson, Md.
Matthews & Co., James H., 3832 Forbes Ave., Pittsburgh, Pa.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co. Inc., 10 Van Cortlandt Ave., E. New York, N.Y,
Metalphoto of Cincinnati, 9 East 75th St., Cincinnati, Ohio
Metalphoto Corp. 6811 Superior Ave., Cleveland, Ohio
Mica Insulator, Div. Minnesota Min. & Mfg., P.O. Box 1076, Schenectady, N.Y.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St.Paul, Minn.
Nameplates, Inc., 421 E. 101st St., Brooklyn, N.Y.
New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.
New Hermes Engraving Machine Corp., 13–19 University Pl., New York, N.Y.
Norgren Stemac, 5400 So. Delaware, Littleton, Colo.
North Shore Nameplate Inc., 214–27 Northern Blvd., Bayside, N.Y.
Northern Engraving & Mfg. Co., Fourth & Vine Sts., La Crosse, Wis.
Park Nameplate Co., Inc., 34–10 Linden Pl., Flushing, N.Y.
Pee Cee Tape & Label Co., 521 N. La Brea Ave., Los Angeles, Calif.
Precision Engraving Co., 10 Ridgedale Ave., Hanover, N.J.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N.J.
Techniques, Inc., 52 Jackson Ave., Hackensack, N.J.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P.O. Box 1314, Gardena, Calif.
Topflight Corp., 160 E. 9th Ave., York, Pa.
U.S. Radium Corp., Morristown, N.J.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Westline Products, Rose & E. 2nd Sts., Los Angeles, Calif. – Pg. 1213

PLATES. PLASTIC
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York,N.Y.
Bolta Products Div. General Tire & Rubber Co., Lawrence, Mass.
Cardy–Lundmark Co., 1801 W. Byron St., Chicago, Ill.
Como Plastics, Inc., 97–24 Albert Rd., Ozone Park, N.Y.
Conn–Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Dura Plastics of N.Y., Inc., 303–5th Ave., New York, N.Y.
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Emeloid Co. Inc., The, 1239 Central Ave., Hillside,N.J.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fabra–Print Inc., 801 S.E. 8th St., Minneapolis, Minn.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Hampden Mfg. Co., Inc., 3 Rivers – P.O. Box 89, Palmer, Mass.

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Hermes Plastics, Inc., 13–19 University Pl., New York, N.Y.
Industrial Engravers, Inc., 2212 McDonald, Ave., Brooklyn, N.Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Keil Engrg. Products Co., 6833 Manchester St., St. Louis, Mo.
Krengel Mfg. Co.,Inc., 227 Fulton St., New York, N.Y.
Laminated Sheet Products Corp., 449 Neponset St., P.O.Box 390, Norwood, Mass.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Maryland Etching Co Inc., Andewood Lane, Towson, Md.
Massey, A.H., Inc., 111 3rd St., Derby, Conn.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co. Inc., 10 Van Cortlandt Ave., E.New York, N.Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
New Hermes Engraving Machine Corp., 13–19 University Pl., New York, N.Y.
Norgren Stemac, 5400 So. Delaware, Littleton, Colo.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Printloid, Inc., 10–10 44th Ave., L.I. City, N.Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N.J.
Synthane Corp., 12 River Rd., Oaks, Pa.
Topflight Corp., 160 E. 9th Ave., York, Pa.
U.S. Radium Corp., Morristown, N.J.
Wrought Washer Mfg. Co., 2252 South Bay St., Milwaukee, Wisc.

PLATES. SILK SCREEN

Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N.Y.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago, Ill.
Crown Electronics Div. Marathon Metal Prod., 67 Huntington St., Cortland, N.Y.
Dura Plastics of N.Y., Inc., 303–5th Ave., New York, N.Y.
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Fabra–Print Inc., 801 S.E. 8th St., Minneapolis, Minn.
Felsenthal, G. & Sons, Inc., 3500 N. Kedzie, Chicago., Ill.
Hampden Mfg. Co. Inc., 3 Rivers – P.O. Box 89, Palmer, Mass.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Mahler Research Foundation, Box 1159, New York, N.Y.
Maryland Etching Co. Inc., Andewood Lane, Towson, Md.
Mechanical Engraving Co. Inc., 10 Van Cortland Ave., E.New York, N.Y.
Metaplast Co. Inc., 34–51 56th St., Woodside, N.Y.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N.J.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
Nameplates, Inc., 421 E. 101st St., Brooklyn, N.Y.
Naz–Dar Co., 465 Milwaukee Ave., Chicago, Ill.
Northern Engraving & Mfg. Co., Fourth & Vine Sts., La Crosse, Wis.
Park Nameplate Co. Inc., 34–10 Linden Pl., Flushing N.Y.
Printloid, Inc., 10–10 44th Ave., L.I.City, N.Y.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rowe Engravers, 262 E. 16th St., Paterson, N.J.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N.J.
Techniques, Inc., 52 Jackson Ave., Hackensack, N.J.
Topflight Corp., 160 E. 9th Ave., York, Pa.

PLATING SERVICES – SEE SERVICES. PLATING

PLAYERS. MAGNETIC TAPE

Audiomation Laboratories, 7230 Clinton Rd., Upper Darby, Pa.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Dymanic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Fairchild Recording Equip. Co., 10–40 45th Ave., L.I. City, N.Y.
Heath Co., Benton Harbor, Mich.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Moulic Specialties Co, 1007 W. Washington St., Bloomington, Ill.
North American Philips, Dictating Equip. Div., 230 Duffy Ave., Hicksville, N.Y.
Philco Corp., Govt & Ind.Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Electr. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N.Y.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.
Viking of Minn., 9600 Aldrich Ave., S.Minneapolis, Minn.
Vinson, E.R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Williams, Brown & Earle Inc., 904 Chestnut St., Philadelphia, Pa.

PLAYERS. RECORD AND TRANSCRIPTION

Airtronix Development Corp., 4902 Church St., Brooklyn, N.Y.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Fairchild Recording Equip Co., 10–40 45th Ave., L.I. City, N.Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N.Y.
Heath Co., Benton Harbor, Mich.
Kalart Co. Inc., Hulteneus St., Plainville, Conn.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Philco Corp. Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37–06 36th St., L.I. City, N.Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper Bl. 15–1, Camden,N.J.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.

PLIERS ..... Pgs. 641, 1111

Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Erikson Specialized Tool Co., Box 424, Pico, Calif. – Pg. 1111
Handicraft Tools, Inc., Div of X–Acto, 48–41 Van Dam St., L.I. City, N.Y.
Hunter, R.N. Sales Co. Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.
Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
In–Dus–Tronic Div., H.Boker & Co. Inc., 101 Duane St., New York, N.Y.
Jadow, B. Inc., 860 Broadway, New York, N.Y.
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Klein & Sons, 7200 McCormick Rd., Chicago, Ill.
Krueter & Co., Inc., 583–585 18th Ave., Newark, N.J.
Morris, J.I., Co., 372 Elm St., Southbridge, Mass. – Pg. 641
Owatonna Tool Co., The, Owatonna, Minn.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y.
Rosenberg Bros., 100 Landing Ave., Smithtown, N.Y.
Snap–On Tools Corp., Kenosha, Wisc.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, New York
Utica Drop Forge & Tool, Div. Kelsey–Hayes, 2515 Whitesboro St., Utica, N.Y.
Xcelite Inc., 19–42 Bank St., Orchard Park, N.Y.

PLOTTERS. X–Y & ACCESSORIES ..... Pg. 547

Alwac Computer, Div. El–Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
Antlab Inc., 6330 Proprietors Rd., Worthington, Ohio
Belock Instrument Corp., 112–03 14th Ave., College Point, N.Y.
Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St.Laurent, Canada
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Librascope, Inc., 808 Weston Ave., Glendale, Calif. – Pg. 547
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago 36, Ill.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Seismograph Service Corp., 6200 E. 41st St., Tulsa, Okla.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

PLUG–IN CIRCUITS – SEE CIRCUITS. PLUG–IN

PLUGS ..Pgs. 458, 461, 463, 466, 519, 532, 561, 562, 569, 570, 571, 576, 577, 578, 580, 581, 633, 1099

A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Air–O–Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Allen Mfg. Co., The, Drawer 570, Hartford, Conn.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Audio Accessories, 279 Broadway, Amityville, N. Y.
Audio Development Co., 2841 13th Ave., So. Minneapolis, Minn.
Audiosears Corp., Shepard Hill Rd., Roxbury, N. Y. – Pg. 458
Automatic Electric Sales Corp., Northlake, Ill.
Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif.
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Bead Chain Mfg. Co., The, 110 Mountain Grove St., Bridgeport, Conn.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J. – Pg. 561
Bright Radio Labs., Inc., Div. Howell Mfg. Corp., 222 E. 2nd St., Mineola, N. Y.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif. – Pg. 562
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Clover Industries, Inc., 588 Young St., Tonawanda, N. Y.
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Texas
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Donmar Products, Inc., Box 8396, Denver, Colo.
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill. – Pg. 578
Elmenco Products Co., 64 White St., New York, N. Y.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Federal Electronics Sales, Div., Fedtro, Electronics Bldg., Rockville Centre, N. Y. – Pg. 461
Gem Electric Mfg. Co., 233–37th St., Brooklyn, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N.J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Hubbell, Inc., Interlock Div., State St. & Bostwick, Bridgeport, Conn.
Javex, P. O. Cox 646, Redlands, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn. – Pg. 532
Jones, Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Keisers Industries, Inc., Laumau St., Mt. Holly Springs, Pa.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, N. Y. – Pg. 570
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Microdot, Inc., 220 Pasadena Ave., So. Pasadena, Calif. – Pg. 571
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Plastic Mold & Engrg. Co., 157 Clifford St., Providence, R. I. – Pg. 463
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif. – Pg. 577
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rodale Mfg. Co., Inc., Emmaus, Pa.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Smith, E. C. Mfg. Co., Conshohocken, Pa.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, N. Y.
Standard Electric Time Co., The, 89 Logan St., Springfield 2, Mass.
Superex Electronics Corp., 4–6 Radford Pl., Yonkers, N. Y.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Trimm, Inc., 400 Lake St., Libertyville, Ill.
U. S. Components, Inc., 454–462 E. 148th St., New York, N. Y. – Pg. 580–581
U.S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
U.S. Instrument Corp., P.O. Box 1191, Charlottesville, Va.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Universal Microphone Co., Box 55, Inglewood, Calif.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

PLUGS. COMPUTER BOARD

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.

PLUGS. COMPUTER BOARD (continued)
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
North Electric Co., 553 S. Market St., Galion, Ohio
Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N. Y.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Trimm, Inc., 400 Lake St., Libertyville, Ill.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.

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POLONIUM – SEE METALS

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Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Air–O–Tronics Engrg. Co., P. O. Box 31, Lancaster, Calif.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Ampco Mfg. Co., 9 Kiver St., Morristown, N. J.
Auto–Swage Products, Inc., 250 Canal St., Shelton, Conn.
Autoscrew Co., 216–222 W. 18th St., New York, N. Y.
Bead Chain Mfg. Co., The, 110 Mountain Grove St., Bridgeport, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N.Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Donmar Products, Inc., Box 8396, Denver, Colo.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 568
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Raytheon, Indl. App. Div. Prod. Apparatus Prod., Dept. 6120MC, Waltham, Mass. – Pg. 597
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Standard Electric Time Co., The, 89 Logan St., Springfield 2, Mass.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

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Bourns Laboratories, Inc., Box 2112X, Riverside, Calif. – Pgs. 1012, 1013
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L. I., N. Y. – Pg. 1015
Daystrom Pacific Pot., Daystrom, Inc., 9320 Lincoln Blvd., Los Angeles, Calif. – Pg. 1019
Elektro–Serv. Co., 480 Johnson Ave., Brooklyn, N. Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Markite Corp., 155 Waverly Pl., New York, N. Y.
Precision Electronic Components, Ltd., 50 Wingold Ave., Toronto, Canada
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

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Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Chicago Telephone & Supply Corp., 1142 W. Beardlsy, Elkhart, Ind.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Precision Electronic Components, Ltd., 50 Wingold Ave., Toronto, Canada
Reon Resistor Corp., 117 Stanley Ave., Yonkers, N. Y.
Stackpole Carbon Co., St. Marys, Penn.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pgs. 1038, 1039
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Chicago Telephone & Supply Corp., 1142 W. Beardlsy, Elkhart, Ind.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Precision Electronic Components, Ltd., 50 Wingold Ave., Toronto, Canada
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pgs. 1038, 1039

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Collins Corp., 2820 E. Hullet St., Long Beach, Calif.
Diehl Mfg. Co., 1221 Finderne Ave., Somerville, N. J.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Ketay, Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
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Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
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Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
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Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hub–Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
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Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1024
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Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Metaplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pgs. 1038, 1039
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Asquith Company, S. A., 427 W. Chevy Chase Dr., Glendale, Calif.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L. I., N. Y. – Pg. 1015
Elektro-Serv. Co., 480 Johnson Ave., Brooklyn, N.Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N.Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Markite Corp., 155 Waverly Pl., New York, N. Y.
Materials For Elctrns. Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Shallcross Mfg. Co., Preston, St., Selma, N. C.

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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Asquith Company, S. A., 427 W. Chevy Chase Dr., Glendale, Calif.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Brys Instrument Co., 7026 Sixth Ave., Brooklyn, N. Y.
Carter Mfg. Corp., 23 Washington St., Hudson, Mass.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukke, Wisc., – Pg. 1014
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Circuit Instruments, Inc., P.O. Box 11628, St. Petersburg, Fla.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y. – Pg. 1020
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y. – Pg. 1022
Electro–Mec. Lab., Inc., 47–51 33rd St., Long Island City, N. Y. – Pg. 1021
Electromath Corp., 42–14 Greenpoint Ave., Long Island City, N. Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1024
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
Gamewell Co., The, Pot. Div., 1238 Chestnut St., Newton Upper Falls, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hub–Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Javex, P. O. Box 646, Redlands, Calif.
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Litton Industries, Potentiometer Div., 215 S. Fulton Ave., Mt. Vernon, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland Ore.
Pacific Scientific Co., P.O. Box 22109, Los Angeles, Calif.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Rattray, G. & Co., Div. Hardwick–Hindle, 116–08 Myrtle Ave., Richmond Hill, N. Y.
Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif. – Pg. 1036, 1037
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pgs. 1038, 1039
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vernistat Div., Perkin–Elmer Corp., 841 Main Ave., Norwalk, Conn.
Waters Mfg., Cin., Boston Post Rd., Wayland, Mass.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Georator Corp., 313 Tudor Lane, Manassas, Va.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Helipot Div., Beckman Indstuments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y. – Pg. 710
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Physics Research Labs., Inc., 507 Hempstead Tpke., Box 555, Hempstead, N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J. – Pg. 743
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Technique Assocs., Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

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Winslow Co., 707 Lehigh Ave., Union, N. J. – Pg. 764

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American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif. – Pg. 1072
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Asquith Company, S. A., 427 W. Chevy Chase Dr., Glendale, Calif.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Brys Instrument Co., 7026 Sixth Ave., Brooklyn, N. Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Carter Mfg. Corp., 23 Washington St., Hudson, Mass.
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Circuit Instruments, Inc., P.O. Box 11628, St. Petersburg, Fla.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Colvin Laboratories, Inc., 364 Glenwood Ave., West Orange, N.J.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L. I., N. Y. – Pg. 1015
Daystrom Pacific Pot., Daystrom, Inc., 9320 Lincoln Blvd., Los Angeles, Calif. – Pg. 1019
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L. I. City, N. Y. – Pg. 1020
Dwyer Engineering Co., Inc., P.O. Box 452, Nashua, N.H.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Electro–Measurements, Inc., 7524 S. W. Macdam Ave., Portland, Oreg.
Electro–Mec Lab., Inc., 47–51 33rd St., Long Island City, N. Y. – Pg. 1021
Electromath Corp., 42–14 Greenpoint Ave., Long Island City, N. Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1024
Federal Electr. Sales Div. Fedtro, Inc., Federal Electr. Bldg., Rockville Centre, N.Y.–Pg.1025
Gamewell Co., The, Pot. Div., 1238 Chestnut St., Newton Upper Falls, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Handley Electronics, Inc., 14758 Keswick St., Van Nuys, Calif.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hub–Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y. – Pg. 710
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Litton Industries, Potentiometer Div., 215 S. Fulton Ave., Mt. Vernon, N. Y.
Markite Corp., 155 Waverly Pl., New York, N. Y.
Maury Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
Non–Linear Systems, Inc., Del–Mar Airport, Box 728, Del Mar, Calif.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Pacific Scientific Co., P.O. Box 22109, Los Angeles, Calif.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Rattray, G & Co., Div. Hardwick–Hindle, 116–08 Myrtle Ave., Richmond Hill, N.Y.
Reed & Reese, Inc., 717 N. Lake Ave., Pasadena, Calif.
Rinco, Inc., 7962 S. E. Powell Blvd., Portland, Ore.
San Fernando Electric Mfg., P.O. Box 351, San Fernando, Calif.
Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif. – Pgs. 1036, 1037
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Technology Instrument Corp., 523 Main St., Acton, Mass. Pgs. 1038, 1039
Vernistat Div., Perkin–Elmer Corp., 841 Main Ave., Norwalk, Conn.
Waters Mfg. Inc., Boston Post Rd., Wayland, Mass.
Welwyn, International, Inc., 3355 Edgecliff Terr., Cleveland, Ohio. – Pg. 1043
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

POTENTIOMETERS. PRESSURE ..... **Pgs. 1024, 1038, 1039, 1116, 1119**

Biddle, James G. Co., 1316 Arch St., Phila., Pa.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pgs. 1024, 1116
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif. – Pg. 1119
Technology Instrument Corp., 523 Main St., Acton, Mass.–Pgs. 1038,1039
Trans-Sonics, Inc., P.O. Box 328, Lexington, Mass.

POTENTIOMETERS. RHEOSTAT ..... **Pgs. 1017, 1019, 1020, 1038, 1039, 1041**

Allen-Bradley Co., 136 W. Greenfield Ave., Milwaukee, Wisc.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y.
Beck Bros., 421 W. Sedgley Ave., Philadelphia, Pa.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N.Y.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Clarostat Mfg. Co. Inc., Washington St., Dover, N.H.
Cold Cathode Corp., 4814 33rd St., L.I.C., N.Y.
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa.–Pg. 1017
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daystrom Pacific Pot., Daystrom, Inc., 9320 Lincoln Blvd., Los Angeles, Calif.–Pg. 1019
De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L.I. City, N.Y.–Pg. 1020
Dura Plastics, Inc., 303 5th Ave., New York, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Hub-Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Mel-Rain Corp., 2100 Fletcher Ave., Indianapolis, Ind.
Miniature Electronic, Components Corp., Holbrook, Mass.
National Electric Controller Co., 7070 Glenwood Ave., Chicago, Ill.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Reon Resistor Corp., 117 Stanley Ave., Yonkers, N.Y.
Rinco Inc., 7962 S.E. Powell Blvd., Portland, Ore.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pgs. 1038, 1039
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill.– Pg. 1041
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, New York

POTENTIOMETERS. SLIDE–WIRE ..... **Pgs. 1020, 1036–1039**

Beck Bros., 421 W. Sedgley Ave., Philadelphia, Pa.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Brys Instrument Co., 7026 Sixth Ave., Brooklyn, N.Y.
Carter Mfg. Corp., 23 Washington St., Hudson, Mass.
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L.I. City, N.Y.–Pg. 1020
General Controls Co., 801 Allen Ave., Glendale, Calif.
Giannini, G.M. Co. Inc., 918 E. Green St., Pasadena, Calif.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N.J.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke, Commack, N.Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Precision Line, Inc., 63 Main St., Maynard, Mass.
San Fernando Electric Mfg., P.O. Box 351, San Fernando, Calif.
Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif.–Pgs. 1036,1037
Technology Instrument Corp., 523 Main St., Acton, Mass.–Pgs. 1038,1039
Winslow Co. Inc., 707 Lehigh Ave., Union, N.J.

POTENTIOMETERS. TRIMMER ..... **Pgs. 776, 1010–1014, 1017, 1019, 1020, 1022, 1024, 1036–1039, 1042, 1043**

Ace Electronics Associates, 99 Dover St., Somerville, Mass.–Pg. 1010
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y.
Atohm Electronics, Inc., 7648 San Fernando Rd., Sun Valley, Calif.–Pg. 1011
Borg Equip. Div., Amphenol-Borg Electronics, 120 S. Main St., Janesville, Wisc.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.–Pgs. 1012,1013
Brys Instrument Co., 7026 Sixth Ave., Brooklyn, N.Y.
Carter Mfg. Corp., 23 Washington St., Hudson Mass.
Centralab, Div. Globe-Union, 984 E. Keefe Ave., Milwaukee, Wisc.–Pg. 1014
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Chicago Telephone & Supply Corp., 1142 W. Beardsley, Elkhart, Ind.
Clarostat Mfg. Co. Inc., Washington St., Dover, N.H.
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa.–Pg. 1017
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.–Pg. 776
Daystrom Pacific Pot., Daystrom, Inc., 9320 Lincoln Blvd., Los Angeles, Calif.–Pg. 1019
De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L.I. City, N.Y.–Pg. 1020
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.–Pg. 1022
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Electromath Corp., 42-14 Greenpoint Ave., Long Island City, N.Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N.Y.–Pg. 1024
Gamewell Co., The, Pot. Div., 1238 Chestnut St., Newton Upper Falls, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Handley Electronics, Inc., 14758 Keswick St., Van Nuys, Calif.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hub-Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
Maurey Instrument Corp., 7924 S. Exchange, Ave., Chicago, Ill.
Miniature Electronic, Components Corp., Holbrook, Mass.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Rattray G. & Co., Div. Hardwick-Hindle, 116-08 Myrtle Ave., Richmond Hill, N.Y.
Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif.–Pgs. 1036,1037
Technology Instrument Corp., 523 Main St., Acton, Mass.–Pgs. 1038,1039
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International Inc., 3355 Edgecliff Terr., Cleveland, Ohio–Pg. 1043

POTENTIOMETERS. WIREWOUND PRECISION ..... **Pgs. 764, 1010, 1012, 1013, 1014, 1019, 1020, 1022, 1024, 1025, 1036–1039, 1043, 1119**

Ace Electronics Associates, 99 Dover St., Somerville, Mass.–Pg. 1010
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
All-State Welding Alloys Co. Inc., 249 Ferris Ave., White Plains, N.Y.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y.
Asquith Co., S.A., 427 W. Chevy Chase Dr., Glendale, Calif.
Boesch Mfg. Co. Inc., 45 River St., Danbury, Conn.
Borg Equip. Div., Amphenol-Borg Electronics, 120 S. Main St., Janesville, Wisc.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.–Pgs. 1012,1013
Bradford Components, Inc., 65 So. Ave., Box 107, Salomanca, N.Y.
Brys Instrument Co., 7026 Sixth Ave., Brooklyn, N.Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Carter Mfg. Corp., 23 Washington St., Hudson, Mass.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.–Pg. 1014
Clarostat Mfg. Co. Inc., Washington St., Dover, N.H.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N.J.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daystrom Pacific Pot., Daystrom, Inc., 9320 Lincoln Blvd., Los Angeles, Calif.–Pg. 1019
De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L.I. City, N.Y.–Pg. 1020
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.–Pg. 1022
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Electro-Measurements, Inc., 7524 S.W. Macadam Ave., Portland, Oreg.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N.Y.–Pg. 1024
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N.Y.–Pg. 1025
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N.Y.
Gamewell Co., The, Pot. Div., 1238 Chestnut St., Newton Upper Falls, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Giannini, G.M. Co. Inc., 918 E. Green St., Pasadena, Calif.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Handley Electronics, Inc., 14758 Keswick St., Van Nuys, Calif.
Helco Products Corp., 7832 Balboa Blvd., Van Nuys, Calif.
Helipot Div., Beckman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Hub-Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
Humphrey, Inc., 2805 Canon St., San Diego, Calif.
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N.Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Litton Industries, Potentiometer Div., 215 S. Fulton Ave., Mt. Vernon, N.Y.
Mallory P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Minco Products, Inc., 740 Washington Ave., No. Minneapolis, Minn.

POTENTIOMETERS, WIREWOUND PRECISION (continued)
Miniature Electronic, Components Corp., Holbrook, Mass.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Pacific Scientific Co., P.O. Box 22109, Los Angeles, Calif.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Rattray, G. & Co., Div. Hardwick–Hindle, 116–08 Myrtle Ave., Richmond Hill, N.Y.
Reed & Reese Inc., 717 N. Lake Ave., Pasadena, Calif.
Rinco Inc., 7962 S.E. Powell Blvd., Portland, Ore.
San Fernando Electric Mfg., P.O. Box 351, San Fernando, Calif.
Schaevitz Engineering, Box 505, Camden, N.J.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif.–Pg. 1119
Shallcross Mfg. Co., Preston St., Selma, N.C.
Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif.–Pgs. 1036,1037
Tech Laboratories, Inc., Palisades Park, N.J.
Technology Instrument Corp., 523 Main St., Acton, Mass.–Pgs. 1038,1039
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Vernistat Div., Perkin-Elmer Corp., 841 Main Ave., Norwalk, Conn.
Waters Mfg. Inc., Boston Post Rd., Wayland, Mass.
Welwyn International Inc., 3355 Edgecliff Terr., Cleveland, Ohio–Pg. 1043
Winslow Co. Inc., 707 Lehigh Ave., Union, N.J.–Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

POTTED CIRCUITS – SEE ENCAPSULATED ASSEMBLIES

POWER SUPPLIES, AC ....Pgs. 629, 673, 675, 687, 714, 715, 742, 743, 881, 883, 886–888, 906, 908, 912–915, 936, 938, 940–942, 946, 949, 951–953, 1073, 1102, 1103
Acme Electric Corp., 20 Water St., Cuba, N.Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aetna Electronics Corp., 207 Stonehinge Lane, Carle Place, L.I., N.Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N.J.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
American Electronics Co., 81 Lowry Ave. N.E., Minneapolis, Minn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Industrial Electronics Corp., 4200 Perry St., Box 14105, Houston, Texas
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Maryland
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn.–Pg. 881
Amplifier Corp. of America, 398 Broadway, New York, N.Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N.Y.
Armour Electronics Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.–Pg. 883
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Behlman Engineering Co., 2911 Winona St., Burbank, Calif.–Pgs. 886,887
Bill Jack Scientific Instr. Co., P.O. Box C-3, Solano Beach, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N.J.
Booth Co., 265 S. Alexandria Ave., Los Angeles, Calif.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N.J.
Bracke-Seib X-Ray Co. Inc., 16 Pelham Bay Pk. W., Pelham Manor, N.Y.
Cadre Industries Corp., Box 150, Endicott, N.Y.
California Magnetic Control Co., 11922 Valerio St., North Holywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Collins Radio Co., 855 35th St. N.E., Cedar Rapids, Iowa
Communication Measurements Labs, Inc., 350 Leland Ave., Plainfield, N.J.–Pg. 888
Computer Engg. Assocs., 350 N. Halstead Ave. - Box 5457, Pasadena, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Consolidated Diesel Electric Corp., Ludlow & Canal St., Stamford, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.
Control Circuits Inc., Box 279, East Hampton, Conn.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cornell-Dubilier Electric Corp. 333 Hamilton Blvd., South Plainfield, N.J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N.Y. Inc., 87-46 123rd St., Richmond Hill, N.Y.
Emp Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N.J.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electro-Measurements, Inc., 7524 S.W. Macadam Ave., Portland, Ore.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Electronic Measurements Co. Inc., Lewis St. & Maple Ave., Eatontown, N.J.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N.Y.–Pg. 673
Endevco Corp., 161 E. California St., Pasadena, Calif.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Extron Corp., 600 So. Marshfield Ave., Chicago, Ill.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fecker, J.W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Freed Transformer Co. Inc., 1718-36 Weirfield St., Brooklyn, N.Y.–Pg. 675
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
General Meters, Inc., P.O. Box 1701, Grand Junction, Colo.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Electric, 130 Cedar St., New York, N.Y.
Green Rectifier Co., 1-10, 30th St., Fairlawn, N.J.
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N.J.
Hallamore Elec. Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.–Pgs. 687, 1102
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Texas
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hobart Bros., Hobart Square, E. Troy, Ohio
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P. O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y. – Pgs. 906, 1103
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jem Electronics Corp., 743 Circle Ave., Forest Park, Ill.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kepco Laboratories, Inc., 131-38 Sanford Ave., Flushing, N. Y. – Pg. 912–915
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Kinney Mfg. Div., New York Air Brake Co., 3529 Washington St., Boston, Mass.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass. – Pg. 908
Kupfrian Mfg. Corp., 363 State St., Binghamton, N. Y. – Pg. 908
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lewty Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N.J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y. – Pg. 1073
Magnetic Controls Company, 6405 Cambridge St., Minneapolis 16, Minnesota
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
McDowell Electronics, Inc., 105 Forrest St., P. O. Box 342, Metuchen, N. J.
Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Milro Controls Co., Park Ridge, N. J.
Minneapolis-Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Moran Products Co., 2925 E. 55th St., Cleveland, Ohio
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Multi-Inp Corp., 465 Lehigh Ave., Union, N. J.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J. – Pgs. 936, 938
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
New York Transformer Co., Third Ave., Alpha, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y. – Pg. 940
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y. – Pg. 941
Opad Electric Co., 43–12 Walker St., New York, N.Y. – Pg. 942
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Pacific Technical Co., 2047 Sawtelle Blvd., Los Angeles, Calif.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N.Y. – Pg. 742
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37-06 36th St., L. I. City, N. Y.
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y. – Pg. 946
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precise Measurements Co., Millbrook Pl., R. D. 1, Flemington, N. J. – Pg. 949
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J. – Pa. 743
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rytron Co., Inc., 7305 Lankershim Blvd., N. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Scientific Electric, Inc., 105–119 Monroe St., Garfield, N.J.
Semiconductor Devices Corp., 66 Railroad Ave, Summit, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd. & Kipling Ave., Toronto, Can.
Simpson, Mark Mfg. Co., Inc., 32-28 49th St., L. I. City, N. Y.
Slaughter Co., Piqua, Ohio
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn. – Pg. 951
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Spellman High Voltage Co., 3029 Webster Ave., New York 67, N. Y. – Pg. 952
Spivey, James S. Inc., 4908 Hampden Lane, Washington, D. C.
Sprague Engineering Corp., 19300 S. Vermont Avenue, Box 121, Gardena, Calif.
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N.Y.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N. J.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Television Utilities Co., 112-33 Colonial Ave., Corona, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif. – Pg. 953
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke, Riverdale, N. J.
Transonic, Inc., P.O. Box 59 – 808 16 St., Bakersfield, Calif.
Tung-Sol Electric, Inc., Newark, N. J.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D.C.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

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Wallson Associates, Inc., 35 E. Runyon St., Newark, N.J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Western Apparatus, Div. Comptometer Corp., 2001 Greenleaf St., Evanston, Ill.
Western Gear Corp., 2600 E. Imperial Hghwy. , P. O. Box 182, Lynwood, Calif.

POWER SUPPLIES, COMPUTER ...Pgs. 883, 889, 892, 894, 897, 898, 904, 906, 909–915, 917–922, 937, 939, 941, 942, 946–948, 951, 1103

Acme Electric Corp., 20 Water St., Cuba, N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 883
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Engg. Assocs., 350 N. Halstead Ave., Box 5457, Pasadena, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York – Pg. 889
Control Circuits, Inc., Box 279, East Hampton, Conn.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif. – Pgs. 892, 894
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Electronic Associates, Inc., Long Branch, N. J.
Electronic Measurements Co., Inc., Lewis Street & Maple Ave., Eatontown, N.J. Pgs. 897,898
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City 15, Utah
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N. J. – Pg. 904
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hycon Manufacturing Co., 1030 S. Arroyo Pkway, P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y. – Pgs. 906, 1103
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Kepco Laboratories, Inc., 131-38 Sanford Ave., Flushing, N. Y. Pgs. 909–915
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Lambda Electronics Corp., 11-11 131st St., College Point, N. Y. – Pgs. 917–922
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis 16, Minnesota
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J. – Pgs. 937, 939
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y. – Pg. 941
Opad Electric Co., 43-12 Walker St., New York, N. Y. – Pg. 942
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass. – Pg. 948
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave, Philadelphia, Pa.
Power Designs, Inc., 1700 Shames Dr., Westbury, N.Y. – Pgs. 946, 947
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P.O. Box 269, Route 143, Highland, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sola Electric Co., 4633 W. 16th St., Chicago, Ill.
Solartron, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn. – Pg. 951
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Transistor Devices Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N.J.

POWER SUPPLIES, CONSTANT CURRENT .....Pg. 940

North Hills Electric Co., Inc., 402 Sagamore Ave., Mineola, N. Y. – Pg 940

POWER SUPPLIES, DC ..... Pgs. 493, 512, 530, 534, 586, 675, 687, 714, 715, 721, 742, 881, 883–885, 889, 891–900, 904–915, 917–922, 924–949, 951–953, 956, 881, 883–885, 889, 891, 900, 904–915, 917, 922, 924–949, 951–953, 956, 957, 964, 967, 1074, 1102, 1103, 1115, 1129, 1176

Acme Electric Corp., 20 Water St., Cuba, N. Y.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N.J.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Alfred Electronics, 897 Commerical Street, Palo Alto, Calif.
Allen Mfg. Co., 87 Rosewood Dr., Atherton, Calif.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Ameco, 2949 W. Osborn Rd., Phoeniz, Ariz.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Industrial Electronics Corp., 4200 Perry St., Box 14105, Houston, Texas
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halphine Avenue, Rockville, Maryland
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn. – Pg. 881

Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Appalachian Electronic Instruments, 810 West Monroe Ave.,Ronceverte, W. Va.
Applegate & Co., C.J., 1840 24th Street, Boulder, Colorado
Applied Radiation Corp., P. O. Box 725, Walnut Creek, Calif.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 883
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Associated Specialties, 1751 Main St., Orefield, Pa. – Pg. 884
Auto Test Inc., 600 S. Michigen Ave., Chicago, Ill.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N Hollywood, Calif.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bogue Electric Mfg. Co.,52 Iowa Ave., Paterson, N. J.
Booth Co., 265 S. Alexandria Ave., Los Angeles, Calif.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Cadre Industries Corp., Box 150, Endicott, N.Y.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Cedco Electronics, Inc., 3414 W. Lake Rd., Erie, Pa.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif. – Pg. 885
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Colorado Research Corp., Broomfield Heights, Colo.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Computer Engg. Assocs., 350 N. Halstead Ave., Box 5457, Pasadena, Calif.
Consolidated Avionic Corp., 800 Shames La., Westbury, New York – Pg. 889
Consolidated Diesel, Electric Corp., Ludlow & Canal St., Stamford, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas, Texas
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Control Circuits Inc., Box 279, East Hampton, Conn.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cook, Frank R. Co., 36 S. Santa Fe Dr., Denver, Colo.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd, St., Norman, Okl.
Dressen-Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif. – Pgs. 891–894
Dubrow Devel Co., 235 Penn St., Burlington, N.J.
Dukane Corp., St. Charles, Ill.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N.J.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va. – Pg. 895
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif.
Electro-Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Oreg.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Products Labs., 4501- EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1115
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Electronic Measurements Co., Inc., Eatontown, N. J., Pgs. 896–898
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J. – Pg. 899
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Ensco, Inc., 3100 Eldredge Street, Salt Lake City 15, Utah
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg 512
Film Capacitors, Inc., 3400 Park Ave., New York, N. Y. – Pg. 493
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
Fisher Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.–Pg. 900
Freed Transformer Co. Inc., 1718-36 Weirfield St., Brooklyn, N.Y.–Pg. 675
Furzehill Labs., 550 Fifth Ave., New York, N.Y.
Galbraith Pilot Marine Corp., 600-4th Ave., Brooklyn, N.Y.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N.Y.
General Communication Co., 677 Beacon St., Boston Mass.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.–Pg. 1129
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N.J.
General Meters, Inc., P.O. Box 1701, Grand Junction, Colo.
General Nuclear Corp., 550 5th Ave., New York, N.Y.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gow–Mac Instrument Co., 100 Kings Rd., Madison, N.J.
Green Electric, 130 Cedar St., New York, N.Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N.J.
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N.J.
Hallamore Elec. Co.,Div. Siegler Corp.,8352 Brookhurst Ave.,Anaheim,Calif.–Pgs. 687,1102
Hamner Electronics Co., Inc., P.O. Box 531, Princeton, N.J.
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N.J.–Pg. 904

See YELLOW SECTION for local sales offices, telephones, etc.

POWER SUPPLIES, DC (continued)

Harvey-Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hertner Electric Co., The, 12690 Elmwood Ave., Cleveland, Ohio
Hett Associates, Inc., 603 Grand Ave., Englewood, N.J.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 905
Hewson Co. Inc., 443 Broad St., Newark, N.J.
Hobart Bros., Hobart Square, E. Troy, Ohio
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Hydro-Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.–Pg. 907
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.–Pg. 530
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.–Pgs. 906, 1103
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
JEM Electronics Corp., 743 Circle Ave., Forest Park, Ill.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson, E.F. Co., 1439 Second Ave. S.W., Waseca, Minn.
Kahn & Co. Inc., 541 Windsor St., Hartford, Conn.
Kepco Laboratories, Inc., 131-38 Sanford Ave., Flushing, N.Y.–Pgs. 909-915
Kin Tel Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Kingston Electronic Corp., 35 North St., Medfield, Mass.
Kinney Mfg. Div., New York Air Brake Co., 3529 Washington St., Boston, Mass.
Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.–Pg. 908
Kupfrian Mfg. Corp., 363 State St., Binghamton, N.Y.–Pg. 908
Lambda Electronics Corp., 11-11 131st St., College Point, N.Y.–Pgs. 917-922
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Leland Airborne Prod., Div. A.M. & F. Co., Box 128, Vandalia, Ohio
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.–Pgs. 714,715
Madigan Corp., 200 Stonehinge Lane, Carle Pl., N. Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minnesota
Magnetic Research, 3160 W. El Segundo Blvd., Hawthorne, Calif.– Pgs. 721, 924, 1074
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Phila., Pa.
Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller Sanford Co., 691 Bedford Ave., Brooklyn, N. Y.
Milro Controls Co., Park Ridge, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa. – Pg. 1176
Minneapolis-Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y. – Pg. 925
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Multi-Inp Corp., 465 Lehigh Ave., Union, N. J.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
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Kinney Mfg. Div., New York Air Brake Co., 3529 Washington St., Boston, Mass.
Lambda Electronics Corp., 11–11 131st St., College Point, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif. – Pgs. 714, 715
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Manson Laboratories, Inc., 375 Fairfield St., Stamford Conn.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Mcdowell Electronics, Inc., 105 Forrest St., P.O. Box 342, Metuchen, N. J.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Milro Controls Co., Park Ridge, N. J.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.

POWER SUPPLIES. HIGH VOLTAGE (continued)

Multi–INP Corp., 465 Lehigh Ave., Union, N. J.
NJE Corp., 345 Carnegie Ave., Kenilworth, N.J. – Pgs. 930, 931, 937–939
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Neutronic Associates, 93–14 101st Ave., Ozone Park, N. Y.
New Haven Clock & Watch, Condenser Prod. Div., 140 Hamilton St., New Haven, Conn.
New York Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y. – Pg. 940
Northeast Scientific Corp., 617 Concord Ave., Cambridge, Mass.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, 32, Pa.
Opad Electric Co., 43–12 Walker St., New York, N. Y. – Pg. 942
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Pennsylvania Testing Lab., Inc., Doylestown, Pa. – Pg. 739
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y. – Pg. 742
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y. – Pgs. 946, 947
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precise Measurements Co., Millbrook Place, RD1, Flemington, N.J. – Pg. 949
Quantum Electronics, Div. Ultradyne, Inc., P.O. Box 3308, Albuquerque, N. Mex.
Radiation Dynamics, Inc., 1800 Shames Drive, Westbury, N. Y.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, 36, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, 64, Calif. – Pg. 515
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Scientific Electric, Inc., 105–119 Monroe St., Garfield, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Skysweeper, Inc., McHenry, Ill.
Slaughter Co., Piqua, Ohio
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn. – Pg. 951
Spellman High Voltage Co., 3029 Webster Ave., New York 67, N.Y. – Pg. 952
Syntron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7Th & Bellmont, Mt. Carmel, Ill.
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N.J.
Transonic, Inc., P.O. Box 59, – 808 16 St., Bakersfield, Calif.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Universal Electronics Co., P.O. Box 64502, Los Angeles, 64, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Universal Winding Co., 1655 Elmwood Avenue, P.O. Box 1605, Cranston, R.I.
Varian Associates, Palo Alto, Calif.
Vectrol Engrg., Inc., P.O. Box 1089, Dept. M 59, Stamford, Conn.
Vibration Research Labs., Inc., 58 Marbledale Rd., Tuckahoe, New York
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Wave–Particle Corp., P.O. Box 252, Menlo Park, Calif.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy.,P.O. Box 182, Lynwood, Calif.

POWER SUPPLIES. KLYSTRON ..... Pgs. 775, 900, 905, 906, 946, 1103

AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Applegate & Co., C. J., 1840 24th Street, Boulder, Colorado
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Continental Electronics Mfg. Co., 4212 – 20 S. Buckner Blvd., Dallas, Texas
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N.Y.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J. – Pg. 900
General Communication Co., 677 Beacon St., Boston, Mass.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 905
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. – Pgs. 906, 1103
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Northeast Scientific Corp., 617 Concord Ave., Cambridge, Mass.
Opad Electric Co., 43–12 Walker St., New York, N.Y. – Pg. 942
Pennsylvania Testing Lab., Inc., Doylestown, Pa.
Peschel Electronics, Inc., Towners, RFD 1, Paterson, N. Y.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Polarad Electronics Corp., 43–20 34th St., L.I. City, N. Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y. – Pg. 946
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L.I. City, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Strand Laboratories, Inc., 217 California St., Newton, Mass.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Transonic, Inc., P.O. Box 59, – 808 16 St., Bakersfield, Calif.
Universal Transistor, Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Varian Associates, Palo Alto, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Wave–Particle Corp., P.O. Box 252, Menlo Park, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.

POWER SUPPLIES. LOW VOLTAGE ... Pgs. 512, 883, 885, 889, 891, 892, 894, 897–899, 904, 906, 909–912, 914, 915, 917, 918, 922, 925–929, 934–942, 944–947, 949, 951, 956, 957, 1103, 1115

Acme Electric Corp., 20 Water St., Cuba, N. Y.
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Electronic Labs., Inc., 121 N. 7Th St., Philadelphia, Pa.
American Electronics Co., 81 Lowry Ave., N.E., Minneapolis, Minn.
American Industrial Electronics Corp., 4200 Perry St., Box 14105, Houston, Texas
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Avenue, Rockville, Maryland
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Applegate & Co., C. J., 1840 24th Street, Boulder, Colorado
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 883
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avionics Corp. of America, Maple Ave., & Horsham Rd., Horsham, Pa.
Bellaire Electronics, Inc., 62 White St., Red Bank, N. J.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bennett Laboratories, Inc., 4224 Holden, Emeryville, 8, Calif.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Buck Engrg. Co., Inc., 37–41 Marcy St., Freehold, N. J.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cadre Industries Corp., Box 150, Endicott, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif. – Pg. 885
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Communication Measurements Labs., Inc., 350 Leland Ave., Plainfield, N.J.
Computer Engrg. Assocs., 350 N. Halstead Ave.––Box 5457, Pasadena, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York – Pg. 889
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif. – Pgs. 891, 892, 894
Dubrow Devel. Co., 235 Penn. St., Burlington, N.J.
Dukane Corp., St. Charles, Ill.
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, 39, Ill.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill. – Pg. 1115
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
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Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J. – Pg. 899
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, 39, California
Entron Inc., 4902 Lawrence St., Bladenburg, Md.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg. 512
Fisher–Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Electric, 130 Cedar St., New York, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hamner Electronics Co., Inc., P.O. Box 531, Princeton, N. J.
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N. J. – Pg. 904
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Hobart Bros., Hobart Square, E. Troy, Ohio
Hycon Manufacturing Co., 1030 So. Arroyo Pkway. – P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y. –Pgs. 906, 1103
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y. –Pgs.909–912,914,915
Kin Tel Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Kinney Mfg. Div., New York Air Brake Co., 3529 Washington St., Boston, Mass.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Lambda Electronics Corp., 11–11 131st St., College Point, N.Y.–Pgs. 917, 918, 922
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Macarr, Inc., 2543 Boston Rd., Bronx, N.Y.

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Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Controls Co., 6405 Cambridge St., Minneapolis, Minn.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
McDowell Electronics, Inc., 105 Forrest St., P. O. Box 342, Metuchen, N. J.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Millen, James, Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Milro Controls Co., Park Ridge, N. J.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.–Pg. 925
Modern Industries, Inc., 5755 Camille Ave., Culver City, Calif.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Multi–Inp Corp., 465 Lehigh Ave., Union, N. J.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J.–Pgs. 926–929, 934–939
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Neff Instrument Corp., 2211 E. Foothill Blvd., Pasadena, Calif.
New York Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.–Pg. 940
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.–Pg. 941
Opad Electric Co., 43–12 Walker St., New York, N. Y.–Pg. 942
Owen Laboratories, Inc., 55 Beacon Place, Pasadena, Calif.
Perkin Engrg Corp., 345 Kansas St., El Segundo, Calif.–Pgs. 944, 945
Perma Power Co., 3102 N. Elston, Chicago, Ill.
Peschel Electronics, Inc., Towners, RFD 1, Paterson, N.Y.
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y.–Pgs. 946, 947
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Measurements Co., Millbrook Place, Rd 1, Flemington, N. J.–Pg. 949
Quantum Electronics, Div. Ultradyne, Inc., P. O. Box 3308, Albuquerque, N. Mex.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Sanford, Miller, Co., 691 Bedford Ave., Brooklyn, N.Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Scientific Electric, Inc., 105–119 Monroe St., Garfield, N. J.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Slaughter Co., Piqua, Ohio
Solarton, Inc., 530 Cooper St., Camden, N. J.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.–Pg. 951
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Syntron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
Tung–Sol Electric, Inc., Newark, N. J.–Pg. 956
Universal Electronics Co., 1720 22 St., Santa Monica, Calif.–Pg. 957
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Tex.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Warren Mfg. Co., The, Littleton, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Wincharger Corp., E. 7th & Division Sts., Box 1168, Sioux City, Iowa

POWER SUPPLIES. MAGNETIC .... **Pgs. 892–894, 899, 906, 910, 914, 923, 924, 935–939, 942, 944, 946, 951, 957, 1077, 1103**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Amplifier Corp. Of America, 398 Broadway, New York, N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif.–Pgs. 892–894
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.–Pg. 899
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
General Magnetics, Inc., 135 Bloomfield Ave., Bloomfield, N. J.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y. – Pg. 906, 1103
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.–Pgs. 910, 914
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.–Pg. 923
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Magnetic Controls Co., 6405 Cambridge St., Minneapolis, Minn.
Magnetic Research Corp., 316 W. El Segundo Blvd., Hawthorne, Calif.–Pg. 924
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Milro Controls Co., Park Ridge, N. J.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J.–Pgs. 935–939
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N.H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.
Opad Electric Co., 43–12 Walker St., New York, N.Y. – Pg. 942
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.–Pg. 944
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y.–Pg. 946
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.–Pg. 951
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Universal Electronics Co., 1720 22nd St., Santa Monica, Calif. – Pg. 957
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Dr., Westbury, N. Y.–Pg. 1077
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

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Alfred Electronics, 897 Commerical St., Palo Alto, Calif.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.–Pg. 775
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
De Mornay–Bonardi Corp., 780 So. Arroyo Pkwy., Pasadena, Calif. – Pg. 798
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.–Pg. 805
General Communication Co., 677 Beacon St., Boston, Mass.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y. – Pg. 906
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.–Pgs. 909–915
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lambda Electronics Corp., 11–11 131st St., College Point, N.Y. – Pgs. 917–922
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Menlo Park Engineering, 721 Hamilton Ave., Menlo Park, Calif.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J.–Pgs. 937, 939
Northeast Scientific Corp., 617 Concord Ave., Cambridge, Mass.
Opad Electric Co., 43–12 Walker St., New York, N. Y.–Pg. 942
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Waveline, Inc., Box 718, W. Caldwell, N. J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

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Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.

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Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Applegate & Co., C. J., 1840 24th St., Boulder, Colo.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.–Pg. 883
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Chicago Condenser Corp., 3255 W. Armitag Ave., Chicago, Ill.
Components Corp., 106 Main St., Denville, N.J.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.–Pg. 889
Control Circuits Inc., Box 279, East Hampton, Conn.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dorsett Laboratories, Inc., P.O. Box 862 – 401 Boyd St., Norman, Okl.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif.–Pgs. 892, 894
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.–Pg. 895
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Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.–Pg. 512
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.–Pg. 900
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General Devices, Inc., P. O. Box 253, Princeton, N. J.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N. J.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
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Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N. J.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.–Pg. 906, 1103
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.–Pg. 910
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y.–Pg. 908
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lambda Electronics Corp., 11–11 131st St., College Point, N. Y.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
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Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
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Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
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New York Transformer Co., Third Ave., Alpha, N. J.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.–Pg. 941
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Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
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Q.O.S. Corp., 621 E. 216 St., New York, N. Y.
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RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.–Pg. 515
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Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn. – Pg. 951
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Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
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Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
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Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
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Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Tex.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
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Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Computer Engg. Assocs., 350 N. Halstead Ave.–Box 5457, Pasadena, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y. – Pg. 889
Consolidated Diesel Electric Corp., Ludlow & Canal St., Stamford, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif.–Pgs. 892, 894
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Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.–Pg. 900
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Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
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Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
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Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Southwestern Industrial Elctrns Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technique Assocs. Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
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Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
Tung–Sol Electric, Inc., Newark, N. J.–Pg. 956
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Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Wincharger Corp., E. 7th & Division Sts., Box 1168, Sioux City, Iowa

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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
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Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.–Pg. 889
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Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.–Pg. 900
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
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Harvey–Wells Electronics, North St., Southbridge, Mass.
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Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.–Pgs. 909–915
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Levinthal Electronic Products, Inc., 3180 Hanover St., Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.

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NJE Corp., 345 Carnegie Ave., Kenilworth, N. J.–Pgs. 937, 939
Nutron Manufacturing Co. Inc., 67 Monroe Ave., Staten Island, N. Y.–Pg. 941
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.–Pgs. 944, 945
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sylvania Electric Products, Eletm Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.

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Acme Electric Corp., 20 Water St., Cuba, N. Y.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aircraft Marine Products, 155 Park Ave., Elizabethtown, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Alfred Electronics, 897 Commerical St., Palo Alto, Calif.
Allen Mfg. Co., 87 Rosewood Dr., Atherton, Calif.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
American Electronic Labs. Inc., 121 N. 7th St., Philadelphia, Pa.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Industrial Electronics Corp., 4200 Perry St., Box 14105, Houston, Tex.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Amplifier Corp. of America, 398 Broadway, New York, N.Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Applegate & Co., C. J., 1840 24th St., Boulder, Colo.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.–Pg. 883
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Associated Engineering Corp., 65 Kent St., Brookline, Mass.
Associated Specialties Co., 1751 Main St., Orefield, Pa.–Pg. 884
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Behlman Engineering Co., 2911 Winona Ave., Burbank, Calif.–Pgs. 886, 887
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Beva Laboratory, 22 Parker Ave., P. O. Box 478, Trenton, N. J.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Magnetic Control Co., 11922 Valerio St., N. Hollywood, Calif.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif.–Pg. 885
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.–Pg. 775
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Colorado Research Corp., Broomfield Heights, Colo.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Communication Measurements Laboratory Inc., 350 Leland Ave., Plainfield, N. J.–Pg. 888
Computer Engg. Assocs., 350 N. Halstead Ave.–Box 5457, Pasadena, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.–Pg. 889
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Dare, Inc., Route 25, Troy, Ohio
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Deluxe Coils, Inc., Wabash, Ind.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Douglas Radio Labs., 176 Norfolk Ave., Boston, Mass.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif.–Pgs. 891–894
Dubrow Devel Co., 235 Penn St., Burlington, N. J.
Dynair Electronics, Inc., Box 1103, El Cajon, Calif.
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.–Pg. 895
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Assembly Co., Inc., 5 Prescott St., Roxbury, Mass.
Electronic Measurements Co., Inc., Eatontown, N. J.–Pgs. 896–898
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.–Pg. 899
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.–Pg. 673
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N.Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.–Pg. 512
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N. J.–Pg. 900
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Meters, Inc., P. O. Box 1701, Grand Junction, Colo.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
General Precision Laboratory Inc., 63 Bedford Road, Pleasantville, N. Y.
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Tex.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Electric, 130 Cedar St., New York, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Gulton Industries, Inc., Alkaline Battery Div., Metuchen, N. J.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N. J.–Pg. 904
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hett Associates, Inc., 603 Grand Ave., Englewood, N. J.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 905
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.–Pg. 907
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.–Pg. 530
Industrial Test Equipment Co., 55 E. 11th St., New York, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y. – Pgs. 906, 1103
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.–Pgs. 909–915
Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.–Pgs. 625, 908
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y.–Pg. 908
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lambda Electronics Corp., 11–11 131st St., College Point, N. Y.–Pgs. 917–922
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Leland Airborne Prod., Div. A. M. & F. Co., Box 128, Vandalia, Ohio
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.–Pg. 923
Magnetic Controls Co., 6405 Cambridge St., Minneapolis, Minn.
Magnetic Research, 3160 W. El Segundo Blvd., Hawthorne, Calif.–Pg. 924
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marine View Electronics, Inc., 88–06 Van Wyck Blvd., Jamaica, N. Y.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
McDowell Electronics, Inc., 105 Forrest St., P. O. Box 342, Metuchen, N. J.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Microdyne, 300 W. Washington St., Chicago, Ill.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Milro Controls Co., Park Ridge, N. J.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.–Pg. 925
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Multi–Inp Corp., 465 Lehigh Ave., Union, N. J.
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J.–Pgs. 926–939
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Neff Instrument Corp., 2211 E. Foothill Blvd., Pasadena, Calif.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
Neutronic Associates, 93–14 101st Ave., Ozone Park, N. Y.
New London Instrument Co., Inc., 82 Union St. – Box 189, New London, Conn.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.–Pg. 940
Northeast Scientific Corp., 617 Concord Ave., Cambridge, Mass.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.–Pg. 941
Opad Electric Co., 43–12 Walker St., New York, N. Y.–Pg. 942
Orbitron Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Oregon Electronics, 2105 S. E. 6th Ave., Portland, Ore.–Pg. 943
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Owen Laboratories, Inc., 55 Beacon Place, Pasadena, Calif.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif.–Pg. 824
Pennsylvania Testing Lab., Inc., Doylestown, Pa.–Pg. 739
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.–Pgs. 944, 945
Peschel Electronics, Inc., Towners, Rfd 1, Patterson, N. Y.–Pg. 742
Philamon Laboratories, Inc., 90 Hopper St., Westbury, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.–Pg. 948
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Plastic Capacitors, Inc., 2620 N. Clybourn Ave., Chicago, Ill.
Potter Co., The, 1950 Sheridan Rd., No. Chicago, Ill.
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y.–Pgs. 946, 947
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precise Measurements Co., Millbrook Place, Rd 1, Flemington, N. J.–Pg. 949
Quantum Electronics, Div. Ultradyne, Inc., P. O. Box 3308, Albuquerque, N. Mex.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. Of America, Indl. Elctm Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ransom Research, Box 269 – 323 W. 7th St., San Pedro, Calif.
Rapid Electric Co., 2881 Middletown Rd., Bronx, N. Y.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.

POWER SUPPLIES. REGULATED (continued)

Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles, Calif.–Pg. 515
S–R Electronics, 3200 First Ave., S., Seattle, Wash.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Scientific Electric, Inc., 105–119 Monroe St., Garfield, N. J.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Sola Electric Co., 4633 W. 16th St., Chicago, Ill.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.–Pg. 951
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Spellman High Voltage Co., 3029 Webster Ave., New York, N. Y.–Pg. 952
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Statistical Inst. Co., 330 Haven Ave., New York, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technique Assocs. Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Tel–Instrument Elect. Corp., 728 Garden St., Carlstadt, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.–Pg. 953
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N.J.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Tung–Sol Electric, Inc., Newark, N. J.–Pg. 956
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Universal Electronics Co., 1720 22 St., Santa Monica, Calif.–Pg. 957
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Varian Associates, Palo Alto, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Tex.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Warren Mfg. Co., The, Littleton, Mass.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Wesco Electrical & Mfg. Co., 27 Olive St., Greenfield, Mass.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York–Pg. 1077
Western Gear Corp., 2600 E. Imperial Hghwy., P. O. Box 182, Lynwood, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Wincharger Corp., E. 7th & Division Sts., Box 1168, Sioux City, Iowa

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Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airborne Accessories Co., 1414 Chestnut Ave., Hillside, N. J.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Alto Scientific Co., Inc., 855 Commericial St., Palo Alto, Calif.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Industrial Electronics Corp., 4200 Perry St., Box 14105, Houston, Tex.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Amplifier Corp. of America, 398 Broadway, New York, N.Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Applegate & Co., C. J., 1840 24th St., Boulder, Colo.
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Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.–Pg. 883
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Belock Instrument Corp., 112–03 14th Ave., College Point, N.Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N.J.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N.J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N.J.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Briggs Assoicates, Inc., 10 Dekalb St., Norristown, Pa.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Magnetic Control Co., 11922 Valerio St., No. Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St.Laurent, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Canada
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Components Corp., 106 Main St., Denville, N.J.
Computer Engg. Assocs., 350 N. Halstead Ave.—Box 5457, Pasadena, Calif.
Consolidated Avionics Corp., 800 Shames La., Westbury, N.Y.– Pg. 889
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Continental Maufacturing, Inc., 1612 California St., Omaha, Neb.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N.Y.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Datascan, Inc., 48 Notch Rd., Little Falls, N.J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dorsett Laboratories, Inc., P.O. Box 862 – 401 Boyd St., Norman, Okl.
Dressen–Barnes Corp., 250 N. Vinedo Ave., Pasadena, Calif., – Pgs. 891,892,894
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Controls Co., 1955 Massachusetts Ave., Cambridge, Mass.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EMP Electronics, Res.Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago, Ill.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va., – Pg. 895
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Assembly Co. Inc., 5 Prescott St., Roxbury, Mass.
Electronic Associates, Inc., Long Branch, N.J.
Electronic Measurements Co., Inc., Eatontown, N.J. – Pg. 896–898
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J. – Pg. 899
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Ensco, Inc., 3100 Eldredge St., Salt Lake City, Utah
Espey Mfg., Co., 200 W. 57th St., New York, N.Y.
Extron Corp., 600 So. Marshfield Ave., Chicago, Ill.
Ferrotran Electronics Co., 693 Broadway, New York, N.Y. – Pg. 512
Fluke, John Mfg. Co., 1111 W. Nickerson St., Seattle, Wash.
Foto–Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J. – Pg. 900
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
General Nuclear Corp., 550 5th Ave., New York, N.Y.
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Gow–Mac Instrument Co., 100 Kings Rd., Madison, N.J.
Gulton Industries, Inc. Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hammond Mfg. Co., Ltd., Guelph, Canada
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N.J. – Pg. 904
Harvey–Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 905
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P.O. & Bin N, Pasadena, Calif.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.–Pg. 530
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y. – Pgs. 906, 1103
International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif.
Invar Electronics Co, 1749 N. Eastern Ave., Los Angeles, Calif.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
Jordan Electronics Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y. – Pgs.909,911,913,914
Kinevox Div., Electromation Co., 1646 18th St., Santa Monica, Calif.
Krohn–Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y. – Pg. 908
Lambda Electronics Corp., 11–11 131 St. St., College Point, N. Y. – Pgs.917,918,921,922
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Leach Corp., 18435 Susana Rd., –P.O. Box 190, Compton, Calif.
Leland Airborne Prod., Div. A.M. & F. Co., Box 128, Vandalia, Ohio
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
M F Electronics, 122 E. 25th St., New York, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, 16, Minnesota
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N.J.
Milli–Switch Corp., Sub P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Milro Controls Co., Park Ridge, N.J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.–Pg. 1176
Minneapolis–Honeywell, Ordance Div., 600 2nd St., N., Hopkins, Minn.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y. – Pg. 925
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.
NJE Corp., 345 Carnegie Ave., Kenilworth, N. J. – Pgs. 926–929, 937, 939
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Heff Instrument Corp., 2211 E. Foothill Blvd., Pasadena, Calif.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
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Fen-Tone Corp., 106 5th Ave., New York, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments for Industry, Inc., 101 New South Rd., Hicksville, N. Y.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston, Massachusetts
Lel, Inc., 380 Oak St., Copiague, N. Y. – Pg. 815
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Marine View Electronics, Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Missiloonics, Inc., Melbourne Airport, Melbourne, Fla.
Nems Clarke, Div. Vitro Corp. of America, 919 Jesup-Blair Dr., Silver Spring, Md.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

PREAMPLIFIERS. STEREO
McIntosh Laboratory, Inc., 2 Chambers St., Binghamton, N. Y.

PREAMPLIFIERS. TV ..... **Pg. 529**
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
Benco TV Assocs., 27 Taber Road, Rexdale, Canada
Blonder-Tongue Labs., Inc., 9-25 Alling St., Newark, N. J.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Community Engineering Corp., State College, Pa. – Pg. 529
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
Fen-Tone Corp., 106 5th Ave., New York, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D, 27 Jerrold Bldg., Phila., Pa.
Labline, Inc., 3070-82 W. Grand Ave., Chicago, Ill.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Sage-Craft, Inc., Norwich, N. Y.
Spencer-Kennedy Labs., Inc., 1320 Soldiers Field Rd., Boston, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

PRECIPITATORS. ELECTROSTATIC
Electro-Air Cleaner, Spoul & Olivia, Mckees Rocks, Pa.
Hewson Co., Inc., 443 Broad St., Newark, N. J.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Perkin-Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Radex Corp., 2076 N. Elston Ave., Chicago, Ill.
Spellman High Voltage Co., 3029 Webster Ave., New York 67, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Trion, Inc., 1000 Island Ave., McKees Rocks, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

PRESELECTORS ..... **Pg. 791**
Amerac, Inc., Dunhan Rd., Beverly, Mass. – Pg. 791
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y,
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Radio Mfg. Engineers, Inc., Div. Electro-Voice, Inc., Buchanan, Mich.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

PRESSURIZATION UNITS
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Soundscriber Corp., The, 6 Middletown Avenue, No. Haven, Conn.

PRINTED CIRCUITS – SEE CIRCUITS. PRINTED

PRINTERS. DIAL. METER SCALE
Fabra-Print, Inc., 801 S. E. 8 St., Minneapolis 14, Minn.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Precise Measurements Co., Millbrook Place, RD1, Flemington, N. J.
Printloid, Inc., 10-10 44th Ave., Long Island City, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.

PRINTERS. HIGH SPEED ..... **Pgs. 541, 655, 690**
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Anelex Corporation, 150 Causeway Street, Boston, Massachusetts
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
Clary Corp., 408 Junipero St., San Gabriel, Calif.
Computer-Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 541
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Electronic Associates, Inc., Long Branch, N. J.
Friden, Inc., San Leandro, Calif.
Hewlett-Packard Corp., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 690
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Presin Co., 2014 Broadway, Santa Monica, Calif.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Shepard Laboratories, Inc., Broad St., Summit, N. J.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Victor Adding Machine Co., 3900 N. Rockwell St., Chicago, Ill.

PRINTERS. KEYBOARD
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Clary Corp., 408 Junipero St., San Gabriel, Calif.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Friden, Inc., San Leandro, Calif.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Victor Adding Machine Co., 3900 N. Rockwell St., Chicago, Ill.

PRINTERS. LINE ..... **Pg. 690**
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Clary Corp., 408 Junipero St., San Gabriel, Calif.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Friden, Inc., San Leandro, Calif.

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Hewlett-Packard Corp., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 690
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Matthews & Co., James H., 3832 Forbes Ave., Pittsburgh, Pa.
Potter Instrument Co., Inc., Sunnyside Blvd.,Plainview, N. Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Victor Adding Machine Co., 3900 N Rockwell St., Chicago, Ill.

PROBES ..... **Pgs. 449, 682, 689–693, 807–813, 905, 1030**
Air–O–Tronics Engrg. Co., P.O. Box 31, Lancaster, Calif.
Avionics Corp. of America, Maple Ave. & Horsham Rd , Horsham, Pa.
Beckley Electric Co , 468 Grand Ave., Brooklyn, N.Y.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass..
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
E–Z–Hook Test Products, 1536 Woodburn Ave., Covington, Ky.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 682
Giannini, G.M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa.
Hamner Electronics Co., Inc., P.O. Box 531, Princeton, N.J.
Handicraft Tools, Inc., Div. of X–Acto, 48–41 Van Dam St., L.I. City, N.Y.
Heath Co., Benton Harbor, Mich.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pgs. 449,689–693,807–813,905
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1030
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Kingston Electronic Corp., 35 North St., Medfield, Mass.
Leighton, H.W. Labs., Sunset La. & York Rd., Hatboro, Pa.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N.Y.
Nicholas Prods Co , 325 W. Main St., Moorestown, N.J.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Paco Electronics Co., Inc., 70–31 84th St., Glendale, N.Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N.Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N.J.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, N.Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Victor R.F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waterman Products Co., Philadelphia, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

PROBES, CLAMP–ON
Stoddart Aircraft Radio Co., 6644 Santa Monica Blvd., Hollywood, Calif.

PROBES, CRYSTAL ..... **Pg. 682**
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dubrow Devel. Co., 235 Penn. St., Burlington, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 682
Hickok Electrical Instr .Co., 10500 Dupont Ave., Cleveland, Ohio
Nicholas Prods. Co , 325 W. Main St., Moorestown, N.J.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Paco Electronics Co., Inc., 70–31 84th St., Glendale, N.Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N.Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Precision Apparatus Co , Inc., 70–31 84th St., Glendale, N.Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N.J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Van Norman Industries, Electronics Div., 186 Granite St., Manchester, N.H.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waterman Products Co., Philadelphia, Pa.
Wave/Particle Corp., P.O. Box 252, Menlo Park, Calif.

PROBES, HIGH FREQUENCY ..... **Pgs. 817, 822**
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dubrow Devel. Co., 235 Penn. St., Burlington, N.J.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Communication Co., 677 Beacon St., Boston, Mass.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hickok Electrical Instr .Co., 10500 Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Micrelab, 71 Okner Pkway., Livingston, N.J.
Microwave Radiation Co., 19223 S. Hamilton St., Gardona, Calif.
Narda Microwave Corp., 118–60 Herricks Rd., Mineola, N.Y. – Pg. 822
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N.Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N.Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N.J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Scala Radio Co., 2814 19th St., San Francisco, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
T.E.M., Inc., 71 Okner Parkway, Livingston, N.J. – Pg. 817
Tektronix, Inc., P.O. Box 831, Portland, Oreg.

PROBES, HIGH VOLTAGE ..... **Pg. 500**
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St , New York, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave , Clifton, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co., Inc , 33–00 Northern Blvd., Long Island City, N.Y.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill .
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co , 16 S. Patterson Blvd., Dayton, Ohio
Javex, P.Q. Box 646, Redlands, Calif.
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P.O. Box 1278, San Jose, Calif. – Pg. 500
Paco Electronics Co., Inc., 70–31 84th St., Glendale, N.Y.
Physics Research Labs., Inc , 507 Hempstead Turnpike, Box 555, Hempstead, N.Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Precise Measurements Co., Millbrook Place, R.D. 1, Flemington, N.J.
Precision Apparatus Co., Inc., 70–31 84th St., Glendale, N.Y.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N.J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Scala Radio Co., 2814 19th St., San Francisco, Calif.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark N. J.

PROBES, MICROWAVE **Pgs. 792, 793, 795, 796, 798–800, 803, 804, 809, 810, 817, 820, 837**
ARRA Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y., Pgs. 792,793
Admittance-Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y. – Pg. 795
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y. – Pg. 796
Demornay-Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif., – Pgs. 798,799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dynamic Electronics N. Y. Inc., 87-46 123 Rd St., Richmond Hill, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y. –Pg. 803
FXR, Inc., 26-12 Borough Pl., Woodside, N. Y. – Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
Hewlett-Packard Co., 4801 R, Pace Mill Rd., Palo Alto, Calif., – Pgs. 809, 810
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, Westchester County, N. Y.
Lambda-Pacific Eng., Inc., 14725 Arminta St., P. O. Box 70 Van Nuys, Calif.
Microwave Associates, Inc., Burlington, Mass.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Nardo Microwave, The, 118-160 Herricks Rd., Mineola, N. Y., – Pg. 820
Nicholas Prods Co., 325 W. Main St., Moorestown, N. J.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Polytechnic Res & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
T.E.M., Inc., 71 Okner Parkway, Livingston, N. J., – Pg. 817
Telerad Mfg., Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Victor R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waveline, Inc., Box 718, W. Caldwell, N. J. – Pg. 837
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

PROBES, RADIAC
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Atomic Accessories, Inc., 244-02 Jamaica Ave., Bellerose 26, N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123 rd St., Richmond Hill, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear-Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

PROBES, TEMPERATURE ..... **Pgs. 1026, 1045, 1046, 1048, 1050**
Advanced Electronics, Inc., 94 Silas Deane Hway, Rocky Hill, Conn.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dynamic Electronics N. Y. Inc., 87-46 123Rd St., Richmond Hill, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Flow Corp., 85 Mystic St., Arlington, Mass.
General Electric Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich, – Pg. 1026
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Rosemount Engrg. Co., 9424 Lyndale Ave., S. Minneapolis, Minn.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Ill.
Victory Engrg Corp., Box 373, Union, N. J., – Pgs. 1045, 1046, 1048, 1050
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.

PROGRAMMERS, COMPUTER ..... **Pgs. 538, 970, 971, 1106**
AMP, Inc., Eisenhower Blvd., Harrisburg, Pa.
Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Aeronica Mfg. Corp., Indus Res Labs. Div., Hilltop & Frederick, Baltimore, Md.
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif., Pgs. 970, 971
Automation Management Inc., Adams St., Westboro, Mass.
Beattie-Coleman, Inc., 1000 N. Olive St., Anaheim, Calif.
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif., – Pg. 538
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chicago Aerial Industries, 1980 N. Hawthorne, Melrose Park, Ill.
Chrono-Log Corp., Box 4587, Philadelphia, Pa.

PROGRAMMERS. COMPUTER (continued)
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Datics Corp., The, P.O. Box 9128, 6000 Camp Bowie Blvd., Forth Worth, Texas
Devol Research Co., Brookside Dr., Greenwich, Conn.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Digitronics Corp., Albertson Ave., Albertson, L. I., N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Friden, Inc., San Leandro, Calif.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., Box 550, Burbank, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Royal McBee Corp., The, Westchester Ave., Port Chester, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Shepard Laboratories, Inc., Broad St., Summit, N. J.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y., – Pg. 1106
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.

PROJECTION UNITS. TV
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Precision Laboratory Inc., 63 Bedford Road, Pleasantville, N. Y.
Interstate Electronics Corp.,707 E. Vermont Ave., Anaheim, Calif.
Philco Corp.,Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N.Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Spindler & Sauppe, 2201 Beverly Blvd., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Televison Specialty Co., 350 West 31st St., New York, N. Y.
Trans-Lux Corp., 625 Madison Ave., New York, N. Y.

PROJECTORS. MOTION PICTURES
American Scientific Development Co., Barton & Alabama, Box 109, Redlands, Calif.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Berndt-Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
De Jur-Amsco Corp., Electr. Sls. Div., 45-01 Northern Blvd., L. I. City, N. Y.
Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N.Y.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
General Precision Laboratory Inc., 63 Bedford Road, Pleasantville, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N Hollywood, Calif.
Harwald Co., Inc., 1245 Chicago Ave., Evanston, Ill.
Kalart Co., Inc., Hulteneus St., Plainville, Conn.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Radio Corp. of America, Ind. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Televison Specialty Co., 350 West 31st St., New York, N. Y.

PROJECTORS. SLIDE ALL TYPES
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Bodde Screen & Projector Cos., 11541 Bradley Ave., San Fernando, Calif.
Dukane Corp., St. Charles, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Harwald Co., Inc., 1245 Chicago Ave., Evanston, Ill.
Kalart Co., Inc., Hulteneus St., Plainville, Conn.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Spindler & Sauppe, 2201 Beverly Blvd., Los Angeles, Calif.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Trans-Lux Corp., 625 Madison Ave., New York, N. Y.

PUBLIC ADDRESS SYSTEMS
Alto Fonic Music Systems Inc., 935 Commercial St., Palo Alto, Calif.
Associated Designers, 135 Las Tunas Dr., San Gabriel, Calif.
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.
Audio Equipment Co., Inc., 75 Harbor Rd., Port Washington, N. Y.
Audio-Master Corp., 17 E. 45th St., New York, N. Y.
Bell Sound Div., Thompson Ramo Wooldridge Inc., 555 Marion Rd., Columbus, Ohio
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bliss Electronic Corp., Box 366 Sussex, N. J.
Bogen-Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Califone Corp., 1041 N. Sycamore Ave., Hollywood, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Systems Engrg. Co., 903 Cravens, Oklahoma City, Okla.
Fanon Electronics Co., Inc., 98 Berriman St., Brooklyn, N.Y.
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
Galbraith-Pilot Marine Corp., 600-4th Ave., Brooklyn, N. Y.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Loge, J. M. Sound Engs., 2171 W. Washington Blvd., Los Angeles, Calif.
Lorain County Radio Corp., 203 9th St., Lorain, Ohio
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Northwest Instrument Co., 2313 Third Ave., Seattle, Wash.
Port-O-Vox Corp., 521 W. 43 St., New York, N. Y.
Precision Electronics, Inc., 9101 King St., Franklin Park, Ill.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rauland-Borg Corp., 3535 W. Addison St., Chicago, Ill.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Schindlers, 2429 Beverly Ave., Santa Monica, Calif.
SEG Electronics Co., Inc., 1778 Flatbush Ave., Brooklyn, N. Y.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L.I. City, N.Y.
Sperti-Faraday, Inc., Adrian, Mich.
Spivey, James S. Inc., 4908 Hampden Lane, Washington, D. C.
Stromberg-Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Ultraudio Products, Div. Oberline, Inc., P. O. Box 921, Beverly Hills, Calif.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Vocaline Co. of America, Old Saybrook, Conn.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

PUBLICATIONS SERVICES – SEE SERVICES. PUBLICATIONS

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Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Holub Industries, Inc., 413 DeKalb Ave., Sycamore, Ill.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.
Star-A Electric Mfg. Co., 269 Meserol St., Brooklyn, N. Y.
Trico Fuse Mfg. Co., 2948 N. 5th, Milwaukee, Wisc.
Worthington Products Co., 2383 Linden Ave., Columbus, Ohio

PULLERS. TUBE ..... Pgs. 542, 1153
Atacon Corp., 527 N. Union St., Calion, Ohio
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
CBS-Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Digital Equipment Corp., Maynard, Mass. – Pg 542
Duro Specialty Co., Inc., 811 Boston St., Lynn, Mass.
Eitel-McCullough Inc., 301 Industrial Rd., San Carlos, Calif., – Pg. 1153
Ercona Corp., Electro. Div., 16 W 46th St., New York, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.

PULLEYS
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.

PULSE NETWORKS – SEE NETWORKS. PULSE

PUMPS ..... Pg. 1119
Adel Precision Prod. Div., General Metals, 1077 Vanowen St., Burbank, Calif.
Applied Dynamics Corp., 32 N. Main St., Natick, Mass.
Bart Mfg. Corp., 227 Main St., Belleville, N.J.
Beach-Russ Co., 420 Lexington Ave., New York, N. Y.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
Electric Trading Co., 313 Canal St., New York, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Fisher Oscar & Co., Inc., P. O. Box 426, Newburgh, N. Y.
Fostoria Pressed Steel Corp., Fostoria, Ohio
Gardner–Denver Co., Front St., Quincy, Ill.
Heatron Co., 333 Eberts St., York, Pa.
Homelite Div., Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
International Pump & Machine Works, 81 Dorsa Ave., Livingston, N. J.
Kinney Mfg. Div., New York Air Brake Co., 3529 Washington St., Boston, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leimen Bros., 146 Christie St., Newark, N. J.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N.Y.
Nelson Vacuum Pump Co., 2133 4th St., Berkeley, Calif.
New York Air Brake Co., Vacuum Equip. Div., 1325 Adm. Wilson Blvd., Camden, N. J.
Owatonna Tool Co., The, Owatonna, Minn.
Pesco Products Div., Borg–Warner Corp., 24700 N. Miles Rd., Bedford, Ohio
Red Point Corp., 1907 Riverside Dr., Glendale, Calif.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield, Ohio
Roots–Connersville Blower Div., Dresser Ind., 900 W. Mount St., Connersville, Ind.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif. – Pgs. 1119
Standard Electric Mfg. Co., Haddon Ave., W. Berlin, N. J.
Stokes, F. J. Corp., 5500 Tabor Rd., Philadelphia, Pa.
Varian Associates, Palo Alto, Calif.
Veeco Vacuum Corp., 86 Denton Ave., New Hyde Park, N. Y.
Viking Pump Co., 4 & Van Tassel Sts., Cedar Falls, Iowa
Welch, W. M. Scientific Co., 1515 Sedgwick St., Chicago, Ill.

PUNCH CARD & TAPE EQUIPMENT ..... Pg. 538
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Burroughs Corp. Electro Div., 460 Sierra Madre Villa., Pasadena, Calif. – Pg. 538
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Friden, Inc., San Leandro, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precision Specialties, Inc., 1342 E. 58 St., Kansas City, Mo.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wright Assoc., 420 Market St., San Francisco, Calif.

PUNCHES ..... Pg. 1113
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Black & Webster Inc., 445 Watertown St., Newton, Mass.
General Hardware Co., 80 White St., New York, N. Y.
Greenlee Tool Co., 2136–12th, Rockford, Ill.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Kraeuter & Co., Inc., 583–585 18th Ave., Newark, N. J.
O'Neil–Irwin Mfg. Co., 316 8th Ave., Lake City, Minn.
Rotex Punch Co., 2350 Alvarado St., San Leandro, Calif.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.

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Tally Register Corp., 5300 14th Ave., N. W. Seattle, Wash.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition, Los Angeles, Calif.–Pg. 1113

PYROMETERS. ELECTRICAL
Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
Epic, Inc., 154 Nassau St., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Handley Electronics, Inc., 14758 Keswick St., Van Nuys, Calif.
Huppert Co., K. H., 6830–40 S. Cottage Grove Avenue, Chicago 37, Ill.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Meters, Inc., 5353 N. Keystone Ave., Indianapolis, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technique Assocs. Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Temperature Engrg. Corp., U. S. Highway 130, Riverton, N. J.
Thermo Electric Co., Inc., Saddle Brook, N. J.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

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Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
Epic, Inc., 154 Nassau St., New York, N. Y.
Hett Associates, Inc., 603 Grand Ave., Englewood, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N. J.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.

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Barnes Engineering Co., 30 Commerce Road, Stamford, Conn.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Huppert Co., K. H., 6830–40 S. Cottage Grove Avenue, Chicago 37, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N. J.
Thermo Electric Co., Inc., Saddle Brook, N. J.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

QUARTZ. FUSED – SEE INSULATORS. FUSED QUARTS. ALSO SEE TUBING. FUSED QUARTZ

QUICK DISCONNECTS – SEE CONNECTORS. TERMINALS. QUICK DISCONNECT

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Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Mechaneers Inc., Westport, Conn.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Pennsylvania Testing Lab. Inc., Doylestown, Pa. – Pg. 738
Sorenson Industrial Elect., Route 10, Dover, N.J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore 29, Md.
Wright Equipment Co., 128 N. Main St., Milltown, N. J.

RACKS. CABINET ..... Pgs. 467, 468, 470, 475, 476, 482
Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
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Alpitec Inc., 49 Gleason Ave., Stamford, Conn.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Mass.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Formica Metal Products Co., Corporation Way, Medford, Mass.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
General Metals, Inc., 858 Goldsboro St., Greensboro, N.C.
Golden Co., 1054 38 St., Brooklyn, N.Y.
Golding Mfg. Co., 52 Elm St., Newark, N. J. – Pg. 470
Hammond Mfg. Co., Ltd., Guelph, Canada
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Lynch, R. H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Middletown Mfg. Co., Middletown, Conn.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
P. B. R. Mfg. Co., H & Luzerne Sts., Philadelphia, Pa.
Par Metal Products Corp., 32–48 49th St., L. I. City, N. Y. – Pg. 476
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Premier Metal Products Co., 337 Manida St., New York, N. Y. – Pg. 475
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Stackbin Corp., 1255 Main St., Pawtucket, R. I.
Titchener, E. H. & Co., 67 Clinton St., Binghamton, N. Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Warren Mfg. Co., The, Littleton, Mass.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore 29, Md.
Western Devices, Inc., 600 W. Florence Avenue, Inglewood, Calif. – Pg. 482
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.

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Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N.Y.
Alpitec Inc., 49 Gleason Ave., Stamford, Conn.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Baltic Metal Products Co., Dept. E, 120 Sutton St., Brooklyn, N.Y. – Pg. 467
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, N.J.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Mass.
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Elzee Metal Products Co., Ind., 775 39th St., Brooklyn, N.Y.
Falstrom Co., Falstrom Court, Passaic, N.J.
Feiner, P. & Sons, 522 W. 45 St., New York, N.Y.
Formica Metal Products Co., Corporation Way, Medford, Mass.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N.J.
Golden Co., 1054 38 St., Brooklyn, N.Y.
Golding Mfg. Co., 52 Elm St., Newark, N.J. – Pg. 470
Hammond Mfg. Co., Ltd., Guelph, Ont., Canada
Independent Metal Fabricator, 321 Casanova St., Bronx, N.Y.
Lynch, R.H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N.H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N.Y.
Par Metal Products Corp., 32–48 49th St., L.I. City, N.Y. – Pa. 476
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Premier Metal Products Co., 337 Manida St., New York, N.Y. – Pg. 475
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Sequoia Wire & Cable Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N.Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R.R., Baltimore 29, Md.
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif. – Pa. 482
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.

RACKS. RELAY. CHANNEL ..... Pgs. 468, 470, 475, 476, 546
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Alden Products Co., 146 N. Main Street, Brockton, Mass.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
California Chassis Co., 5445 E. Century Blvd., Lynwood, Calif.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Craig Systems, Inc., 360 Merrimack St., Lawrence, Mass.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N.Y.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Dukane Corp., St. Charles, Ill.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N.Y.
Falstrom Co., Falstrom Court, Passaic, N.J.
Feiner, P. & Sons, 522 W. 45 St., New York, N.Y.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N.J.
Golding Mfg. Co., 52 Elm St., Newark, N.J. – Pg. 470
Hammond Mfg. Co., Ltd., Guelph, Canada
Henry Products Co., 842 Rockaway Ave., Brooklyn, N.Y.
Independent Metal Fabricator, 321 Casanova St., Bronx, N.Y.
Lenkurt Electric Co., 1105 County Rd., San Carlos, Calif.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Lynch, R.H. Mfg. Co., 7831 E. Arroyo Dr., S. San Gabriel, Calif.
Middletown Mfg. Co., Middletown, Conn.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
North Electric Co., 553 S. Market St., Galion, Ohio
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N.H.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N.Y.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Par Metal Products Corp., 32–48 49th St., L.I. City, N.Y. – Pa. 476
Premier Metal Products Co., 337 Manida St., New York, N.Y. – Pg. 475
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N.Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R R., Baltimore 29, Md.
Western Devices, Ind., 600 W. Florence Avenue, Inglewood, Calif.
Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif.

RADAR SYSTEMS ..... Pg. 814

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
American Bosch Arma Corp., 350 Fulton Ave., Hempstead, N.Y.
Autonetics, Div. North American Aviation, 9150 E. Imperial Hway, Downey, Calif.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine, Div. Kearfott Co., 92 Gold St., New York, N.Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Daystrom Instrument, Archbald, Pa.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N.Y.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L.I. City, N.Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Gilfillan Bros. Inc., 1815 Venice Blvd., Los Angeles, Calif.
Granite State Machine Co., 124 Joliette St., Manchester, N.H.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N.Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lavoie Laboratories, Inc., Morganville, N.J.
Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N.Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N.Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Reeves Instrument Corp., East Gate Blvd., Garden City, N.Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Ryan Aeronautical Co., Harbor Drive, San Diego, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N.H.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Sylvania Electric Products, Elctrnl Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R R., Baltimore, Md.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

RADIATION EQUIP., NUCLEAR – SEE DOSIMETERS, FILM BADGES, ETC.

RADIOS, CITIZEN

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Air–O–Tronics Engrg. Co., P.O. Box 31, Lancaster, Calif.
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Ind.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Flush Wall Radio Co., 1012 Cleveland St., Clearwater, Fla.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Gyro Electronics Co., 36 Walker St., New York, N.Y.
Kent Television, Inc., 505 Driggs Ave., Brooklyn, N.Y.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Roberts Mfg. Co., 426 E. Shaffer, Gleburne, Texas
Sylvania Electric Products, Home Elctrns. Div., 70 Ellicott St., Batavia, N.Y.
Vocaline Co. of America, Old Saybrook, Conn.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N.J.

RADIOSONDES

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aeronutronic Systems Inc., 1234 Airway, Glendale, Calif.
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Automation Dynamics Corp., 255 County Rd., Tenafly, N.J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Control Circuits Inc., Box 279, East Hampton, Conn.
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
G.M. Mfg. Co., 134 W. 26 St., New York, N. Y.
General Electric Co., Light Military Electr. Equip., French Rd., Utica, N.Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Canada
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
National Co., Inc., 61 Sherman St., Malden, Mass.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N.H.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Topp Industries, Inc., 5221 W. 102 St., Los Angeles, Calif.

RADIUM – SEE METALS

RADOMES ..... Pg. 792

Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Arra Corp., Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 792
Andrew Corp., 363 East 75th St., Chicago, Ill.
Birdair Structures, Inc., 290 Larkin St., Buffalo, N. Y.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Dura Plastics of N. Y., Inc., 303 – 5th Ave., New York, N. Y.
Dwyer Engineering Co., Inc., P.O. Box 452, Nashua, N. H.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Farrand Optical Co., Aff. Farrand Control, Bronx Blvd. at 238th, Bronx, N.Y.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio
Granite State Machine Co., 124 Joliette St., Manchester, N. H.
Hull Corp., Dansville Rd., Hatboro, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Keller Products, Inc., 41 Union St., Manchester, N. H.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Koch, H. & Sons, Corte Madera, Calif.
Laminair, Inc., 18530 S. Broadway, Gardena, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Mycalex Corp. of America, 125 Clifton Blvd., Clifton, N. J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pioneer Industries, Inc., 2700 Hawkeye Dr. – Box 1500, Sioux City, Ia.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Tel–Labs, Inc., 1050 Second St., Manchester, N. H.
Telectro Industries Corp., 35–16 37Th St., L.I. City, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thompson, H. I. Fiber Glass Co., 1733 Cordova St., Los Angeles, Calif.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.

RANGE FINDERS

Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Dynamic Electronics, N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Federal Instrument Corp., 92–60 Queens Blvd., Rego Park, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

REACTORS – SEE COILS

READERS, CARD

Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Friden, Inc., San Leandro, Calif.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Richardson Scale Co., Van Houten Ave.., Clifton, N. J.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

READERS, CHARACTER

Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Intelligent Machines Research Corp., 7019 Edeall Rd., Alexandria, Va.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.

READERS, MECHANICAL

Automation Management, Inc., Adams St., Westboro, Mass.
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wang Laboratories, Inc., 37 Hurley St., Cambridge, Mass.

READERS, READOUT DEVICES ..... Pgs. 510, 541, 547, 646, 655, 666, 743, 748, 812, 857–871, 876, 992, 1118, 1143, 1160, 1162

Advanced Electronics Mfg. Co., 2116 So. Sepulveda Blvd., Los Angeles, Calif. – Pg. 646
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Amperex Electronic Corp., P.O. Box 418, 230 Duffy Ave., Hicksville, L.I., N. Y.
Automation Management, Inc., Adams St., Westboro, Mass.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass. – Pg. 1143
Beckman/Berkley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Burroughs Corp., Electronic Tube Div., P.O. Box 1226, Plainfield, N. J.
Chrono–Log Corp., Box 4587, Philadelphia, Pa.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computer–Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 541
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Cunningham, James Son, & Co., 33 Litchfield St., Rochester, N. Y.
Data Systems, Norden Div. United Aircraft, 13210 Crenshaw Blvd., Gardena, Calif.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Dialight Corp., 60 Stewart Ave., Brooklyn, N. Y. – Pgs. 857 – 871
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif. – Pg. 876
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 666
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electronic Associates, Inc., Long Branch, N. J.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif. – Pg. 510
Epsco, Inc., 588 Commonwealth Ave., Boston, Mass.
Exact Weight Scale Co., 944 W. 5 Ave., Columbus, Ohio
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Friden, Inc., San Leandro, Calif.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Haydon Co., A. W., 247 N. Elm St., Waterbury, Conn. – Pg. 992
Haydon Instrument Co., 165 W. Liberty St., Waterbury, Conn.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 690, 812
Hoffman Electronics Corp., Semiconductof Div., 930 Pitner Ave., Evanston, Ill.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P.O. & Bin N, Pasadena, Calif.

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Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Keuffel & Esser Co., Hoboken, N. J. – Pg. 1118
Kin Tel. Div., Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Librascope, Inc., 808 Weston Ave., Glendale, Calif. – Pg. 547
Litton Industries, 960 Industrial Rd., San Carlos, Calif. – Pg. 1160
M F Electronics, 122 E. 25th St., New York, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mast Development Co., Inc., 2212 E. 12 St., Davenport, Iowa
Metta Engrging., & Sales Co., 252 E. 16th St., Paterson, N. J.
Milman Engineering Co., 1831 Pontius, W. Los Angeles, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Union Electric, Electronics Div., Bloomington, Ill.
Non–Linear Systems, Inc., Del–Mar Airport––Box 728, Del–Mar, Calif.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Patwin Div., Patent Button Co., 41 Brown St., Waterbury, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Instrument Co, Inc., Sunnyside Blvd., Plainview, N. Y.
Quantametric Devices, Inc., Box 1107, Binghamton, N. Y.
Radiation, Inc., P.O. Box 37, Melbourne, Fla.
Radio Corporation of America, 415 S. 5 St., Harrison, N. J. – Pg. 1162
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.– Pg. 743
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Shepard Laboratories, Inc., Broad St., Summit, N. J.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.– Pg. 748
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Streeter–Amet Co., Grayslake, Ill.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn.
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh,Pa.
Victor Adding Machine Co., 3900 N. Rockwell St., Chicago, Ill.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.

READERS. TAPE ..... Pgs. 538, 545

Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif. – Pg. 538
Clairex Corp., 19 W. 26th St., New York, N. Y.
Digitronics Corp., Albertson Ave., Albertson, L.I., N. Y.
Electro–Mechanical, Div. General Riveters, Inc., 785 Hertel Ave., Buffalo, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 545
Friden, Inc., San Leandro, Calif.
General Kinetics, Inc., 555 23 St., S. Arlington, Va.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Imtra Corp., 11 University Rd., Cambridge, Mass.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Intelex Systems, Inc. 22 Thames St., New York, N. Y.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Midwestern Instrument, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves, Philadelphia, Pa.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter Instrument Co, Inc., Sunnyside Blvd., Plainview, N. Y.
Royal McBee Corp., The, Westchester Ave., Port Chester, N. Y.
Shepard Laboratories, Inc., Broad St., Summit, N. J.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Tally Register Corp., 5300 14th Ave., N.W., Seattle, Wash.
Wang Laboratories Inc., 37 Hurley Street, Cambridge, Mass.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

RECEIVERS. AIRBORNE

AC Electronics , Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Babcock Radio Engrg., 1640 Monrovia Ave. – P.O. Box 344, Costa Mesa, Calif.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N.Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts, Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tele–Dynamics, Inc., 5000 Parkside Ave., Philadelphia, Pa.
Telectro Industries Corp., 35–16 37th St., L.I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

RECEIVERS. AIRCRAFT

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Babcock Radio Engrg., 1640 Monrovia Ave., – P.O. Box 344, Costa Mesa, Calif.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. , Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway. – P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mitchell Industries, Inc., P.O. Box 17, Mineral Wells, Texas
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
National Co., Inc., 61 Sherman St., Malden, Mass.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telectro Industries Corp., 35–16 37th St., L.I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

RECEIVERS. AUTOMATIC RADIO ALARM ..... Pg. 533

Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dunlop Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y., Inc., 87–46 123 rd St., Richmond Hill, N. Y.
General Electric Co.,Light Military Electr. Equip. Dept.,French Rd., Utica, N. Y.
Hawkins Commercial Electronics Co., 920 King St., Wilmington, Del.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn. – Pg. 533
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Plectron Corp., Overton, Nebr.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.

RECEIVERS. AUTOMOBILE

Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn.
Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hastings Products, Inc., 171 Newbury St., Boston, Mass.
Heath Co., Benton Harbor, Mich.
Jetronic Industries, Inc., Main & Cotton St., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.

RECEIVERS. BEACON ..... Pg. 828

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircraft Radio Corp., Boonton, N. J.
Avion, Div. A.C.F. Industries, Inc., 7 Park Pl., Paramus, N. J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way ,N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Associates, Box 22, St. Albans, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road,Los Angeles,39, California
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Light Military Electr., Equip. Dept., French Rd.Utica, N.Y.
General Metal Products Co., Centre & Glendale St.,P.O. Box 347, Easton, Pa.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway.–P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leitch–Huard Corp., Stark & Commercial Sts.–Box 1024, Manchester, N. H.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Maxson, W.L. Corp., 475 Tenth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.

RECEIVERS. BEACON (continued)

Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y. – Pg. 828
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Solid State Electronics Co., Dept. E, 8158 Orion St., Van Nuys, Calif.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart-Warner Elctrns., Div. Stewart-Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.

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Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Dyna Magnetic Devices, Inc., 110 Duffy Ave., Hicksville, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37-06 36th St., L. I. City, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.

RECEIVERS. CARRIER TELEGRAPH ..... Pg. 583

Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Northern Radio Co., Inc., 143 West 22nd St., New York, N. Y.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J. – Pg. 583

RECEIVERS. CIVIL DEFENSE ..... Pg. 533

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dollar, Robert, Co., The, Com. Equip. Div., 50 Drumm St., San Francisco, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn. – Pg. 533
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Mfg. Engineers, Inc., Div. Electro-Voice, Inc., Buchanan, Mich.
Ratelco, Inc., 820 Minor Ave., N., Seattle 9, Wash.

RECEIVERS. COIN OPERATED

Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.

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Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Bassett, Inc., Rex, 1314 N. E. 17th Court, Box 7127, Fort Lauderdale, Fla.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dare, Inc., Route 25, Troy, Ohio
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pgs. 719, 720
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Nems Clarke, Div. Vitro Corp. of America, 919 Jesup-Blair Dr., Silver Spring, Md.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Radio Mfg. Engineers, Inc., Div. Electro-Voice, Inc., Buchanan, Mich.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.

RECEIVERS. DIPLEXER ..... Pgs. 818, 1145, 1150

Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y.
Bassett, Inc., Rex, 1314 N. E. 17th Court, Box 7127, Fort Lauderdale, Fla.
Bomac Laboratories, Inc., Salem Rd., Beverly, Mass: – Pgs. 1145, 1150
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Microwave Development Labs., 92 Broad St., Babson Park 57, Wellesley, Mass. – Pg. 818
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.

RECEIVERS. DIRECTION FINDING

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Heath Co., Benton Harbor, Mich.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Jefferson, Ray, Inc., 40 E. Merrick Rd., Freeport, N. Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Stewart-Warner Elctrns., Div. Stewart-Warner, 1300 N. Kostner Ave., Chicago, Ill.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

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Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Northern Radio Co., Inc., 143 West 22nd St., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

RECEIVERS. DUPLEXER ..... Pgs. 796, 818, 1161

Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y. – Pg. 796
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Ferrotec, Inc., 217 California St., Newton, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Litton Industries, 960 Industrial Rd., San Carlos, Calif. – Pg. 1161
Microwave Development Labs., 92 Broad St., Babson Park 57, Wellesley, Mass. – Pg. 818
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

RECEIVERS. FACSIMILE

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Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stewart-Warner Elctrns., Div. Stewart-Warner, 1300 N. Kostner Ave., Chicago, Ill.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.

RECEIVERS. FIXED FREQUENCY

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y.
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bassett, Inc., Rex, 1314 N. E. 17th Court, Box 7127, Fort Lauderdale, Fla.
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dollar, Robert, Co., The, Com. Equip. Div., 50 Drumm St., San Francisco, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29-01 Borden Ave., L. I. City, N. Y.
Electron Enterprises, 6917-19-21 Stanley Ave., Berwyn, Ill.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California

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Electronics Design Co., 400 E. Cornell St., P. O. Box 401, Enid, Okla.
General Communication Co., 677 Beacon St., Boston, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Nems Clarke, Div. Vitro Corp. of America, 919 Jesup-Blair Dr., Silver Spring, Md.
Pearce-Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Plectron Corp., Overton, Nebr.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Solid State Electronics Co., Dept. E, 8158 Orion St., Van Nuys, Calif.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

RECEIVERS. FREQUENCY SHIFT

Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bassett, Inc., Rex, 1314 N. E. 17th Court, Box 7127, Fort Lauderdale, Fla.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dollar, Robert, Co., The, Com. Equip. Div., 50 Drumm St., San Francisco, Calif.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29-01 Borden Ave., L. I. City, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Northern Radio Co., Inc., 143 West 22nd St., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Stelma, Inc., 190 Henry St., Stamford, Conn.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

RECEIVERS. GLIDE SLOPE

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

RECEIVERS. HEADPHONE – SEE HEADPHONES

RECEIVERS. HOME

American Elite, Inc., 48-50 34th St., Long Island City, N. Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn.
Andrea Radio Corp., 27-01 Bridge Plaza N., Long Island City, N. Y.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Indiana
Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.
Channel Master Corp., Ellenville, N. Y.
Conrac, Inc., 19217 E. Foothill Blvd., Glendora, Calif.
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Davis, J. W. & Co., P. O. Box 35313, Dallas, Texas
De Wald Radio Div., United Scientific Labs., 35-15 37th Ave., L. I. City, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Educational Electronics, 1227 W. Loyola Ave., Chicago 26, Ill.
Electron Enterprises, 6917-19-21 Stanley Ave., Berwyn, Ill.
Flush Wall Radio Co., 1012 Cleveland St., Clearwater, Fla.
Granco Products, Inc., 36-17 20th Ave., Long Island City, N. Y.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Heath Co., Benton Harbor, Mich.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Intersearch, Inc., 7 Arcadia Place, Cincinnati, Ohio
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philmore Mfg. Co., Inc., 130-01 Jamaica Ave., Richmond Hill, N. Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Roberts Mfg. Co., 426 E. Shaffer, Gleburne, Texas
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Simpson, Mark Mfg. Co., Inc., 32-28 49th St., L. I. City, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Sylvania Electric Products, Home Elctrns. Div., 70 Ellicott St., Batavia, N. Y.
Telefunken M. V. M., 48-50 34th Street, Long Island City, New York
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

RECEIVERS. INFRARED ..... Pgs. 852, 960

Aerojet-General Corp., 6352 N. Irwindale Ave., Azusa, Calif.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y. – Pgs. 852, 960
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q.O.S. Corp., 621 E. 216 St., New York, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd St., Mt. Vernon, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas

RECEIVERS. INTERROGATION

Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

RECEIVERS. LORAN ..... Pg. 828

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y. – Pg. 828
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.

RECEIVERS. MARINE

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Bassett, Inc., Rex, 1314 N. E. 17th Court, Box 7127, Fort Lauderdale, Fla.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davis, J. W. & Co., P. O. Box 35313, Dallas, Texas
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro-Associates, Box 22, St. Albans, N. Y.
Gray Radio Co., Inc., 501 Forest Hill Blvd., W. Palm Beach, Fla.
Heath Co., Benton Harbor, Mich.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Jefferson, Ray, Inc., 40 E. Merrick Rd., Freeport, N. Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Lorain County Radio Corp., 203 9th St., Lorain, Ohio
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Munston Mfg. & Service, Inc., Beech St., Islip, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Pearce-Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Sonar Radio Corp., 3050 W. 21st St., Brooklyn, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

RECEIVERS. MICROWAVE ..... Pgs. 775, 814, 828, 1106

Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N. Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N. Y.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okla.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.

RECEIVERS. MICROWAVE (continued)

Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
Ferrotec, Inc., 217 California St., Newton, Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y. – Pg. 828
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Scientific-Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Tele-Dynamics, Inc., 5000 Parkside Ave., Philadelphia, Pa.
Telephonics Corp., Park Ave., Huntington, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

RECEIVERS. MULTIPLEX

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Applied Research, Inc., 76 South Bayles Ave., Port Washington, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bogen-Presto, Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey
Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Harman-Kardon, 520 Main St., Westbury, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Eng. Labs., Standard Electronics Div., 29-01 Borden Ave., L. I. City, N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.

RECEIVERS. PANORAMIC ..... Pgs. 732, 733

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
CGS Laboratories, Inc., Routes 7 and 35, Ridgefield, Conn.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Panoramic Radio Products, Incs., 520 S. Fulton Ave., Mt. Vernon, N. Y. – Pgs. 732, 733
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polarad Electronics Corp., 43-20 34th St., L. I. City, N. Y.
Probescope Co., 8 Sagamore Hill Dr., Port Washington, N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

RECEIVERS. PORTABLE & MOBILE

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Indiana
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronics Design Co., 400 E. Cornell St., P. O. Box 401, Enid, Okla.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hastings Products, Inc., 171 Newbury St., Boston, Mass.
Heath Co., Benton Harbor, Mich.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Intersearch, Inc., 7 Arcadia Pl., Cincinnati, Ohio
Jetronic Industries, Inc., Main & Cotton St., Phila., Pa.
Leitch–Huard Corp., Stark & Commercial Sts., P. O. Box 1024, Manchester, N. H.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lewyt Mfg., Corp., 43–22 Queens St., Long Island City, N. Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Pearce–Simpson, Inc., 2295 N. W. 14th St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Philmore Mfg., Co., Inc., 130–01 Jamaica Ave., Richmond Hill, N. Y.
Port–O–Vox Corp., 521 W. 43rd St., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Specialty Mfg., Co., 2023 S. E. 6th Ave., Portland, Ore.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.
Superex Electronics Corp., 4–6 Radford Pl., Yonkers, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Valandy Electronics Corp., 15 W. 44th St., New York, N. Y.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.

RECEIVERS. RADAR ..... Pgs. 814, 828

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Crosley Div., Avco Mfg., Corp., 1329 Arlington St., Cincinnati, Ohio
Daystrom Instrument, Archbald, Pa.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N. Y.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, New York
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Knight, Ewan Corp., 206 A St., Needham, Mass.
Lavoie Laboratories, Inc., Morganville, N. J.
Lewyt Mfg., Corp., 43–22 Queens St., Long Island City, N. Y.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polarad Electronics Corp., 43–20 34th St., L. I. City, N. Y. – Pg. 828
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, P. O. Box 90215, Los Angeles, Calif.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Spinform Inc, 65 Mechanic St., Attleboro, Mass.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P.O. Box 252 , Menlo Park, Calif.

RECEIVERS. RADIO PAGING

Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Dollar, Robert, Co., The Com Equip. Div., 50 Drumm St., San Francisco, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320 , Palo Alto, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Philco Corp. Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43 St., New York, N. Y.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.

RECEIVERS. RAILROAD

Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Motorola Communications & Electronics, Inc. 4501 Augusta Blvd., Chicago, Ill.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stelma, Inc., 190 Henry St., Stamford, Conn.
Tesla Electric Co. 2605 W. Armitage Ave., Chicago, Ill.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.

RECEIVERS. SCATTER TROPOSPHERIC

Radio Eng. Labs, Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.

RECEIVERS. SINGLE SIDEBAND

Adler Electronics, Inc. 1 Le Fevre Lane, New Rochelle, N. Y.

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Admiral Corp. Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Geloso Electronics, Inc. 251 4th Ave., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories Div., Clegg, Inc., Morristown, N. J.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L. I. City, N. Y.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N. Y.
Heath Co., Benton Harbor, Mich.
Hoffman Labs Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Mfg. Engineers, Inc., Div. Electro–Voice, Inc., Buchanan, Mich.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

RECEIVERS. SONAR

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Cluver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
Harris Transducer Corp., Woodbury, Conn.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Jetronic Industries Inc., Main & Cotton St., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

RECEIVERS. STEREOPHONIC

Browning Labs., Inc., 100 Union Ave., Laconia, N. H.
Dyna Magnetic Devices, Inc., 110 Duffy Ave., Hicksville, N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
ITT Federal Div., Div. Int. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Scott, Hermon Hosmer Inc., 111 Powdermill Road, Maynard, Mass.

RECEIVERS. TRANSISTOR

Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Indiana
Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Burlington Electric Corp., Electronics Div., Keim Blvd., Burlington, N. J.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Channel Master Corp., Ellenville, N. Y.
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davis, J. W. & Co., P. O. Box 35313, Dallas, Texas
De Wald Radio Div., United Scientific Labs, 35–15 37th Ave., L. I. City, N. Y.
Doty Accountical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronic N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
Gyro Electronics Co., 36 Walker St., New York, N. Y.
Heath Co., Benton Harbor, Mich.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Industrial Development Engrg. Assoc., 7900 Pendelton Pike, Indianapolis, Ind.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Telex, Telex Park, St. Paul, Minn.
Valandy Electronics Corp., 15 W. 44th St., New York, N. Y.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.

RECEIVERS. TRANSMISSOMETER

Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.

RECEIVERS. TV

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
American TV & Radio Co., 300 E. 4th St., St. Paul, Minn.
Andrea Radio Corp., 27–01 Bridge Plaza N., Long Island City, N. Y.
Chisholm Industries Ltd., Electronic Ave., Port Moody, Can.
Conrac, Inc., 19217 E. Foothill Blvd., Glendora, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Entron, Inc., 4902 Lawrence St., Bladenburg, Md.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
ITT Intl. Tel. & Tel. Corp., Indl. Prod. Div., 15191 Bledsoe, San Fernando, Calif.
Kent Television, Inc., 505 Driggs Ave., Brooklyn 11, N. Y.
Kin Tel. Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Prescott T. V. Co., 7352 Beverly Blvd., Los Angeles, Calif.
Quality Electronics, Inc., 319 Church St., New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Sylvania Electric Products, Home Elctrns. Div., 70 Ellicott St., Batavia, N. Y.
Tech–Master Corp., 75 Front St., Brooklyn, N.Y.
Television Utilities Co., 112–33 Colonial Ave., Corona, N.Y.
Wells–Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N.J.

RECEIVERS. UHF, VHF ..... Pgs. 533, 720, 775

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Air–O–Tronics Engrg. Co., P.O. Box 31, Lancaster, Calif.
Aircraft Radio Corp., Boonton, N.J.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
American Geloso Electronics, Inc., 251 4th Ave., New York, N.Y.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N.Y.
Babcock Radio Engrg., 1640 Monrovia Ave., P.O. Box 344, Costa Mesa, Calif.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Bendix Radio Div., Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bergen Laboratories, 247 Crooks Ave., Clifton, N.J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J. – Pg. 775
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dollar, Robert, Co., The, Com. Equip. Div., 50 Drumm St., San Francisco, Calif.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Electronics Design Co., 400 E. Cornell St., P.O. Box 401, Enid, Okla.
General Electric Co., Communication Prod. Dept., Mountainview Rd., Lynchburg, Va.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N.Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Instruments for Industry, Inc., 101 New South Rd., Hicksville, N.Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N.J. – Pg. 720
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn. – Pg. 533
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Nems Clarke, Div. Vitro Corp. of America, 919 Jesup–Blair Dr., Silver Spring, Md.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43 St., New York, N.Y.
Pye Corp. of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N. J.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L.I. City, N.Y.
Radio Mfg. Engineers, Inc., Div. Electro–Voice, Inc., Buchanan, Mich.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Seeley Electronics, 1060 S. La Brea Ave., Los Angeles, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Sylvania Electric Products, Home Elctrns. Div., 70 Ellicott St., Batavia, N.Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Wells–Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

RECEIVERS. ULTRAVIOLET

Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.

RECEIVERS. WWV ..... Pg. 534

Aircom, Inc., 354 Main St., Winthrop, Mass.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Clegg Laboratories Div., Clegg, Inc., Morristown, N. J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Hammarlund Mfg. Co., Inc., 460 W. 34th St., New York, N.Y.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.

RECEIVERS, WWV (continued)
Lavoie Laboratories, Inc., Morganville, N. J.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Specific Electronics, Inc., 1995 No. Fair Oaks, Pasadena, Calif.
Specific Products, Box 425, 21051 Costanso St., Woodland Hills, Calif. – Pg. 534

RECORD CHANGERS, AUTOMATIC
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
American Elite, Inc., 48–50 34th St., Lona Island City, N.Y.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Ind.
Audio–Master Corp., 17 E. 45th St., New York, N.Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Fen–Tone Corp., 106 5th Ave., New York, N.Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Glaser–Steers Corp., 155 Oraton St., Newark, N.J.
Heath Co., Benton Harbor, Mich.
North American Philips, High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N.Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Telefunken, M. V. M., 48–50 34th St., Long Island City, N. Y.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N.Y.
United Audio Products, Div. United Optical Mfg., 202 East 19th St., New York, N. Y.
V–M Corp., Park & Fourth, Benton Harbor, Mich.
Webcor, Inc., 5610 Bloomingdale Ave., Chicago, Ill.

RECORD PLAYERS, HOME
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Airtronix Development Corp., 4902 Church St., Brooklyn, N. Y.
Arvin Industries, Inc., 13th St. & Big Four Railroad, Columbus, Ind.
Audio–Master Corp., 17 E. 45th St., New York, N. Y.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electron Enterprises, 6917–19–21 Stanley Ave., Berwyn, Ill.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N. Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Heath Co., Benton Harbor, Mich.
Industrial Development Engrg. Assoc., 7900 Pendleton Pike, Indianapolis, Ind.
Kent Television, Inc., 505 Driggs Ave., Brooklyn 11, N. Y.
MP Engineering Co., Fairfield, Conn.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North American Philips, High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N. Y.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N.Y.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Roberts Mfg. Co., 426 E. Shaffer, Gleburne, Texas.
Scott, Herman Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Sylvania Electric Products, Home Elctrns. Div., 70 Ellicott St., Batavia, N.Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Telefunken M. V. M., 48–50 34th St., Long Island City, N.Y.
Thorens Co., Thorens & Atlantic Ave., New Hyde Park, N. Y.
Tri–Phi, Inc., Div. Tripoint Plastics, 141 Albertson Ave., Albertson, N. Y.
U. S. Recording Co., 1347 Capitol St., Washington, D. C.
United Audio Products, Div. United Optical Mfg., 202 East 19th St., New York, N. Y.
V–M Corp., Park & Fourth, Benton Harbor, Mich.
Valandy Electronics Corp., 15 W. 44 St., New York, N.Y.
Weathers Industries, Div. Advanced Industries, 66 E. Gloucester, Barrington, N. J.
Webcor, Inc., 5610 Bloomingdale Ave., Chicago, Ill.
Westinghouse Electric Corp., Rt. 27 & Vineyard Rd., Metuchen, N. J.

RECORDERS, AIRBORNE FILM
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Fecker, J.W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Flight Research, Inc., P.O. Box 1F, Richmond, Va.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Ave., Philadelphia, Pa.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.

RECORDERS, AIRBORNE MAGNETIC ..... Pgs. 970, 971
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif. – Pgs. 970, 971
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Broadcast Equip., Specialties, P.O. Box 149, Beacon, N. Y.
Canadian Applied Research Ltd., 1500 O Connor Dr., Toronto, Canada
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Bway., Silver Spring, Md.
Ercona Corp., Electro Div., 16 W. 46th St., New York, N. Y.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Leach Corp., 18435 Susana Rd. – P.O. Box 190, Compton, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Magnecord, Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Mincom Div., Minn. Mining & Mfg., 2049 S. Barrington Ave., Los Angeles, Calif.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Peirce Dictation Systems, Inc., 5900 Northwest Hwy., Chicago, Ill.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Telectro Industries Corp., 35–16 37th St., L.I. City, N. Y.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.

RECORDERS, ANTENNA PATTERN
Airborne, Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Antlab, Incorporated, 6330 Proprietors Road, Worthington, Ohio
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Scientific–Atlanta, Inc., 2162 Piedmont Rd., N.E. Atlanta, Ga.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

RECORDERS, BINAURAL TAPE
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, New Jersey
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Dynamic Electronics, N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Magnecord, Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.

RECORDERS, CODE
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.
Warren Mfg. Co., The, Littleton, Mass.

RECORDERS, DATA – SEE DATA RECORDERS

RECORDERS, DEPTH
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Rochmond Hill, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.

RECORDERS, DICTATION
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Broadcast Equip. Specialties, P. O. Box 149, Beacon, N. Y.
Dictaphone Corp., 420 Lexington Ave., New York, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
North American Philips, Dictating Equip. Div., 230 Duffy Ave., Hicksville, N. Y.
Peirce Dictation Systems, Inc., 5900 Northwest Hwy., Chicago, Ill.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.

RECORDERS, DISC
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Components Corp., 106 Main St., Denville, N. J.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas

RECORDERS, DRUM MAGNETIC
Alwac Computer Div., El–Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
BJ Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnecord Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Peirce Dictation Systems, Inc., 5900 Northwest Hwy., Chicago, Ill.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

RECORDERS, ELECTRONIC STYLUS
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

RECORDERS, ELECTRONIC, SELF–BALANCING
Automatic Timing & Controls, Inc., King of Prussia, Pa.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Hathaway Instrument Div., Hamilton Watch Co., 5800 Jewell, Denver, Colo.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Research Instruments Corp., 18 S. 12th St., Richmond, Va.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Schaevitz Engineering, Box 505, Camden, N. J.

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Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. FACSIMILE ..... Pgs. 970, 971

Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif. – Pgs. 970, 971
Automation Management, Inc., Adams St., Westboro, Mass.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.

RECORDERS. FILM

Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Cameraflex Corp., 1947 Broadway, New York, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Kinevox Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Maurer, J. A., Inc., 37–01 31st St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
National Cine Equipment, Inc., 209 W. 48th St., New York, N. Y.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Vought Co., P. O. Box 1350, Beverly Hills, Calif.
Westrex Corp., Div. Litton Industries, 11 Eighth Ave., New York, N. Y.

RECORDERS. FILM MOBILE COMM.

The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

RECORDERS. FILM STRIP MAGNETIC

Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

RECORDERS. FILM THICKNESS

Automatic Timing & Controls, Inc., King of Prussia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.

RECORDERS. FILM. TV

Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
General Precision Laboratory, Inc., 63 Bedford Road, Pleasantville, N. Y.
Prescott T.V. Co., 7352 Beverly Blvd., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

RECORDERS. FLUID CONDUCT., ELECTRONIC

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. FLUID FLOW–ELECTRONIC

Automatic Timing & Controls, Inc., King of Prussia, Pa.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Revere Corp. of America, Wallingford, Conn.
Systron Corp., 950 Galindo St., Concord, Calif.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. FREQUENCY ..... Pgs. 655, 766, 767

Automation Management, Inc., Adams St., Westboro, Mass.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Potter Aeronautical Corp., Route 22, Union, N. J.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newakr, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. FREQUENCY RESPONSE ..... Pgs. 766, 767

B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N. Y.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

RECORDERS. HUMIDITY. ELECTRONIC

Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Serdex, Inc., 12 Bowdoin Sq., Boston, Mass.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. INTERMITTENT

Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.

RECORDERS. LIQUID LEVEL. ELECTRONIC

Automatic Timing & Controls, Inc., King of Prussia, Pa.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. MAGNETIC TAPE – SEE RECORDERS. TAPE

RECORDERS. MECHANICAL ..... Pg. 683

Amthor Testing Instr. Co., 45–53 Van Sinderen Ave., Brooklyn, N. Y.
Automation Management, Inc., Adams St., Westboro, Mass.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Electric Tachometer Corp., 68th & Upland Sts., Philadelphia, Pa.
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N. Y.
General Electric App. Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 683
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N. J.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Impact–O–Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. MINIATURE

Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Broadcast Equip. Specialties, P. O. Box 149, Beacon, N. Y.
Dictaphone Corp., 420 Lexington Ave., New York, N. Y.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. MOISTURE. ELECTRONIC

Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. OSCILLOGRAPH ..... Pgs. 765–767

Acton Laboratories, Inc., 536 Main St., Acton, Mass.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla. – Pg. 765
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edin Div. Epsco, Inc., 207 Main St., Worcester, Mass.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Massa Labs., Inc., 5 Fottler Rd., Hingham, Mass.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Heiland Div., 5200 E. Evans Ave., Denver, Colo.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Seismograph Service Corp., 6200 E. 41st St., Tulsa, Okla.
Technology Instrument Corp., 523 Main St., Acton, Mass.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Texas Instruments, Inds. Instration. Div., 3609 Buffalo Spdwy., Houston, Texas

RECORDERS. OXYGEN

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.

RECORDERS. OXYGEN (continued)
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. PH
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland, Ohio
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. PHOTOGRAPHIC SOUND TRACK
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

RECORDERS. POLAR
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Scientific–Atlanta, Inc., 2162 Piedmont Rd. N. E., Atlanta, Ga.

RECORDERS. PORTABLE ..... Pgs. 766, 767, 770
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Dictaphone Corp., 420 Lexington Ave., New York, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Peirce Dictation Systems, Inc., 5900 Northwest Hwy., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Varian Associates, 611 Hansen Way, Palo Alto, Calif. – Pg. 770
Webcor, Inc., 5610 Bloomingdale Ave., Chicago, Ill.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. POTENTIOMETER ..... Pgs. 766, 767, 770
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Epic, Inc., 154 Nassau St., New York, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago 36, Ill.
Research Instruments Corp., 18 S. 12th St., Richmond, Va.
San Jose Scientific Co., Br. Modern Comm. Co., 605 Sunol St., San Jose, Calif.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Varian Associates, 611 Hansen Way, Palo Alto, Calif. – Pg. 770
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. POWER LEVEL ..... Pg. 768
American Machine & Foundry, Defense Prod. Grp., 1701 K St. N. W., Wash., D. C.
Antlab Incorporated, 6330 Proprietors Rd., Worthington, Ohio
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Curtiss–Wright Corp., Instru. Dept., 631 Central Ave., Carlstad, N. J. – Pg. 768
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Technical Products, Instrument Div., 6670 Lexington Ave., Los Angeles, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. PRESSURE. ELECTRONIC
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Baldwin–Lima–Hamilton Corp., Elctrns. & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. SMOKE & COMBUSTION. ELECTRONIC
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronics Corp. of Amer., Combustion Div., 1 Memorial Dr., Cambridge, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5th St., Philadelphia, Pa.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Quantametric Devices, Inc., Box 1107, Binghamton, N. Y.
Victory Engrg. Corp., Box 373, Union, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. SOUND LEVEL
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. STEREOPHONIC TAPE
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, N. J.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Magnecord Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Telectro Industries Corp., 35–16 37th St., Long Island City, N.Y.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.

RECORDERS. SPECIFIC GRAVITY. ELECTRONIC
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Potter Aeronautical Corp., Route 22, Union, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RECORDERS. STRAIN ..... Pgs. 506, 766, 767
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Baldwin–Lima–Hamilton Corp., Elctrns. & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio – Pgs. 766, 767
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
General Cement Mfg. Co., Div. of Textron, Inc., 400 S. Wyman St., Rockford, Ill. – Pg. 506
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Kelk, George Limited, 130 Willowdale Ave., Willowdale, Canada
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

RECORDERS. SYNCHRONIZED FILM–TAPE
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Broadcast Equip. Specialties, P.O. Box 149, Beacon, N. Y.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Teaching Labs., 1818 M St. N. W., Washington, D. C.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnecord Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

RECORDERS. TAPE ..... Pg. 459
Alwac Computer, Div. El–Tronics, Inc., 1304 S. Cerise Ave., Hawthorne, Calif.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Elite, Inc., 48–50 34th St., Long Island City, N. Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Audio–Master Corp., 17 E. 45th St., New York, N. Y.
B. J. Electronics, Borg–Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Bell Sound Div., Thompson Ramo Woolridge Inc., 555 Marion Rd., Columbus, Ohio
Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
Berndt–Bach, Inc., Datasync Div., 6900 Romaine St., Hollywood, Calif.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.

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Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Broadcast Equip. Specialties, P. O. Box 149, Beacon, N. Y.
Bunnell & Co., 81 Prospect St., Brooklyn, N. Y.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix Inc., 4000 N.W. 28th St., Miami, Fla.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dictaphone Corp., 420 Lexington Ave., New York, N. Y.
Digitronics Corp., Albertson Ave., Albertson, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn. – Pg. 459
Electronic Teaching Labs., 1818 M St., N. W., Washington, D. C.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fairchild Recording Equip Co., 10–40 45th Ave., Long Island City, N. Y.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
Fen–Tone Corp., 106 5th Ave., New York, N. Y.
Friden, Inc., San Leandro, Calif.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Kinetics, Inc., 555 23 St., S. Arlington, Va.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Heath Co., Benton Harbor, Mich.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnecord Div. Midwestern Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Mincom Div., Minn. Mining & Mfg., 2049 S. Barrington Ave., Los Angeles, Calif.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
North American Philips, 230 Duffy Ave., Hicksville, N. Y.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Pentron Corp., The, 777 S. Tripp Ave., Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Pyramid Enterprises, 3815 Trimble St., Nashville, Tenn.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Recording Tape Co., 125 E. 88th St., New York, N. Y.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Roberts Electronics, Inc., 1028 N. La Brea, Hollywood, Calif.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Soundscriber Corp., The, 6 Middletown Avenue, No. Haven, Conn.
Southwestern Industrial Electrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Texas
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Superscope, Inc., 8520 Tujunga Ave., Sun Valley, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Texas Instruments Inds., Instr. Div., 3609 Buffalo Spdwy., Houston, Texas
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
V–M Corp., Park & Fourth, Benton Harbor, Mich.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Webcor, Inc., 5610 Bloomingdale Ave., Chicago, Ill.
Wells–Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.
Westrex Corp., Div. Litton Industries, 111 Eighth Ave., New York, N. Y.

RECORDERS. TAPE LOOP ..... Pgs. 970, 971

Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.–Pgs. 970, 971
Amplifier Corp. Of America, 398 Broadway, New York, N. Y.
Audio Instrument Co., Inc., 135 W. 14th St., New York, N. Y.
Audiomation Laboratories, 7230 Clinton Rd., Upper Darby, Pa.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Edwards Engineering Co., 21 Yennicock Ave., Port Washington, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Magnecord Div. Midwestern, Instruments, 41st & Sheridan, Box 7186, Tulsa, Okla.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Viking of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

RECORDERS. TELEMETERING ..... Pgs. 766, 767, 970, 971

American Dev. Electronics Co., 210 Central Ave., Newark, N. J.
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.–Pgs. 970, 971
Applied Science Corp. Of Princeton, 45 Wallace Rd., Princeton, N. J.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pgs. 766, 767
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronic Associates, Inc., Long Branch, N. J.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Mincom Div., Minn. Mining & Mfg., 2049 S. Barrington Ave., Los Angeles, Calif.
Minneapolis–Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Servo Corp. Of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Warren Mfg. Co., The, Littleton, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

RECORDERS. TELEPHONE RECORDING

American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Dictaphone Corp., 420 Lexington Ave., New York, N. Y.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Peirce Dictation Systems, Inc., 5900 Northwest Hwy., Chicago, Ill.
Presin Co., 2014 Broadway, Santa Monica, Calif.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.

RECORDERS. TELETYPE

Intelex Systems Inc., 22 Thames St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Trepac Corporation Of America, 30 W. Hamilton Ave., Englewood, N. J.

RECORDERS. TEMPERATURE, ELECTRONIC

Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Processes, Corp. Of Calif., 2190 Folsom St., San Francisco, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Huppert Co., K. H., 6830–40 S. Cottage Grove Ave., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Modern Laboratory Equip. Co., 1811 First Ave., New York, N. Y.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Serdex, Inc., 12 Bowdoin Sq., Boston, Mass.
Systron Corp., 950 Galindo St., Concord, Calif.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Varian Associates, Palo Alto, Calif.
Victory Engrg. Corp., Box 373, Union, N. J.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

RECORDERS. THICKNESS, ELECTRONIC

Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

RECORDERS. TIMING

Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
American Time Prod. Co., 580 Fifth Ave., New York, N. Y.
Automation Management Inc., Adams St., Westboro, Mass.
Avien, Inc., 58–15 Northern Blvd., Woodside, N. Y.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Electric Tachometer Corp., 68th & Upland Sts., Philadelphia, Pa.
Electro–Sonic Labs., Inc., 35–54 36th St., L. I. City, N. Y.
Esterline–Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Garrell & Garrell, 336 Old Hook Rd., Westwood, N. J.
Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N. Y.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

RECORDERS. TORQUE, ELECTRONIC ..... Pgs. 766, 767

B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
Baldwin–Lima–Hamilton Corp., Elctrns & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pgs. 766, 767
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Tatnall Measuring Systems Co., P. O. Box 245, Phoenixville, Pa.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

RECORDERS. TRANSIENT ..... Pgs. 766, 767

Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pgs. 766, 767
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

RECORDERS. VACUUM

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.

RECORDERS. VACUUM (continued)
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Consolidated Electrodynamics Corp., 1775 Mt. Read Blvd., Rochester, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hull Corp., Dansville Rd., Hatboro, Pa.
International Pump & Machine Works, 81 Dorsa Ave., Livingston, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
NRC Equipment Corp., 160 Charlemont St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

RECORDERS. VIBRATION ..... **Pgs. 766, 767**
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pgs. 766, 767
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Epic, Inc., 154 Nassau St., New York, N. Y.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Tex.
Impact–O–Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Photron Instrument Co., 6516 Detroit Ave., Cleveland, Ohio
Sanborn Co., 175 Wyman St., Waltham, Mass.
Western Electro–Acoustic Lab., 11789 San Vincente Blvd., Los Angeles, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.

RECORDERS. VIDEO TAPE
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Mincom Div., Minn. Mining & Mfg., 2049 S. Barrington Ave., Los Angeles, Calif.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Stancil–Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.

RECORDERS. WEIGHT. ELECTRONIC
Automatic Timing & Controls, Inc., King Of Prussia, Pa.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
Baldwin–Lima–Hamilton Corp., Elctrns & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Offner Electronics, Inc., 5320 N. Kedzie Ave., Chicago, Ill.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Revere Corp. Of America, Wallingford, Conn.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Streeter–Amet Co., Grayslake, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Toledo Scale Co., 1027 Telgraph Rd., Toledo, Ohio
Westronics, Inc., 3605 McCart St., Forth Worth, Tex.

RECORDERS. WIRE
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.

RECORDERS. X–Y ..... **Pgs. 667, 766, 767, 769**
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Antlab Incorporated, 6330 Proprietors Road, Worthington, Ohio
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Bristol Co., The, P. O. Box 1790, Waterbury, Conn.
Brush Instruments, Div. Clevite Corp., 37th & Perkins, Cleveland, Ohio–Pgs. 766, 767
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.–Pg. 667
Electronic Associates, Inc., Long Branch, N. J.
Instron Engrg. Corp., 2500 Washington St., Canton, Mass.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Moseley, F. L. Co., 409 N. Fair Oaks Ave., Pasadena, Calif.–Pg. 769
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Tex.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

RECORDS. BLANK
Audio Devices, Inc., 444 Madison Ave., New York, N. Y.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Duotone Co., Inc., Locust St., Keyport, N. J.
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N. J.
Home Recording Prods. Co., 56 Mill Rd., Freeport, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Recoton Corp., 52–35 Barnett Ave., L. I. City, N. Y.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Soundscriber Corp., The, 6 Middletown Ave., No. Haven, Conn.

RECORDS. FREQUENCY
Elektra Corp., 361 Bleecker St., New York, N. Y.

RECORDS. PHONOGRAPH
Audio–Master Corp., 17 E. 45th St., New York, N. Y.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Concertapes, Inc., Box 88, Wilmette, Ill.
Elektra Corp., 361 Bleecker St., New York, N. Y.
Ortho–Sonic Instruments, Inc., 66 Mechanic St., New Rochelle, N. Y.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.

RECORDS. SOUND EFFECTS
Audio–Master Corp., 17 E. 45th St., New York, N. Y.
Concertapes, Inc., Box 88, Wilmette, Ill.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.

RECORDS. TEST
Alfax Paper Engineering, Washington St., P. O. Box 125, Westboro, Mass.
Components Corp., 106 Main St., Denville, N. J.
Elektra Corp., 361 Bleecker St., New York, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

RECTIFIER. POWER UNITS ..... **Pgs. 885, 907, 909–911, 914, 917, 918, 922, 925, 941, 942, 949, 956, 964, 981, 1103**
Allis–Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisc.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Auto Test Inc., 600 S. Michigan Ave., Chicago, Ill.
Cadre Industries Corp., Box 150, Endicott, N. Y.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif.–Pg. 885
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Products Labs., 4501–EM, N. Ravenswood Ave., Chicago, Ill.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Interelectronics Corp., 2432 Gr. Concourse, New York, N. Y.–Pg. 1103
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.–Pg. 907
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.–Pgs. 909–911, 914
Knopp, Inc., 1307 66th St., Oakland, Calif.
Lambda Electronics Corp., 11–11 131 St., College Point, N. Y.–Pgs. 917, 918, 922
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Matthew Labs., 3344 Ft. Independence St., New York, N. Y.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.–Pg. 925
Motoresearch Co., 1600 Junction Ave., Racine, Wisc.
Multi–Inp Corp., 465 Lehigh Ave., Union, N. J.
Nutron Manufacturing Co., Inc., 67 Monroe Ave., Staten Island, N. Y.–Pg. 941
Opad Electric Co., 43–12 Walker St., New York, N. Y.–Pg. 942
Perkin Engrg Corp., 345 Kansas St., El Segundo, Calif.
Peschel Electronics, Inc., Towners, Rfd 1, Patterson, N. Y.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precise Measurements Co., Millbrook Pl., R.D. 1, Flemington, N. J.–Pg. 949
Ramyr Mfg. Co., 1781 N. Main St., Los Angeles, Calif.–Pg. 964
Richardson–Allen Corp., 116–15 15th Ave., College Point, N. Y.
Schauer Mfg. Corp., 4524 Alpine Ave., Cincinnati, Ohio
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N. J.
Shrader Co., 11623 S. Broadway, Los Angeles, Calif.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Syntron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio
Trans–Sil Corp., 55 Honeck St., Englewood, N. J.
Trott Electronics, Inc., 412 Smith St., Rochester, N. Y.
Tung–Sol Electric, Inc., Newark, N. J.–Pg. 956
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Wallson Associates, Inc., 35 E. Runyon St., Newark, N. J.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.–Pg. 981

RECTIFIERS. COPPER OXIDE ..... **Pgs. 973, 975**
Bradley Semiconductor Corp., 275 Welton St., New Haven, Conn.
Conant Labs., 6500 "O" St., Lincoln, Nebr.–Pg. 973
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric, Semi–Conductor Dept., Sec. EEM 59, Elctrns Pk., Syracuse, N. Y.–Pg. 975
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Schauer Mfg. Corp., 4524 Alpine Ave., Cincinnati, Ohio
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

RECTIFIERS. COPPER SULFIDE
Electrons, Inc., 127 Sussex Ave., Newark, N. J.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

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Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Clark Electronic Labs., Box 165, Palm Springs, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric, Semi–Cond. Dept., Sec. EEM 59, Elctrns Pk., Syracuse, N.Y.–Pgs. 974, 975
General Instrument Corp., Semicond. Div., 65 Gouverneur St., Newark, N. J.–Pgs. 975, 1057
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.–Pg. 977
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radio Receptor Co., Inc., German–Silicon Prod., 240 Wythe Ave., Brooklyn, N. Y.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.–Pg. 981

RECTIFIERS. MERCURY ARC
Allis–Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisc.
Clark Electronic Labs., Box 165, Palm Springs, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tung–Sol Electric, Inc., Newark, N. J.

RECTIFIERS. METAL OXIDE
Bradley Semiconductor Corp., 275 Welton St., New Haven, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

RECTIFIERS. METAL SULFIDE
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

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General Electric, Semi-Cond. Dept., Sec. EEM 59, Elctrns Pk., Syracuse, N. Y.–Pg. 975
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
ITT Components Div., P. O. Box 412, Clifton, N. J.–Pg. 976
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.–Pg. 977
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Milro Controls Co., Park Ridge, N. J.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Radio Receptor Co., Inc., German–Silicon Prod., 240 Wythe Ave., Brooklyn, N. Y.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tung–Sol Electric, Inc., Newark, N. J.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

RECTIFIERS. SELENIUM ..... **Pgs. 586, 973, 975, 976, 977, 980, 1027**
Allis–Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisc.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Barco, Inc., 829 N. Marshall, Milwaukee, Wisc.
Bradley Semiconductor Corp., 275 Welton St., New Haven, Conn.
Britton Electronics Corp., 213–20 99th Ave., Queens Village, N. Y.
Clark Electronic Labs., Box 165, Palm Springs, Calif.
Conant Labs., 6500 "O" St., Lincoln, Nebr.–Pg. 973
Electronic Devices, Inc., Rectifier Div., 429 12th St., Brooklyn, N. Y.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric, Semi–Conductor Dept. Sec. EEM 59, Elctrns Pk., Syracuse, N. Y.–Pg. 975
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
ITT Components Division, P. O. Box 412, Clifton, N. J.–Pg. 976
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.–Pg. 977
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.–Pg. 1027
Knopp, Inc., 1307 66th St., Oakland, Calif.
Leland, G. H. Inc., 123 Webster St., Dayton, Ohio
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Miller Sanford Co., 691 Bedford Ave., Brooklyn, N. Y.
Milro Controls Co., Park Ridge, N. J.
Model Rectifier Corp., 1675 Utica Ave., Brooklyn, N. Y.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Perkin Engrg Corp., 345 Kansas St., El Segundo, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Pyramid Electric Co., Orange St., Darlington, S. C.
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Radio Receptor Co., Inc., German–Silicon Prod., 240 Wythe Ave., Brooklyn, N. Y.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Richardson–Allen Corp., 116–15 15th Ave., College Point, N. Y.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.–Pg. 980
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
Synthron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tung–Sol Electric, Inc., Newark, N. J.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.–Pg. 586

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American Rectifier Corp., 95 Lafayette St., New York, N. Y.
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Audio Devices, Inc., 444 Madison Ave., New York, N. Y.
Audio Devices, Inc., Rectifier Div., 620 E. Dyer Rd., Santa Ana, Calif.–Pg. 972
Barco, Inc., 829 N. Marshall, Milwaukee, Wisc.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Bradley Semiconductor Corp., 275 Welton St., New Haven, Conn.
Clark Electronic Labs., Box 165, Palm Springs, Calif.
Columbus Electronics Corp., 1010 Saw Mill River Rd., Yonkers, N. Y.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric, Semi–Cond. Dept., Sec. EEM 59, Elctrns Pk., Syracuse, N. Y.–Pgs. 974, 975
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.–Pg. 1057
General Nuclear Corp., 550 5th Ave., New York, N. Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.–Pg. 1058
Hughes Products–Hughes Aircraft, Semicond. Div., Intl. Apt., Los Angeles, Calif.–Pg. 1059
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
ITT Components Division, P. O. Box 412, Clifton, N. J.–Pg. 976
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.–Pg. 977
Macarr, Inc., 2543 Boston Rd., Bronx, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Milro Controls Co., Park Ridge, N. J.
Motorola, Inc., Semicond. Prods. Div., 5005 E. McDowell Rd., Phoenix, Ariz.–Pg. 1063
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Pyramid Electric Co., Orange St., Darlington, S. C.
Radio Corp. Of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.–Pg. 1162
Radio Dev. & Res., 100 Pennsylvania Ave., Paterson, N. J.
Radio Receptor Co., Inc., German–Silicon Prod., 240 Wythe Ave., Brooklyn, N. Y.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Rectico, Inc., 963 Frelinghuysen Ave., Newark, N. J.
Richardson–Allen Corp., 116–15 15th Ave., College Point, N. Y.
Sanford, Miller, Co., 691 Bedford Ave., Brooklyn, N. Y.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.–Pg. 980
Semicon, Inc., 258 East St., Lexington, Mass.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, L.I., N.Y.–Pg. 1065
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Syntron Co., 264 Lexington, Homer City, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expressway, Dallas Texas–Pg. 1068
Thermusen, Inc., 375 Fairfield Ave., Stamford, Conn.
Trans–Sil Corp., 55 Honeck St., Englewood, N. J.
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass.–Pg. 1070
Tung–Sol Electric, Inc., Newark, N. J.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
U.S. Semi–Cond. Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.–Pg. 978, 979
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Warren Mfg. Co., The, Littleton, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.–Pg. 981

RECTIFIERS. TITANIUM
Opad Electric Co., 69–12 Murray St., New York, N.Y.
St. Eloi Corp., Box 507, Newtown Br., Cincinnati, Ohio

REELS. CONTINUOUS PROJECTION
Tayloreel Corp., 185 Murray St., Rochester, N. Y.

REELS. RECORDING ACCESSORIES ..... **Pg. 969**
Ampex Magnetic Tape, 934 Charter St., Redwood City, Calif.
Audio Devices, Inc., 444 Madison Ave., New York, N. Y.–Pg. 969
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Flahan Co., 7615 Lanyard Dr., Cleveland, Ohio
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Minnesota Mining & Mfg. Co., Magnetic Tape Div., 900 Bush Ave., St. Paul, Minn.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Recording Tape Co., 125 E. 88th St., New York, N. Y.
Reeves Soundcraft Corp., Great Pasture Rd., Danbury, Conn.
Robins Industries Corp., 36–27 Prince St., Flushing, N. Y.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Standard Record Mfg. Co., 70 North San Gabriel Blvd., Pasadena, Calif.
Tayloreel Corp., 185 Murray St., Rochester, N. Y.
Webcor, Inc., 5610 Bloomingdale Ave., Chicago, Ill.

REFERENCE BOOKS – SEE TECHNICAL BOOKS

REFLECTORS. PASSIVE ..... **Pg. 822**
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Microflect Co., 2300 S. 25th St., Salem, Ore.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Narda Microwave Corp., 118–160 Herricks Rd., Mineola, N.Y. – Pg. 822
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Technical Appliance Corp., P. O. Box 38, Sherburne, N.Y.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.

REGISTERS. SHIFT. COMPUTER ..... **Pg. 550**
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
CK Components, 101 Morse St., Watertown, Mass.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
EPSCO, Inc., 588 Commonwealth Ave., Boston, Mass.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.–Pg. 550
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Toroidal Components Co., 1372–74 E. Walnut St., Pasadena, Calif.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Chase–Shawmut Co., Box 390, Newburyport, Mass.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electric Regulator Corp., Pearl St., Norwalk, Conn.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N. J.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Hill, E.V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Magnetic Controls Co., 6405 Cambridge St., Minneapolis, Minn.
Mears Electric Controls, Inc., Swan Island, Portland, Ore.
Milro Controls Co., Park Ridge, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.–Pg. 940
Northeast Scientific Corp., 617 Concord Ave., Cambridge, Mass.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Power Designs, Inc., 1700 Shames Dr., Westbury, N. Y.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Regulator Equipment Corp., 52 Iowa Ave., Paterson, N. J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sorensen & Co., Inc., Richards Ave., S. Norwalk, Conn.–Pg. 951
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
U.S. Semi–Cond. Prod., Div. US Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.–Pgs. 978, 979
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.

REGULATORS. CURRENT (continued)

Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Wuerth Tube Saver Corp., 9125 Livernois, Detroit, Mich.

REGULATORS. FREQUENCY

Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electric Regulator Corp., Pearl St., Norwalk, Conn.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Milro Controls Co., Park Ridge, N. J.
Opad Electric Co., 69–12 Murray St., New York, N.Y.
Pesco Products Div., Borg–Warner Corp., 24700 N. Miles Road, Bedford, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P. O. Box 269, Route 143, Highland, Ill.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Regulator Equipment Corp., 52 Iowa Ave., Paterson, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Tex.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Warren Mfg. Co., The, Littleton, Mass.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

REGULATORS. VOLTAGE & STABLIZERS ..... Pgs. 629, 890, 897, 901, 907, 936, 937, 939, 940, 946, 950, 951, 954, 959, 977–979, 1058, 1068, 1070, 1123, 1137, 1141

American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Elite, Inc., 48–50 34th St., L. I. City, N. Y.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Amplifier Corp. Of America, 398 Broadway, New York, N. Y.
Anchor Products Co., 2712 W. Montrose Ave., Chicago, Ill.
Applegate & Co., C. J., 1840 24th St., Boulder, Colo.
Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Brach Mfg. Corp., Div. General Bronze Corp., 200 Central Ave., Newark, N. J.
British Industries Corp., Instr. Div., 80 Shore Rd., Pt. Washington, N. Y.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.–Pg. 1123
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N.J.–Pg.890
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electric Regulator Corp., Pearl St., Norwalk, Conn.
Electro Precision Corp., Arkadelphia, Ark.–Pg. 946
Electronic Measurements Co., Inc., Eatontown, N. J.–Pg. 897
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Fidelity Instrument Corp., 1000 E. Boundary Ave., York, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y. – Pg. 901
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Giannini, G.M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N.J.
Harrison Labs., Inc., 45 Industrial Rd., Berkeley Heights, N.J.
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Hill, E.V. & Co., P.O. Box 189, Lake Geneva, Wisc.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill. – Pg. 1058
Holt Instrument Lab., Oconto, Wisc.
Hydro–Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.–Pg. 907
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif. – Pg. 977
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kato Engineering Co., 1415 1st Ave., Mankato, Minn.
Kelk, George Ltd., 130 Willowdale Ave., Willowdale, Canada
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N.Y.
Leach Corp., 18435 Susana Rd., – P.O. Box 190, Compton, Calif.
Magnetic Controls Company, 6405 Cambridge St., Minneapolis, Minn.
Microtran, 145 E. Mineola Ave., Valley Stream, N.Y.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N.J.
Milro Controls Co., Park Ridge, N.J.
Missiloonics Inc., Melbourne Airport, Melbourne, Fla.
N.J.E. Corp., 345 Carnegie Ave., Kenilworth, N.J. – Pgs. 936, 937, 939
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N.Y. – Pg. 940
Omega Mfg., Inc., 2243 Washington Ave., Bronx, New York
Opad Electric Co., 69–12 Murry St., New York, N.Y.
Owen Laboratories, Inc., 55 Beacon Place, Pasadena, Calif.
Perkin Engrg Corp., 345 Kansas St., El Segundo, Calif.
Pesco Products Div., Borg–Warner Corp., 24700 N. Miles Rd., Bedford, Ohio
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N.Y.
Power Designs, Inc., 1700 Shames Dr., Westbury, N.Y.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Power Supplies, Inc., P.O. Box 269, Route 143, Highland, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass. – Pg. 950
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Regulator Equipment Corp., 52 Iowa Ave., Paterson, N.J.
Rytron Com, Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sagamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N.J.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sola Electric Co., 4633 W. 16th St., Chicago., Ill.
Sorensen & Co. Inc., Richards Ave., S. Norwalk, Conn. – Pg. 951
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Standard Electrical Products Co., 2240– E. 3rd St., Dayton, Ohio, – Pg. 1137
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Tel– Instrument Elect. Corp., 728 Garden St., Carlstadt, N.J. – Pg. 954
Texas Instrument Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy. Dallas, Texas – Pg. 1068
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke. Riverdale, N.J.
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
U.S. Semi–Conductor Prod., Div. U.S. Elctrns Dev., 3536 W. Osborn, Phoenix, Ariz.–Pgs. 978, 979
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Universal Electronics Co., P.O. Box 64502, Los Angeles, Calif.
United Transfromer Corp., 150 Varick St., New York, N.Y – Pg. 1141
Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N.Y.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Vectrol Engrg., Inc., P.O. Box 1089 Dept. M 59, Stamford, Conn.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio – Pg. 959
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Warren Mfg. Co., The, Littleton, Mass.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

RELAYS. ANTENNA ..... Pgs. 983–985, 997

Advance Relays Dept., Elgin Natl Watch, 2435 N. Naomi St., Burbank, Calif.–Pgs. 983–985
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
American Electronics Co., 81 Lowry Ave., N.E., Minneapolis, Minn.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div. 15000 E. Central Ave., Albuquerque, N. Mex.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N.Y.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Magnadyne Co., 84 S. Water St., Port Chester, N.Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper Bl. 15–1, Camden N.J.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Scherma, F.A. Mfg. Co., 424 Broome St., New York, N.Y.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.

RELAYS. AUDIO OPERATED ..... Pgs. 533, 997

C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Cole Instrument Co., 1000 N. Olive St., Anaheim Calif.
Dixon Electronics Co., 13444 W. McNichols Rd., Detroit, Mich.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Kurman Electric Co., Div of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn. – Pg. 533
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Ratelco, Inc., 820 Minor Ave., N. Seattle, Wash.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N.Y.

RELAYS. CAPACITANCE

Bristol Company, The, P.O. Box 1790, Waterbury, Conn.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Opad Electric Co., 69–12 Murray St., New York, N.Y.
Photobell Co., Inc., 43 Vesey St., New York, N.Y.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Victory Engrg. Corp., Box 373, Union, N.J.

RELAYS. COAXIAL ..... Pgs. 983–985

Advance Relays Dept., Elgin Natl Watch, 2435 N. Naomi St., Burbank, Calif.–Pgs. 983–985
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
American Electronics Co., 81 Lowry Ave. N.E., Minneapolis, Minn.

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Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N.Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Danbury Knudson, Div. Amphenol Electric, Box 148 – Thorpe St., Danbury, Conn.
Dow–Key Company, Inc., S.E. Highway 59, Thief River Falls, Minn.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Computer Co., Inc., 618 Maple St., Conshohoken, Pa.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
General Communication Co., 677 Beacon St., Boston, Mass.
Gulton Industries, Inc., Nuclear Div.,15000 E. Central Ave., Albuquerque, N.Mex.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jennings Radio Mfg. Corp, 970 McLaughlin Ave., P.O. Box 1278, San Jose, Calif.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Scherma, F.A. Mfg. Co., 424 Broome St., New York, N.Y.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N.J.

RELAYS. CONTACT ..... Pgs. 986, 987, 997, 998, 1000, 1005–1007

Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986,987
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Connecticut Valley Enterprises, P.O. Box 188, Essex, Conn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
General Automatic Corp., 12 Carlton Avenue–Routes 46 & 23, Wayne, N.J.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Kurman Electric Co., Div of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg.997
Larson Instrument Co., 24 Orchard St., Tarrytown, N.Y.
Leach Corp., 18435 Susana Rd. – P.O. Box 190, Compton, Calif.
Life Instrument Co. Inc., 200 Brook St., Franklin, Mass.
Line Electric Co., 271 S. 6th St., Newark, N.J.
Magnadyne Co., 84 S. Water St., Port Chester, N.Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Naybor, E.V. Laboratories, Inc., 26 Manorhaven Blvd.,Pt. Washington, N.Y. – Pg. 998
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx, N.Y.
Pacific Relays, Inc., 13915 Saticoy, Van Nuys, Calif.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Randall, Douglas Inc., 6 Pawcatuck Ave., Westerly, R.I.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 1000
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Technical Development Co., 305 S. Chester Pk., Glenolden, Pa.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005,1006,1007
Vapor Heating Corp., 80 E. Jackson Blvd., Chicago, Ill.

RELAYS. CROSS–BAR

Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Hillburn Electronic Prod. 55 Nassau Ave., Brooklyn, N.Y.
Intelex Systems Inc., 22 Thames St., New York, N.Y.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif.

RELAYS. DARSONVAL

Assembly Products, Inc., 75 Wilson Mills Rd., Chesterland, Ohio
Briston Co., The, P.O. Box 1790, Waterbury, Conn.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave.,W. Orange, N.J.
General Meters, Inc., P.O. Box 1701, Grand Junction, Colo.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Larson Instrument Co., 24 Orchard St., Tarrytown, N.Y.
Marion Electrical Instr. Co., Grenier Field, Manchester, N.H.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio
Wacline, Inc., 35 S. St.Claire St., Dayton, Ohio
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

RELAYS. DIFFERENTIAL ..... Pgs. 1005–1007

Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
Amperite Co., Inc., 561 Broadway, New York, N.Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Automatic Corp., 12 Carlton Avenue – Routes 46 & 23, Wayne, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Reltron Corp., 26 Mosman St., Newton, Mass.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

RELAYS. ELECTRONIC. RESISTANCE ACTIVATED . . Pgs. 842, 851, 1002–1004, 1010

Ace Electronics Associates Inc., 99 Dover St., Somerville, Mass. – Pg. 1010
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Clark Electronic Labs, Box 165, Palm Springs, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Corona Engrg. Service, 94–52 Corona Ave., Elmhurst, N. Y.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N. Y.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Automatic Corp., 12 Carlton Avenue – Routes 46 & 23, Wayne, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 851
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N. J.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Ripley Co., Inc., Middletown, Conn.
Scherma, F. A. Mfg. Co., 424 Broome St., New York, N. Y.
Sensory Inc., 10 New St., Norristown, N. J.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N. J.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tempo Instrument Inc., Commercial St., P.O. Box 338, Hicksville, N.Y.–Pgs.1002, 1003
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J. – Pg. 1004
Tri–Tronics Co., 2607 St., Charles Rd., Bellwood, Ill.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif.
Weston Instruments, Div., Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

RELAYS. FREQUENCY SELECTIVE ..... Pgs. 658, 709, 842, 1005–1007, 1178

Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Bristol Company, The P. O. Box 1790 Waterbury 20, Conn.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dixon Electronics Co., 13444 W. McNichols Rd., Detroit, Mich.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
G–V Controls, Inc., 83 Okner Parkway, Livingston, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Guardian Electric Mfg., Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa.
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 709
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rowan Controller Co., The., 2313 Homewood Ave., Baltimore, Md.
Stevens-Arnold, Inc., 7 Elkins St., So. Boston, Mass. – Pg. 1178
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh,30, Pa.

RELAYS. HIGH VOLTAGE ..... Pgs. 501, 983–985, 989, 997, 1005–1007

Advance Relays Dept., Elgin Natl Watch, 2435 N.Naomi, Burbank, Calif.–Pgs.983–985
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automation Controls Corp., 5737 W. 98th St., Los Agneles, Calif.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Clark Electronic Labs, Box 165, Palm Springs, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electron-Radar Products, P. O. Box 50, Rte. 30, North Aurora, Ill.
Filtors, Inc., 30 Sagamore Hill, Port Washington, N. Y. – Pg. 989
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif. – Pg. 501
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leetronics, 30 Main St., Brooklyn, N. Y.
Leland, G. H. Inc., 123 Webster St., Dayton, Ohio
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.

RELAYS. HIGH VOLTAGE (continued)
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago, 4, Illinois
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

RELAYS. IMPULSE ..... **Pgs. 542, 997, 1000, 1005–1007**
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Digital Equipment Corp., Maynard, Mass. – Pg. 542
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro-Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Automatic Corp., 12 Carlton Avenue, Routes 46 & 23, Wayne, N. J.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Randall, Douglas Inc., 6 Pawcatuck Ave., Westerly, R. I.
Sigma Instruments Inc., 70 Pearl St., S. Braintree, Mass. – Pg. 1000
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Tally Register Corp., 5300 14th Ave., N. W., Seattle, Wash.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Union Switch & Signal, Div. Westinghouse Air Brake, Gen'l. App. Sales, Pittsburgh, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

RELAYS. KEYING & BREAK–IN ..... **Pgs. 983–985, 997**
Advance Relays Dept., Elgin Natl Watch, 2435 N.Naomi, Burbank, Calif.–Pgs.983, 985
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Automatic Corp., 12 Carlton Avenue, Routes 46 – 23, Wayne, N. J.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Leach Corp., 18435 Susana Rd., – P. O. Box 190, Compton, Calif.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Stevens-Arnold, Inc., 7 Elkins St., So. Boston, Mass.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J.
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J.

RELAYS. LATCHING ..... **Pgs. 842, 986, 987, 989, 1001, 1005–1007**
Advance Relays Dept., Elgin Nat'l. Watch Co., 2435 N. Naomi St., Burbank, Calif.
Aemco, Inc., 62 State St., Mankato, Minn.
Allen–Bradley Co., 136 W. Greenfield Ave., Milwaukee, Wisc.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
Arrow-Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Conn.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Barber-Colman Co., Dept. F, 1410-7 Rock St., Rockford, Ill. – Pg. 842
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Clare, C.P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Davis Electric Co., 230 N. Spring St., Cape Girardeau, Mo.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eagle Signal Corp., 202-20th St., Moline, Ill.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village, N. Y.
Electro-Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electro-Switch & Controls, 5755 Camille Ave., Culver City, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Filtors, Inc., 30 Sagamore Hill, Port Washington, N. Y. – Pg. 989
General Automatic Corp., 12 Carlton Avenue, Routes 46 & 23, Wayne, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Imtra Corp., 11 University Rd., Cambridge, Mass.
Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland, Ore.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Line Electric Co., 271 S. 6th St., Newark, N. J.
M F. Electronics, 122 E. 25th St., New York, N. Y.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Magnetic Devices, Inc., 712 East St., Frederick, Md.
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 1001
Square D Co., 4041 N. Richards, Milwaukee, Wisc.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

RELAYS. MERCURY ..... **Pgs. 986, 987**
Adams & Westlake Co., The, No. Michigan St., Elkhart, Ind.
American Designed Components, Inc., Jericho, N. Y.
Atlas Electric Products Co., P. O. Box 1591, Erie, Pa.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs., 986, 987
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Corona Engrg. Service, 94-52 Corona Ave., Elmhurst, N. Y.
Durakool, Inc., 1010 N. Main St., Elkhart, Ind.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village, N. Y.
Electron-Radar Products, P. O. Box 50, Rte, 30, North Aurora, Ill.
Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.
Haledy Electronics Co., 57 William St., New York, N. Y.
Hamlin, Inc., 1316 Sherman Ave., Evanston, Ill.
Mack Electric Devices, Inc., 34 Glenside Ave., Wyncote, Pa.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Mercury Contacts, Inc., P. O. Box 615E, Far Hills Sta., Dayton, Ohio
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves, Philadelphia, Pa.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Video Instruments Co., Inc., 3002 Pennsylvania Ave., Santa Monica, Calif.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave, Newark, N. J.

RELAYS. MINIATURE AND SUBMINIATURE ... **Pgs. 982–985, 989, 990, 991, 994–1001, 1005–1008**
Advance Relays Dept., Elgin Natl Watch, 2435 N.Naomi, Burbank, Calif.–Pgs.983–985
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Amerelay Corp., The, 130 County Courthouse Rd., New Hyde Park, N.Y. – Pg. 982
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N.Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Baso, Inc., 730 N. Jackson, P. O. Box 461, Milwaukee, Wis.
Branson Corp., P. O. Box 234 – 41 S. Jefferson Rd., Whippany, N. J.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Clare, C.P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Connecticut Valley Enterprises, P. O. Box 188, Essex, Conn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Couch Ordnance, Inc., 3 Arlington St., North Quincy, Mass.
Curtiss–Wright Corp., Electr. Div. Comp. Dept., 620 Passaic Ave., W. Caldwell, N. J.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Davis Electric Co., 230 N. Spring St., Cape Girardeau, Mo.
Dixon Electronics Co., 13444 W. McNichols Rd., Detroit, Mich.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electro–Switch & Controls, 5755 Camille Ave., Culver City, Calif.
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Filtors, Inc., 30 Sagamore Hill, Port Washington, N. Y. – Pg. 989
G–V Controls, Inc., 83 Okner Parkway, Livingston, N. J. – Pg. 990
General Automatic Corp., 12 Carlton Avenue – Routes 46 & 23, Wayne, New Jersey
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Hi–G, Inc., Bradley Field, Windsor Locks, Conn. – Pg. 991
Hi–Spec Electronics Corp., 7328 Ethel Ave., No. Hollywood, Calif. – Pg. 994
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Hufco Industries, 2815 W. Olive Ave., Burbank, Calif. – Pg. 995
Hughes Prods., Hughes Aircraft Semiconductor Div., Intl. Apt., Los Angeles, Calif.–Pg.996
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Inter–Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland, Ore.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Luther Mfg. Co., 7312 Varna Ave., No. Hollywood, Calif.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Marion Electrical Instr. Co., Grenier Field, Manchester, N. H.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y. – Pg. 998
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Relays, Inc., 13915 Saticoy, Van Nuys, Calif.

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Penn Keystone Corp., Box 350, Haurkus St., Derby, Conn.
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Potter & Brumfield, Inc., 1200 E. Broadway, Princeton, Ind.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Reltron Corp., 26 Mosman St., Newton, Mass.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pgs. 999–1001
Sorenson Industrial Elect., Route 10, Dover, N. J.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.
TC Components Div., Telecomputing Corp., 9151 Exposition Dr., Culver City, Calif.
Terado Co., 1068 Raymond St., St. Paul, Minn.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005, 1006, 1007
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, New York
Weston Instruments, Div. Daystrom Inc., 614 Frelinguysen Ave., Newark, N.J. – Pg 1008
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J.

RELAYS. MOTOR. DRIVEN . . . . . Pg. 997

Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Pacific Relays, Inc., 13915 Saticoy, Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.

RELAYS. OVERLOAD . . . . . Pgs. 983–985, 997, 998, 1002, 1003, 1005–1007

Advance Relays Dept., Elgin Natl Watch, 2435 N.Naomi, Burbank, Calif.–Pgs. 983–985
Aemco, Inc., 62 State St., Mankato, Minn.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Arrow–Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Connecticut
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Blue M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Branson Corp., P. O. Box 234 – 41 S. Jefferson Rd., Whippany, N. J.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N. Y.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
G–V Controls, Inc., 83 Okner Parkway, Livingston, N. J.
General Automatic Corp., 12 Carlton Avenue – Routes 46 & 23, Wayne, New Jersey
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N.Y. – Pg. 998
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Pacific Relays, Inc., 13915 Saticoy, Van Nuys, Calif.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Square D Co., 4041 N. Richards, Milwaukee, Wisc.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tempo Instrument, Inc., Commercial St., Box 338, Hicksville, N.Y.–Pgs. 1002, 1003
Tung–Sol Electric, Inc., Newark, N. J.
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J.

RELAYS. OVER & UNDER FREQUENCY . . . . . Pgs. 997, 1005–1007

Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dixon Electronics Co., 13444 W. McNichols Rd., Detroit, Mich.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jordan Electronics, Div. Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leach Corp., 18435 Susana Rd. – P. O. Box 190, Compton, Calif.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.

RELAYS. OVERVOLTAGE & UNDERVOLTAGE . . . . Pgs. 857, 986, 987, 989, 990, 997, 998, 1002, 1003, 1005–1007

Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Baso, Inc., 730 N. Jackson, P. O. Box 461, Milwaukee, Wis.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Clark Electronic Labs., Box 165, Palm Springs, Calif.
Connecticut Valley Enterprises, P. O. Box 188, Essex, Conn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Filtors, Inc., 30 Sagamore Hill, Port Washington, N. Y. – Pg. 989
G–V Controls, Inc., 83 Okner Parkway, Livingston, N. J. – Pg. 990
General Automatic Corp., 12 Carlton Avenue, Routes 46 & 23, Wayne, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y. – Pg. 857
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Kurman Electric Co., Div. of Norbute Corp., 191 Newell St., Brooklyn, N. Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y. – Pg. 998
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y. – Pgs. 1002, 1003
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Tung–Sol Electric, Inc., Newark, N. J.
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

RELAYS. PHOTOELECTRIC . . . . . Pgs. 850, 997

Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electron–Radar Products, P.O. Box 50, Rte. 30, North Aurora, Ill.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 850
Haledy Electronics Co., 57 William St., New York, N. Y.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Industrial Electronics, 8060 Wheeler St., Detroit, Mich.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Life Instrument Co., Inc., 200 Brook St., Franklin Mass.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Post Machinery Co., Electronic Products Div., 140 Elliott St., Beverly, Mass.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Ripley Co., Inc., Middletown, Conn.
Sigma Instruments, Inc., 70 Peark St., South Braintree, Mass.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N. J.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Victory Engrg. Corp., Box 373, Union, N. J.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Worner Electronic Devices, Rankin, Ill.

RELAYS. PLATE CIRCUIT . . . . . Pgs. 986, 987, 989, 994, 997–999, 1178

Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Branson Corp., P.O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Connecticut Valley Enterprises, P.O. Box 188, Essex, Conn.
Couch Ordnance, Inc., 3 Arlington St., North Quncy, Mass.
Dixon Electronics Co., 13444 W. McNichols Rd., Detroit, Mich.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W.Orange, N. J.
Filtors, Inc., 30 Sagamore Hill, Port Washington, N. Y. – Pg. 989
General Automatic Corp., 12 Carlton Avenue–Routes 46 & 23, Wayne, N. J.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hi–Spec Electronics Corp., 7328 Ethel Ave., No. Hollywood, Calif. – Pg. 994
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.

RELAYS. PLATE CIRCUIT (continued)
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y. – Pg. 998
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Relays, Inc., 13915 Saticoy, Van Nuys, Calif.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
R. B. M. Controls Div., Essex Wire Corp., Logansport, Ind.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Reltron Corp., 26 Mosman St., Newton, Mass.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 999
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Stevens–Arnold, Inc., 7 Elkins St., So. Boston, Mass. – Pg. 1178
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.
Terado Co., 1068 Raymond St., St. Paul, Minn.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

RELAYS. POLARIZED ..... **Pgs. 842, 997, 1000, 1001, 1004–1007, 1178**
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Branson Corp., P. O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Edison, Thomas, Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electro–Switch & Controls, 5755 Camille Ave., Culver City, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Jordan Electronics, Div. Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kurman Electroc Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N. Y.
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnetic Devices, Inc., 712 East St., Frederick, Md.
North Electric Co., 553 S. Market St., Galion, Ohio
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pgs. 1000, 1001
Sorenson Industrial Elect., Route 10, Dover, N. J.
Stevens–Arnold, Inc., 7 Elkins St., So. Boston, Mass. – Pg. 1178
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J. – Pg. 1004
U.S. Relay Co., 717 No. Caney Ave., Azusa, Calif. – Pgs. 1005–1007
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

RELAYS. POWER CONTROL ..... **Pgs. 983–985, 994, 997, 998, 1001, 1004–1007**
Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Advance Relays, Dept. Elgin Natl Watch, 2435 N.Naomi St., Burbank, Calif.–Pgs. 983-985
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Instrument Co., 8030 Georgia Ave., Silver Springs, Md.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Carson Mfg. Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Clark Electronic Labs., Box 165, Palm Springs, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N. Y.
Electro Tech Corp., 10 Romanelli Ave., S. Hackensack, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Five Star Co., 10 W. Main St., Plantsville, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Haledy Electronics Co., 57 William St., New York, N. Y.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Hi–Spec Electronics Corp., 7328 Ethel Ave., No. Hollywood, Calif. – Pg. 994
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. & Pg. 997
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Mack Electric Devices, Inc., 34 Glenside Ave., Wyncote, Pa.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y. – Pg. 998
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph, Corp., 85 Freeport St., Boston, Mass.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
R. B. M. Controls Div., Essex Wire Corp., Logansport, Ind.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pg. 1001
Square D Co., 4041 N. Richards, Milwaukee, Wisc.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J. – Pg. 1004
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Ill.
Victory Engrg. Corp., Box 373, Union, N. J.
Ward Leonard Electric Co., 75 South St., Mt. Vernon, N. Y.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J.
Zenith Electric Co., 152 W. Walton St., Chicago, Ill.

RELAYS. PROXIMITY
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sensory, Inc., 10 New St., Norristown, N.J.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Victory Engrg. Corp., Box 373, Union, N.J.

RELAYS. R–F ..... **Pg. 997**
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N.Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Communication Co., 677 Beacon St., Boston, Mass.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Monitor Controller Co., 99 Grove St., Rockland, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
R. B. M. Controls Div., Essex Wire Corp., Logansport, Ind.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.

RELAYS. ROTARY ..... **Pgs. 991, 997**
Advance Relays Dept., Elgin Natl. Watch Co., 2435 N. Naomi St., Burbank, Calif.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Branson Corp., P.O. Box 234, 41 S. Jefferson Rd., Whippany, N.J.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Connecticut Valley Enterprises, P.O. Box 188, Essex, Conn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Couch Ordnance, Inc., 3 Arlington St., North Quincy, Mass.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Filtors, Inc., 30 Sagamore Hill, Port Washington, N.Y.
General Communication Co., 677 Beacon St., Boston, Mass.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
HI–G, Inc., Bradley Field, Windsor Locks, Conn. – Pg. 991
Imtra Corp., 11 University Rd., Cambridge, Mass.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Leetronics, 30 Main St., Brooklyn, N.Y.
Leland, G. H., Inc., 123 Webster St., Dayton, Ohio
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Magnetic Devices, Inc., 712 East St., Frederick, Md.
North Electric Co., 553 S. Market St., Galion, Ohio
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N. J.

RELAYS. SENSITIVE .. **Pgs. 647, 842, 851, 983–985, 994, 997, 999–1001, 1004–1008, 1142**
AD–YU Electronics Lab., Inc., 249–259 Terhune Ave., Passaic, N. J. – Pg. 647
Advance Relays Dept., Elgin Natl Watch, 2435 N.Naomi, Burbank, Calif.–Pgs. 983–985
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N.J.
Babcock Relays, Inc., 1640 Monrovia Ave., Costa Mesa, Calif.
Barber–Colman Co., Dept. F, 1410–7 Rock St., Rockford, Ill. – Pg. 842
Baso, Inc., 730 N. Jackson, P.O. Box 461, Milwaukee, Wisc.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cardinal Control Co., 34 Meadow St., New Britain, Conn.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Connecticut Valley Enterprises, P.O. Box 188, Essex, Conn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N.Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N.J.
Electro–Switch & Controls, 5755 Camille Ave., Culver City, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Five Star Co., 10 W. Main St., Plantsville, Conn.
General Automatic Corp., 12 Carlton Ave., Routes 46 & 23, Wayne, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y. – Pg. 851
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hamlin, Inc., 1316 Sherman Ave., Evanston, Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Hi–Spec Electronics Corp., 7328 Ethel Ave., No. Hollywood, Calif. – Pg. 994
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland, Ore.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N.Y.
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Magnadyne Co., 84 S. Water St., Port Chester, N.Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Magnetic Devices, Inc., 712 East St., Frederick, Md.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.

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Pacific Relays, Inc., 13915 Saticoy, Van Nuys, Calif.
Phaostron Instrument & Electronic Co., 151 Pasadena Ave., South Pasadena, Calif.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
R. B. M. Controls Div., Essex Wire Corp., Logansport, Ind.
Radar Relay, Inc., 2120 Pontius Ave., Los Angeles, Calif.
Relays, Inc., 162 W. 83rd St., New York, N.Y.
Reltron Corp., 26 Mosman St., Newton, Mass.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Scherma, F. A. Mfg. Co., 424 Broome St., New York, N.Y.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass. – Pgs. 999 – 1001
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Square D Co., 4041 N. Richards, Milwaukee, Wisc.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Terado Co., 1068 Raymond St., St. Paul, Minn.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J. – Pg. 1142
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J. – Pg. 1004
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Union Switch & Signal, Div. Westinghouse Air Brake, Genl. App. Sales, Pittsburgh, Pa.
Victory Engrg. Corp., Box 373, Union, N. J.
Ward Leonard Electric Co., 75 South St., Mt. Vernon, N. Y.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J. – Pg. 1008
Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N.J.

RELAYS, SEQUENCE ..... Pgs. 1005–1007

Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N.Y.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
James Vibrapowr, Co., 4050 N. Rockwell St., Chicago, Ill.
Jordan Electronics, Div. Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Master Specialties Co., 956 E. 108th St., Los Angeles, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
U. S. Relay Co., 717 N. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

RELAYS, SOLID STATE ..... Pg. 1004

Clark Electronic Labs., Box 165, Palm Springs, Calif.
Inter–Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J. – Pg. 1004

RELAYS, STEPPING ..... Pgs. 986, 987, 1005–1007

Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N.Y.
Intelex Systems, Inc., 22 Thames St., New York, N.Y.
Jordan Electronics, Div. Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Leland, G. H., Inc., 123 Webster St., Dayton, Ohio
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Tech Laboratories, Inc., Palisades Park, N. J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005 – 1007
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.

RELAYS, TELEPHONE ..... Pgs. 983–987, 995, 997, 1005–1007

Advance Relays Dept., Elgin Natl. Watch, 2435 N. Naomi St., Burbank, Calif.–Pgs. 983–985
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
American Electronics Co., 81 Lowry Ave. N.E., Minneapolis, Minn.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Davis Electric Co., 230 N. Spring St., Cape Girardeau, Mo.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro–Switch & Controls, 5755 Camille Ave., Culver City, Calif.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
General Automatic Corp., 12 Carlton Ave., Routes 46 & 23, Wayne, N. J.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N.Y.
Hufco Industries, 2815 W. Olive Ave., Burbank, Calif. – Pg. 995
Imtra Corp., 11 University Rd., Cambridge, Mass.
Intelex Systems, Inc., 22 Thames St., New York, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Leach Corp., 18435 Susana Rd., P.O. Box 190, Compton, Calif.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
R. B. M. Controls, Div. Essex Wire Corp., Logansport, Ind.
Zelays, Inc., 162 W. 83rd St., New York, N.Y.
Reltron Corp., 26 Mosman St., Newton, Mass.
Scherma, F. A. Mfg. Co., 424 Broome St., New York, N.Y.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Sperti–Farraday, Inc., Adrian, Mich.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
U. S. Relay Co., 717 N. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

RELAYS, TEMPERATURE COMPENSATED ..... Pgs. 997, 1005–1007

Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N.J.
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Baso, Inc., 730 N. Jackson, P.O. Box 461, Milwaukee, Wis.
Branson Corp., P.O. Box 234, 41 S. Jefferson Rd., Whippany, N.J.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Curtiss–Wright Corp., Electr. Div. Comp. Dept., 620 Passaic Ave., W. Caldwell, N.J.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N.J.
Electro–Switch & Controls, 5755 Camille Ave., Culver City, Calif.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
General Automatic Corp., 12 Carlton Ave., Routes 46 & 23, Wayne, N.J.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N.Y. – Pg. 997
Larson Instrument Co., 24 Orchard St., Tarrytown, N.Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
North Electric Co., 553 S. Market St., Galion, Ohio
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Sigma Instruments, Inc., 70 Pearl St., South Braintree, Mass.
U. S. Relay Co., 717 N. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Victory Engrg. Corp., Box 373, Union, N. J.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

RELAYS, THERMAL ..... Pgs. 663, 983–985, 988, 990, 996, 1005–1007

Advance Relays Dept., Elgin Natl. Watch, 2435 N. Naomi St., Burbank, Calif.–Pgs. 983,985
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N.J.
Blue, M. Electric Co., 138th & Chatham St., Blue Island, Ill.
Branson Corp., P.O. Box 234, 41 S. Jefferson Rd., Whippany, N.J.
Cable Electric Products, 234 Dabell St., Providence, R.I.
Clark Electronic Labs., Box 165, Palm Springs, Calif.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Curtiss–Wright Corp., Electr. Div. Comp. Dept., 620 Passaic Ave., W. Caldwell, N.J. – Pg. 988
Curtiss–Wright Corp., Electr. Div. Instrs.Dept., 631 Central Ave., Carlstadt, N.J. – Pg. 663
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N.Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N.J.
G–V Controls, Inc., 83 Okner Parkway, Livingston, N.J. – Pg. 990
General Automatic Corp., 12 Carlton Avenue, Routes 46 & 23, Wayne, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Hamlin, Inc., 1316 Sherman Ave., Evanston, Ill.
Hughes Prods., Hughes Aircraft, Semiconductor Div., Intl. Apt., Los Angeles, Calif. – Pg. 996
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N.J.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Line Electric Co., 271 S. 6th St., Newark, N.J.
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Scaico Controls, Box 41, Cooper St., Delanco, N.J.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Struthers–Dunn, Inc., Lambs Rd., Pitman, N.J.
Thompson Research & Mfg. Co., P.O. Box 116, Davenport, Fla.
U. S. Relay Co., 717 N. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Ulanet, George, Co., 413 Market Street, Newark, N.J.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Victory Engrg. Corp., Box 373, Union, N.J.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.
Wuerth Tube Saver Corp., 9125 Livernois, Detroit, Mich.

RELAYS, TIME DELAY ..... Pgs. 986, 987, 988, 990, 997, 998, 1002, 1003, 1005–1007

A.G.A., Div. Elastic Stop Nut Corp. of America, 1027 Newark Ave., Elizabeth, N.J.
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Adams & Westlake Co., The, No. Michigan St., Elkhart, Ind.
Advance Relays Dept., Elgin Natl. Watch Co., 2435 N. Naomi St., Burbank, Calif.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
All American Engineering Co., Dupont Airport, Wilmington, Dela.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
American Designed Components, Inc., Jericho, N.Y.
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Amperite Co., Inc., 561 Broadway, New York, N.Y.
Atlas Electric Products Co., P. O. Box 1591, Erie, Pa.
Automatic Electric Sales Corp., Northlake, Ill. – Pgs., 986, 987
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Controls Corp., 5737 W. 98th St., Los Angeles, Calif.
Branson Corp., P. O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.

RELAYS. TIME DELAY (continued)
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.
Canadian Curtiss-Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Clark Electronic Labs, Box 165, Palm Springs, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Curtiss-Wright, Electr. Div. Comp. Dept., 620 Passaic, W. Caldwell, N.J. – Pg. 988
Curtiss-Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Durakool, Inc., 1010 N. Main St., Elkhart, Ind.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Eagle Signal Corp., 202-20th St., Moline, Ill.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro-Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electro-Switch & Controls, 5755 Camile Ave., Culver City, Calif.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
G-V Controls, Inc., 83 Okner Parkway, Livingston, N. J., – Pg. 990
General Automatic Corp., 12 Carlton Avenue, Routes 46 & 23, Wayne, N. J.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wis.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Guardian Electric Mfg. Co.,1621 W. Walnut St., Chicago, Ill.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Heinemann Electric Co., 120 Plum St., P. O. Box 299, Trenton, N. J.
Hydro-Aire, Inc., Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jordan Electronics, Div., Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kurman Electric Co., Div. of Norbute Corp., 191 Newel St., Brooklyn, N. Y. – Pg. 997
Leach Corp., 18435 Susana Rd., P. O. Box 190, Compton, Calif.
Line Electric Co., 271 S. 6th St., Newark, N. J.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnadyne Co., 84 S. Water St., Port Chester, N. Y.
Magnecraft Electric Co., 3352 W. Grand Ave., Chicago, Ill.
Master Specialties Co., 956 E. 108 St., Los Angeles, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y. – Pg. 998
Nelson Instrument Co., 607 Howard St, Evanston, Ill.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St.,Skokie, Ill.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phialdelphia, Pa.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Photo Crystals, Inc., 15 S. 1st St., Geneva, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Price Electric Corp., E. Church & 2nd Sts., Frederick, Md.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Ratelco, Inc., 820 Minor Ave., N. Seattle 9, Wash.
Rhodes, M. H. Inc., 30 Bartholomew Ave., Hartford, Conn.
Ripley Co., Inc., Middletown, Conn.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Square D Co., 4041 N. Richards, Milwaukee, Wisc.
Standard Electromagnetics, Inc., Box 679, Frederick, Md.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y. – Pgs. 1002, 1003
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J.
Tung-Sol Electric, Inc., Newark, N. J.
U.S. Relay Co., 717 No. Coney Ave., Azusa, Calif. – Pgs. 1005–1007
Ulanet, George Co., 413 Market Street, Newark, N. J.
Victory Engrg. Corp., Box 373, Union, N. J.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.
Zenith Electric Co., 152 W. Walton St., Chicago, Ill.

RELAYS. VACUUM CONTACT ..... Pgs. 501, 1153
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury, 20, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village, N. Y.
Eitel-McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pg. 1153
Electronic Research Labs., 85 Surrey St., Brighton, Mass.
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P.O. Box 1278, San Jose, Calif.–Pg. 501
Mack Electric Devices, Inc., 34 Glenside Ave., Wyncote, Pa.
Penta Labs, Inc., 312 N. Nopal St., P. O. Box 1469, Santa Barbara, Calif.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J.
Veeco Vacuum Corp., 86 Denton Ave., New Hyde Park, N. Y.

RELAYS. VIBRATING REED .....Pgs. 658, 709, 986, 987, 1178
Automatic Electric Sales Corp., Northlake, Ill. – Pg. 986, 987
Bell & Gossett Co., 8200 N. Austin Ave., Morton Grove, Ill.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dixon Electronics Co., 13444 W. McNichols Rd., Detroit, Mich.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
J. B. T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 709
North Electric Co., 553 S. Market St., Galion, Ohio
Revere Corp. of America, Wallingford, Conn.
Stevens-Arnold, Inc., 7 Elkins St., So. Boston, Mass. – Pg. 1178
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.

REPEATERS. TELETYPE. SOLID STATE ..... Pg. 1004
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J., – Pg. 1004

REPEATING EQUIPMENT ..... Pgs. 725, 1004
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y. – Pg. 725
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Stelma, Inc., 190 Henry St., Stamford, Conn.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J. – Pg. 1004
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

REPRODUCERS. DATA ..... Pgs. 687, 1102
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Associates, Inc., Long Branch, N. J.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Minneapolis-Honeywell, Davies Labs. Div., 10781 Hanna St., Beltsville, Md.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Soroban Engrg., Inc., Kissimmee Hgwy., Melbourne, Fla.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Taller & Cooper Co., 75 Front St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.

REPRODUCERS. SOUND ..... Pg. 456
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y. – Pg. 456
Bogen-Presto Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro-Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.
Midwestern Instruments, Inc., Box 7186, Tulsa, Okla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37-06 36th St., L. I. City, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Stancil-Hoffman Corp., 921 N. Highland Ave., Hollywood, Calif.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Warren Mfg. Co., The, Littleton, Mass.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.

RESEARCH & DEVELOPMENT SERVICES – SEE SERVICES. CONSULTING
RESINS. ENCAPSULATING – SEE COMPOUNDS. ENCAPSULATING

RESINS. SYNTHETIC ..... Pgs. 782, 783
Allied Chemical, Plastics & Coal Chem. Div., 40 Rector St.,New York,N.Y.–Pg. 782,783
Baker J. T. Chemical Co., Phillipsburg, N. J.
Biggs, Carl H., Co., 1547 14th St., Santa Monica, Calif.
Catalin Corp. of America, 1 Park Ave., New York, N. Y.
Celanese Corp. of America, Plastics Div., 744 Broad St., Newark, N. J.
Champion Bronze & Powder Co., 2101 Elston Ave., Chicago, Ill.
Ciba Products Corp., Kimberton,Pa.
Dow Chemical Co., Midland, Mich.
Durez Plastics, Div. Hooker Electrochemical, 1921 Walck Rd., N. Tonawanda, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Food Machinery & Chem. Corp., Chem. & Plastics Div., 161 E. 2nd St., New York, N. Y.
General Electric Co., Chem. & Metallurgical Div., 1 Plastics Ave., Pittsfield, Mass.
General Plastics Corp., 165 3rd Ave., Paterson, N. J.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Isochen Resins Corp., 221 Oak St., Providence, R. I.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Permutit Co., The, 50 W. 44th St., New York, N. Y.
Plastics Engineering Co., 1607 Geele Ave., Sheboygan, Wis.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N. Y.
Schenectady Varnish Co., Box 1046, Schenectady, N. Y.
Smooth-On Mfg. Co., 572 Communipaw Ave., Jersey City, N. J.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Union Carbide Corp. , Silicones Div., 30 E. 42nd St., New York, N. Y.

RESISTORS. ADJUSTABLE .... Pgs. 1010–1014, 1016, 1017, 1019, 1022, 1027, 1040, 1041
Ace Electronics Associates Inc., 99 Dover St., Somerville, Mass. – Pg. 1010
Atohm Electronics, 7648 San Fernado Rd., Sun Valley, Calif. – Pg. 1011
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif. – Pgs. 1012, 1013
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Centralab, Div. Glove–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkart, Ind.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y., Pg. 1016
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa., – Pg. 1017
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Daystrom Pacific Pot., Div. Daystrom, 9320 Lincoln Blvd., Los Angeles, Calif.– Pg. 1019
Eastern Precison Resistor Corp., 675 Barbey St., Brooklyn, N. Y., – Pg. 1022
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J.

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International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Mel-Rain Corp., 2100 Fletcher Ave., Indianapolis, Ind.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Miniature Electronic Components Corp., Holbrook, Mass.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Philadelphia, Pa.
Mullenbach Div. Electric Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision, Inc., 4748 France Ave., No., Minneapolis, Minn.
Precision Line, Inc., 63 Main St., Maynard, Mass.
R. C. L. Mfg. Co., New Jersey Ave., Riverside, N. J.
Resistors, Inc., 5226 W. 26th St., Chicago, Ill.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill. – Pg. 1041
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, New York
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio

RESISTORS. ADJUSTABLE. MINIATURE ..... Pgs. 1010–1014, 1016, 1017, 1019, 1022, 1024, 1027, 1040

Ace Electronics Associates Inc., 99 Dover St., Somerville, Mass. – Pg. 1010
Atohm Electronics, 7648 San Fernando Rd., Sun Valley, Calif. – Pg. 1011
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif. – Pgs. 1012, 1013
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y. – Pg. 1016
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Daystrom Pacific Pot., Div. Daystrom, 9320 Lincoln Blvd., Los Angeles, Calif.–Pg. 1019
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y. – Pg. 1022
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1024
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Mel–Rain Corp., 2100 Fletcher Ave., Indianapolis, Ind.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Miniature Electronic Components Corp., Holbrook, Mass.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.

RESISTORS. ADJUSTABLE. WIRE WOUND .... Pgs. 1010–1014, 1016, 1017, 1019, 1022, 1027, 1040, 1041

Ace Electronics Associates Inc., 99 Dover St., Somerville, Mass. – Pg. 1010
Atohm Electronics, 7648 San Fernando Rd., Sun Valley, Calif. – Pg. 1011
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif. – Pgs. 1012, 1013
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N.Y. – Pg. 1016
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Daystrom Pacific Pot., Div. Daystrom, 9320 Lincoln Blvd., Los Angeles, Calif.–Pg. 1019
Eastern Precision Resistence Corp., 675 Barbey St., Brooklyn, N. Y. – Pg. 1022
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N.J.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Mel–Rain Corp., 2100 Fletcher Ave., Indianapolis, Ind.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Miniature Electronic Components Corp., Holbrook, Mass.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
National Electric Controller Co., 7070 Glenwood Ave., Chicago, Ill.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision, Inc., 4748 France Ave., No., Minneapolis, Minn.
Precision Line, Inc., 63 Main St., Maynard, Mass.
R. C. L. Mfg. Co., New Jersey Ave., Riverside, N. J.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tru–Ohm Products, Div. Model Engrg & Mfg., 2800 N. Milwaukee, Chicago, Ill. – Pg. 1041
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, New York
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio

RESISTORS. BALLAST TUBE – SEE TUBES. BALLAST

RESISTORS. BARORESISTOR

Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.

RESISTORS. BARRETTERS

Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.

RESISTORS. CARBON. DEPOSITED Pgs. 776, 959, 1014, 1017, 1031, 1033, 1040, 1043, 1069

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allies Products Corp., P. O. Box 188, Kendall Branch, Miami, Florida
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
British Radio Electronics, 1833 Jefferson Place, N. W., Washington, D. C.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Constanta Co. of Canada Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Mepco, Inc., 35–37 Abbett Ave., Morristown, N. J.
Nucleonic Products Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
Pyrofilm Resistor Co., Inc., U. S. 46, Parsippany, N. J. – Pg. 1033
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio – Pg. 959
Wells, Gary Co., 361 Rockaway Ave., Valley Stream, N. Y.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043

RESISTORS. CARBON. FILM ..... Pgs. 1031, 1033, 1040, 1043, 1069

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N.Y.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L.I., N.Y.
Constanta Co. of Canada, Ltd., The, 280 Regina Ave., Montreal, Canada
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Mepco. Inc., 35–37 Abbett Ave., Morristown, N.J.
Penn Resistor Corp., 526 N. Broad St., Lansdale, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Pyrofilm Resistor Co., Inc., U. S. 46, Parsippany, N.J. – Pg. 1033
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., Long Island City, N.Y. – Pg. 1040
Texas Instruments, Inc., Semiconductor Compts. Div., Box 312, 13500 N. Central. Ex. Pwy., Dallas, Texas – Pg. 1069
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Welwyn International, Inc., 335 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043

RESISTORS. COMPOSITION ..... Pgs. 858, 1014, 1017, 1027

Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1014
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Dialight Corp., 60 Stewart Ave., Brooklyn, N. Y. – Pg. 858
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
G–C Electronics Mfg., Div. GC–Textron, Inc., 400 S. Wyman St., Rockford, Ill.
Globar Plant, Plant Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1027
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Stackpole Carbon Co., St. Marys, Penn.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. DECADE ..... Pgs. 669, 686, 711, 764, 1016, 1032

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N.Y. – Pg. 1016
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S.W. Macadam Ave., Portland, Oreg. – Pg. 669
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N.Y.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa. – Pg. 686
Industrial Instruments, 89 Commerce St., Cedar Grove, Essex County, N.J.
Instrument Resistors Co., 1036 Commerce Ave., Union, N.J.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Julie Research Lab., Inc., 556 West 168th St., New York, N.Y. –Pg. 711
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. At 35th St., Phila., Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Newark Controls Co., 15 Ward St., Bloomfield, N.J.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Precision Resistor Co., Inc., 115 U. S. Hway. 22, Hillside, N. J. – Pg. 1032
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N.Y.
Tel–Labs., Inc., 1050 Second St., Manchester, N.H.
Winslow Co., Inc., 707 Lehigh Ave., Union, N.J. – Pg. 764

RESISTORS. ENCAPSULATED ..... Pgs. 515, 711, 1016–1018, 1023, 1029, 1031–1034, 1042, 1043

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N.Y.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Canadian Curtiss–Wright, Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y. – Pg. 1016
Constanta Co. of Canada Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J. – Pg. 1018
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y. – Pg. 1023
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Resistance, Inc., 577 E. 156th St., New York, N.Y.
Hi–Q Div., Aerovox Corp., Seneca St., Olean, N.Y.
International Resistance Co., 401 N. Broad St., Philadaelphia, Pa. – Pg. 1029
Julie Research Lab., Inc., 556 West 168th St., New York, N.Y. – Pg. 711
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.

RESISTORS. ENCAPSULATED (continued)
Miniature Electronic, Components Corp., Holbrook, Mass.
Non–Linear Systems, Inc., Del–Mar Airport, Box 728, Del–Mar, Calif.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Precision Resistor Co., Inc., 115 U. S. Hway. 22, Hillside, N. J. – Pg. 1032
R. C. L. Mfg. Co., New Jersey Ave., Riverside, N. J.
Reon Resistor Corp., 117 Stanley Ave., Yonkers, N.Y.
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif. – Pg. 515
Shallcross Mfg. Co., Preston St., Selma, N. C.
Shallite, Inc., 128 W. First Ave., Roselle, N.J.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., Long Island City, N.Y.
Tel–Labs., Inc., 1050 Second St., Manchester, N.H.
Telex, Telex Park, St. Paul, Minn.
Tepro Electric Corp., 5 St. Paul St., Rochester, N.Y.
Texas Instrs., Inc., Semiconductor Components Div., Box 312, 13500 N. Central Exprwy., Dallas, Texas
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio, – Pg. 1043

RESISTORS. FILM. METAL ..... **Pgs. 1017, 1028, 1031, 1033, 1040, 1043, 1054, 1069**
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Constanta Co. of Canada, Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Filmohm Corp., 48 West 25th St., New York, N.Y.
HI–Q Div., Aerovox Corp., Seneca St., Olean, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1028
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Mepco. Inc., 35–37 Abbett Ave., Morristown, N.J.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Penn Resistor Corp., 526 N. Broad St., Lansdale, Pa.
Pyrofilm Resistor Co., Inc., U. S. 46, Parsippany, N.J. – Pg. 1033
Ruckelshaus, John G. Labs., Inc., Madison, N. J.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., Long Island City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Weston Instruments, Div. Daystrom, 614 Frelinghausen Ave., Newark, N.J. – Pg. 1054
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043

RESISTORS. FILM. PRECISION ..... **Pgs. 1028, 1031, 1033, 1040, 1043, 1069**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Constanta Co. of Canada, Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa.
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Filmohm Corp., 48 West 25th St., New York, N.Y.
HI–Q, Div. Aerovox Corp., Seneca St., Olean, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1028
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pyrofilm Resistor Co., Inc., U.S. 46, Parsippany, N.J. – Pg. 1033
Ruckelshaus, John G. Labs., Inc., Madison, N.J.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tatnall Measuring Systems Co., P.O. Box 245, Phoenixville, Pa.
Tech Ohm Resistor Corp., 36–11 33rd St., Long Island City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J.

RESISTORS. FUSE ..... **Pgs. 1029, 1041, 1078**
Bel Fuse, Inc., 198 Van Vorst St., Jersey City, N. J. – Pg. 1078
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1029
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill. – Pg. 1041
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. GLASS ..... **Pg. 959**
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Filmohm Corp., 48 West 25th St., New York, N.Y.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio – Pg. 959

RESISTORS. HIGH FREQUENCY ..... **Pgs. 1017, 1029, 1033, 1034, 1043**
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N.Y.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Constanta Co. of Canada, Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Filmohm Corp., 48 West 25th St., New York, N.Y.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1029
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Pyrofilm Resistor Co., Inc., U.S. 46, Parsippany, N.J. – Pg. 1033
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, N.Y.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043

RESISTORS. HIGH MEGOHM ..... **Pgs. 764, 959, 1034, 1042, 1043**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N.Y.
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
RHO Engrg .Co., 2242 Sepulveda, Los Angeles 64, Calif.
Sprague Electric Co., 91 Marshall St., No .Adams, Mass.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Victoreen Instr .Co., 5806 Hough Avenue, Cleveland, Ohio – Pg. 959
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
White, S.S., Mfg. Co., 10 East 40th St., New York, N.Y.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N.J. – Pg. 764
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. HIGH TEMPERATURE .. **Pgs. 515, 1018, 1028, 1031, 1033–1035, 1041–1043, 1054**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J. – Pg. 1018
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N. Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Instrument Resistors Co., 1036 Commerce Ave., Union, N. J.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1028
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N. J.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pyrofilm Resistor Co., Inc., U. S. 46, Parsippany, N. J. – Pg. 1033
R. C. L. Mfg. Co., New Jersey Ave., Riverside, N. J.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif. – Pg. 515
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
Sage Electronics Corp., 1 Country Club Rd., E., Rochester, N.Y. – Pg. 1035
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sightmaster Corp., Box 3260 – Olneyville Sta., 50 Aleppo St., Providence, R. I.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tatnall Measuring Systems Co., P. O. Box 245, Phoenixville, Pa.
Technology Instrument Corp., 523 Main St., Acton, Mass.
Tel–Labs, Inc., 1050 Second St., Manchester, N. H.
Tepro Electric Corp., 5 St. Paul St., Rochester, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas Texas
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill. – Pg. 1041
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, New York
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Weston Instruments, Div. Daystrom, 614 Frelinghuysen Ave., Newark, N.J. – Pg. 1054

RESISTORS. HIGH VOLTAGE ..... **Pgs. 959, 1029, 1032, 1034, 1043**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Constanta Co. of Canada Ltd., The, 280 Regina Ave., Montreal, Canada
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1029
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N. J.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision Resistor Co., Inc., 115 U.S. Hway. 22, Hillside, N.J. – Pg. 1032
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
Rho Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio – Pg. 959
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, New York
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

RESISTORS. MINATURE AND SUBMINIATURE ..... **Pgs. 515, 858, 1014, 1018, 1023, 1031–1033, 1041–1043, 1054, 1069**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allies Products Corp., P. O. Box 188, Kendall Branch, Miami, Florida
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N. Y.

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British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Inc.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif. – Pg. 1014
Constanta Co. of Canada Ltd., The, 280 Regina Ave., Montreal, Canada
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J. – Pg. 1018
Dialight Corp., 60 Stewart Ave., Brooklyn, N. Y. – Pg. 858
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y. – Pg. 1023
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Filmohm Corp., 48 West 25th St., New York, N. Y.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N. Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass
Instrument Resistors Co., 1036 Commerce Ave., Union, N. J.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N. J.
Metavac, Inc., 45–68 162nd St., Flushing, N. Y.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Miniature Electronic Components Corp., Holbrook, Mass.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Precision Resistor Co., Inc., 115 U. S. Hway. 22, Hillside, N. J. – Pg. 1032
Pyrofilm Resistor Co., Inc., U. S. 46, Parsippany, N. J. – Pg. 1033
Reon Resistor Corp., 117 Stanley Ave., Yonkers, N. Y.
Resistors, Inc., 5226 W. 26th St., Chicago, Ill.
Rho Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif. – Pg. 515
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Technology Instrument Corp., 523 Main St., Acton, Mass.
Tel–Labs, Inc., 1050 Second St., Manchester, N.H.
Tepro Electric Corp., 5 St. Paul St., Rochester, N.Y.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
Tru–Ohm Products, Div. Model Engrg. & Mfg., Inc., 2800 N. Milwaukee, Chicago, Ill.–Pg. 1041
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, N.Y.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Weston Inst., Div. Daystrom Inc., 614 Frelinghuysen Ave., Newark, N.J. – Pg. 1054
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. NEGATIVE TEMPERATURE COEFFICIENT ..... **Pgs. 1017, 1040, 1043, 1044, 1054**

Allied Products Corp., P.O. Box 188, Kendall Branch, Miami, Florida
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Constanta Co. of Canada, Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
G–C Electronics Mfg., Div. GC–Textron, Inc., 400 S. Wyman St., Rockford, Ill.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Metavac, Inc., 45–68 162nd St., Flushing, N.Y.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Tel–Labs, Inc., 1050 Second St., Manchester, N.H.
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill.
Victory Engrg. Corp., Box 373, Union, N.J. – Pg. 1044
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Weston Inst., Div. Daystrom Inc., 614 Frelinghuysen Ave., Newark, N.J. – Pg. 1054
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. PLUG–IN TUBE – SEE TUBES. BALLAST

RESISTORS. PRECISION ..... **Pgs. 459, 668, 764, 1014, 1016–1018, 1023, 1028, 1031, 1032, 1034, 1035, 1040, 1042, 1043, 1054**

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allies Products Corp., P.O. Box 188, Kendall Branch, Miami, Florida
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N.Y.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N.Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif. – Pg. 1014
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N.Y. – Pg. 1016
Constanta Co. of Canada, Ltd., The, 280 Regina Ave., Montreal, Canada
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J. – Pg. 1018
Dwyer Engineering Co., Inc., P.O. Box 452, Nashua, N.H.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y. – Pg. 1023
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S.W. Macadam Ave., Portland, Oreg. – Pg. 668
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn. – Pg. 459
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N.Y.
General Transistor Corp., 91–27 138 Place, Jamaica, N.Y.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa.
Instrument Resistors Co., 1036 Commerce Ave., Union, N.J.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1028
Julie Research Lab., Inc., 556 West 168th St., New York, N.Y.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif. – Pg. 1031
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Metavac, Inc., 45–68 162nd St., Flushing, N.Y.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Miller Electro–Research Labs., 5529 S. 5th St., Milwaukee, Wisc.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Precision Resistor Co., Inc., 115 U.S. Hway 22, Hillside, N.J. – Pg. 1032
R.C.L. Mfg. Co., New Jersey Ave., Riverside, N.J.
Reon Resistor Corp., 117 Stanley Ave., Yonkers, N.Y.
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Sage Electronics Corp., 1 Country Club Rd., East Rochester, N.Y. – Pg. 1035
Shallcross Mfg. Co., Preston St., Selma, N.C.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Tel–Labs, Inc., 1050 Second St., Manchester, N.H.
Tepro Electric Corp., 5 St. Paul St., Rochester, N.Y.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy, Dallas, Texas
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N.J. – Pg. 1054
Winslow Co., Inc., 707 Lehigh Avenue, Union, N.J. – Pg. 764

RESISTORS. PRESSURE SENSITIVE

Clark Electronic Labs, Box 165, Palm Springs, Calif.

RESISTORS. PRINTED ..... **Pg. 1030**

International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1030

RESISTORS. PRINTED CIRCUIT ..... **Pgs. 1016, 1030, 1032, 1040, 1041–1043, 1069**

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N.Y. – Pg. 1016
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Electra Mfg. Co., 4051 Broadway, Kansas City, Mo.
Etched Products Corp., 39–01 Queens Blvd., Long Island City, N.Y.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1030
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Mel–Rain Corp., 2100 Fletcher Ave., Indianapolis, Ind.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Onondaga Pottery Co., 1858 W. Fayette St., Syracuse, N.Y.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision Resistor Co., Inc., 115 U.S. Hway 22, Hillside, N.J. – Pg. 1032
Reon Resistor Corp., 117 Stanley Ave., Yonkers, N.Y.
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif.
Shallcross Mfg. Co., Preston St., Selma, N.C.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Tel–Labs, Inc., 1050 Second St., Manchester, N.H.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1069
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill.– Pg. 1041
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Valandy Electronics Corp., 15 W. 44 St., New York, N.Y.
Ward Leonard Electric Co., 75 South Street, Mt. Vernon, N.Y.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043

RESISTORS. PRINTED STRIP ..... **Pg. 1040**

Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Elektro–Serv Co., 480 Johnson Ave., Brooklyn, N.J.
Filmohm Corp., 48 West 25th St., New York, N.Y.
Sightmaster Corp., Box 3260, Olneyville Sta., 50 Aleppo St., Providence, R.I.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas

RESISTORS. RECTILINEAR ..... **Pg. 1040**

Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Elektro–Serv Co., 480 Johnson Ave., Brooklyn, N.Y.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N.Y.
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Minco Products, Inc., 740 Washington Ave., No. Minneapolis, Minn.
Precision Line, Inc., 63 Main St., Maynard, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Topp Industries, Inc., 5221 W. 102 Los Angeles, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.

RESISTORS. RHEOSTAT – SEE POTENTIOMETERS RHEOSTAT

RESISTORS. SILICONE ..... **Pgs. 1032, 1035, 1040, 1069**

Dale Products, Inc., 1370 28th Ave., Columbus, Nebr.
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Pacific Semiconductors, Inc., 10451 W. Jefferson Blvd., Culver City, Calif.
Precision Resistor Co., Inc., 115 U.S. Hway 22, Hillside, N.J. – Pg. 1032
Sage Electronics Corp., 1 Country Club Rd., East Rochester, N.Y. – Pg. 1035
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Tel–Labs, Inc., 1050 Second St., Manchester, N.H.
Tepro Electric Corp., 5 St. Paul St., Rochester, N.Y.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy, Dallas, Texas – Pg. 1069
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. STANDARDS – SEE STANDARDS. RESISTANCE

RESISTORS. SUPPRESSOR ..... Pg. 1017
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, Calif.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio

RESISTORS. TAPE–DISC ..... Pg. 1030
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Filmohm Corp., 48 West 25th St., New York, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pg. 1030
Plymouth Rubber Co., Inc., Canton, Mass.
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. TEMPERATURE SENSITIVE ..... Pgs. 1026, 1042, 1044
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N.J.
General Electric, Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
General Resistance, Inc., 577 E. 156th St., New York, N.Y.
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Metavac, Inc., 45–68 162nd St., Flushing, N.Y.
Minco Products, Inc., 740 Washington Ave., No. Minneapolis, Minn.
Precision Resistor Co., Inc., 115 U.S. Hway 22, Hillside, N.J.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Tatnall Measuring Systems Co., P.O. Box 245, Phoenixville, Pa.
Tel–Labs, Inc., 1050 Second St., Manchester, N.H.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas
Thompson Research & Mfg. Co., P.O. Box 116, Davenport, Fla.
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
Victory Engrg. Corp., Box 373, Union, N.J. – Pg. 1044
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. THERMAL ..... Pg. 1026
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
General Electric, Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N.Y.
Keystone Carbon Co., Inc., 1935 State St., St. Marys, Pa.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy, Dallas, Texas

RESISTORS. VARIABLE – SEE POTENTIOMETERS

RESISTORS. VOLTAGE SENSITIVE ..... Pgs. 1026, 1044
American T.V. & Radio Co., 300 E. 4th St., St. Paul, Minn.
Carborundum Co., The, P.O. Box 337, Niagara Falls, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
General Electric, Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
Globar Plant, Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
Victory Engrg. Corp., Box 373, Union, N.J. – Pg. 1044
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. WIRE WOUND. PRECISION ..... Pgs. 515, 668, 764, 776, 1016, 1018, 1023, 1028, 1029, 1032, 1034, 1035, 1040, 1042, 1043
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N.J.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Axel Bros., Inc., Electronics Div., 134–20 Jamaica Ave., Jamaica, N.Y.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Inc., 65 So. Avenue, Box 107, Salomanca, N.Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Britton Electronics Corp., 213–20 99th Ave., Queens Village, N.Y.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Cinema Engineering, Div. Aerovox Corp., 1100 Chestnut St., Burbank, Calif.
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N.Y. – Pg. 1016
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J. – Pg. 1018
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dmeter Mfg. Co., Inc., 22–24 Larkin Plaza, Yonkers, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y. – Pg. 1023
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro–Measurements, Inc., 7524 S.W. Macadam Ave., Portland, Oreg. – Pg. 668
Fugle–Miller Labs., Inc., Central Ave., Clark, N.J.
General Meters, Inc., P.O. Box 1701, Grand Junction, Colo.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N.Y.
General Transistor Corp., 91–27 138 Place, Jamaica, N.Y.
Goode, J.J., Assoc., 65 Eliot St., Ashland, Mass.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pgs. 1028, 1029
Julie Research Lab., Inc., 556 W. 168th St., New York, N.Y.
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Maurey Instrument Corp., 7924 S. Exchange Ave., Chicago, Ill.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Miller Electro–Research Labs., 5529 S. 5th St., Milwaukee, Wisc.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Non–Linear Systems, Inc., Del–Mar Airport, Box 728, Del–Mar, Calif.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision, Inc., 4748 France Ave., No. Minneapolis, Minn.
Precision Resistor Co., Inc., 115 U.S. Hway 22, Hillside, N.J. – Pg. 1032
RHO Engrg. Co., 2242 Sepulveda, Los Angeles 64, Calif. – Pg. 515
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. – Pg. 1034
Rinco Inc., 7962 S.E. Powell Blvd., Portland, Ore.
Sage Electronics Corp., 1 Country Club Rd., East Rochester, N.Y. – Pg. 1035
Shallcross Mfg. Co., Preston St., Selma, N.C.
Shallite, Inc., 128 W. First Ave., Roselle, N.J.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Technology Instrument Corp., 523 Main St., Acton, Mass.
Tel–Labs., Inc., 1050 Second St., Manchester, N.H.
Telex, Telex Park, St. Paul, Minn.
Tepro Electric Corp., 5 St. Paul St., Rochester, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif. – Pg. 1042
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Waters Mfg., Inc., Boston Post Rd., Wayland, Mass.
Welwyn International, Inc., 3355 Edgecliff Terrace, Cleveland, Ohio – Pg. 1043
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N.J. – Pg. 764
Workman T.V., Inc., 309 Queen Anne Rd., Teaneck, N.J.

RESISTORS. WIRE WOUND. R–F. NON–INDUCTIVE ..... Pgs. 776, 1016, 1018, 1023, 1028, 1029, 1032, 1035, 1040, 1041
Ace Coil & Electronics Co., 917 Lincoln Hway, Metuchen, N.J.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Bradford Components, Ind., 65 So. Avenue, Box 107, Salomanca, N.Y.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Canada
Centralab. Div. Globe–Union. 984 E. Keefe Ave., Milwaukee. Wisc.
Chicago Telephone & Supply Corp., 1142 W. Beardsly, Elkhart, Ind.
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N.Y. – Pg. 1016
Dale Products, Inc., 1370 28th Ave., Columbus, Nebr. – Pg. 776
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J. – Pg. 1018
Dmeter Mfg. Co., Inc., 22–24 Larkin Plaza, Yonkers, N.Y.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N.Y. – Pg. 1023
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N.Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N.Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa. – Pgs. 1028, 1029
K–F Development Co., 2606 Spring St., Redwood City, Calif.
Lectrohm, Inc., 5560 Northwest Hwy., Chicago, Ill.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Mepco, Inc., 35–37 Abbett Ave., Morristown, N.J.
Milwaukee Resistor Co., 700 W. Virginia St., Milwaukee, Wisc.
Miniature Electronic Components Corp., Holbrook, Mass.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Precision Resistor Co., Inc., 115 U.S. Hgwy. 22, Hillside, N.J. – Pg. 1032
Resistors, Inc., 5226 W. 26th St., Chicago, Ill.
Sage Electronics Corp., 1 Country Club Rd., E. Rochester, N.Y. – Pg. 1035
Shallcross Mfg., Co., Preston St., Selma, N.C.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040
Tenatronics Ltd., 1011 Power Ave., Cleveland, Ohio
Tepro Electric Corp., 5 St. Paul St., Rochester, N.Y.
Tru–Ohm Products, Div. Model Engrg. & Mfg., 2800 N. Milwaukee, Chicago, Ill. – Pg. 1041
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Volta Mfg. Co., 2154 N. Halsted St., Chicago, Ill.

RESISTORS. WIRE WOVEN ..... Pg. 1040
Ohmweve Co., 43 Darcy St., West Hartford, Conn.
Tech Ohm Resistor Corp., 36–11 33rd St., L.I. City, N.Y. – Pg. 1040

RESOLVERS. COORDINATES ..... Pgs. 1036, 1072
American Electronics Inc., 1023 W. 7th St., Los Angeles, Calif. – Pg. 1072
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Electronic Associates, Inc., Long Branch, N.J.
Induction Motors Corp., 570 Main St., Westbury, N. Y.
Induction Motors of Calif., 6058 Walker Ave., Maywood, Calif.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N.Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Oster, John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Solarton, Inc., Western Division, 10761 Burbank Blvd., No. Hollywood, Calif.
Spectrol Electronics, Dept. E59, 1704 S. Del Mar Ave., San Gabriel, Calif. – Pg. 1036
Wang Laboratories, Inc., 37 Hurley St., Cambridge, Mass.

RESOLVERS. PRODUCT ..... Pgs. 655, 1017, 1072
American Electronics, 1023 W. 7th St., Los Angeles, Calif. – Pg. 1072
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Electronic Associates, Inc., Long Branch, N.J.
Induction Motors of Calif., 6058 Walker Ave., Maywood, Calif.
Kearfott Company, Inc., Little Falls, N. J.
Ketay Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N.Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Oster, John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Reeves Instrument Corp., East Gate Blvd., Garden City, N.Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Spectrol Electronic, Dept. E59, 1704 S. Del Mar Ave., San Gabriel, Calif.

RESOLVERS. SINE–COSINE ..... Pgs. 655, 844, 1036, 1072
American Electronics, Inc., 1023 W. 7th St., Los Angeles, Calif. – Pg. 1072
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Clifton Precision Prods. Co., Inc., Clifton Heights, Pa. – Pg. 844
Computer Instruments Corp., 90 Madison Ave., Hempstead, L.I., N.Y.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Diehl Mfg. Co., 1221 Finderne Ave., Somerville, N. J.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Okla.
Eclipse–Pioneer Div., Bendix Aviation Corp., Teterboro, N.J.
Electronic Associates, Inc., Long Branch, N.J.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L.I.C., N.Y.
GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill.
Induction Motors Corp., 570 Main St., Westbury, N. Y.
Induction Motors of Calif., 6058 Walker Ave., Maywood, Calif.
Kearfott Company, Inc., Little Falls, N.J.
Ketay, Dept. Norden Div., United Aircraft Corp., Jericho Tpke., Commack, N.Y.
Kollsman Motor Corp., 122 E. 42nd St., New York, N.Y.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave., Box 550, Burbank, Calif.
Luther Mfg. Co., 7312 Varna Ave., No. Hollywood, Calif.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N.Y.

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Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Oster, John Mfg. Co., Avionic Div., 1 Main St., Racine, Wisc.
Reeves Instrument Corp., East Gate Blvd., Garden City, N. Y.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Spectrol Electronics, Dept. E59, 1704 S. Del Mar Ave., San Gabriel, Calif. – Pg. 1036

RESTORERS. PULSE FORM

REVERBERATION UNITS ..... **Pg. 459**
Audio Instrument Co., Inc., 135 W. 14th St., New York 11, N.Y.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn. – Pg. 459
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.

RHEOSTATS – SEE POTENTIOMETERS. RHEOSTAT

RHEOSTATS. ELECTRONIC
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.
Cold Cathode Corp., 48–14, 48–18 33rd St., Long Island City, N.Y.
Electro–Measurements, Inc., 7524 S. W. Macdam Ave., Portland, Oreg.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.

RHODIUM – SEE METALS

RINGS. CARBON PACKING
Cartriseal Corporation, 3515 W. Touhy Ave., Lincolnwood, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Johns–Manville, 22 E. 40th St., New York, N.Y.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York, N. Y.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
St. Marys Carbon Co., State Rd., St. Marys, Pa.

RINGS. OIL SEALING
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Cartriseal Corporation, 3515 W. Touhy Ave., Lincolnwood, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Garlock Packing Co., The, Palmyra, N. Y.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Johns–Manville, 22 E. 40th St., New York, N.Y.
Koppers Co., Inc., Koppers Bldg., Pittsburgh, Pa.
McQuay–Norris Mfg. Co., 2320 Marconi St., St. Louis, Mo.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Minor Rubber Co., Inc., 49 Ackerman St., Bloomfield, N.J.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Skycraft Tool Engrg. Co., 2610 Willo Lane, Costa Mesa, Calif.
Sparta Mfg. Co., Dover, Ohio
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L.I., N.Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vibra Seal Corp., 2832 E. Grand Blvd., Detroit, Mich.

RINGS. RETAINING ..... **Pgs. 607, 819**
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Fastex, Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Garlock Packing Co., The, Palmyra, N.Y.
H. K. Metalcraft Mfg. Co., 3785 10th Ave., New York, N. Y.
Industrial Retaining Ring Co., 57 Cordier St., Irvington, N.J.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Koppers Co., Inc., Koppers Bldg., Pittsburgh, Pa.
Minor Rubber Co., Inc., 49 Ackerman St., Bloomfield, N. J.
Parker Seal Co., Div. Parker Hannafin, 10567 Jefferson Blvd., Culver City, Calif.–Pg.819
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y. – Pg. 607
Reliance Div., Eaton Mfg. Co., 25 Charles Ave., S. E., Massillon, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Skycraft Tool Engrg. Co., 2610 Willo Lane, Costa Mesa, Calif.
Templeman, D. R., Co., 8 Park St., Plainville, Conn.
Titchener, E. H. & Co., 67 Clinton St., Binghamton, N.Y.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L.I., N.Y.
Waldes Kohinoor, Inc., 47–16 Austel Place, L. I. C., N. Y.

RINGS. SLIP–BRUSH ASSEMBLIES ..... **Pgs. 600, 847, 1119**
A–1 Precision Prod. Co., 5454 W. Washington Blvd., Los Angeles, Calif. – Pg. 600
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Becks, Inc., 298–300 E. 5th St., St. Paul, Minn.
Collectron Corp., 304 E. 45th St., New York, N. Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Electro Contacts, Inc., Main St., Osterville, Mass.
Electro Development Co., 14701 Keswick St., Van Nuys, Calif.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N.J.
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N.J.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Fischers Research & Development, 10043 Canoga Ave., Chatsworth, Calif.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N.Y.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Gibson Electric Co., Box 555, Delmont, Pa.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N.Y.
Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. Ninth Ave., Portland, Oreg.
Metaplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Midwest Molding & Mfg. Co., Gurnee, Ill.
Poly-Scientific Corp., P. O. Box 723, Blacksburg, Va.
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Scientific-Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif. – Pg. 1119
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Slip Ring Corp. of America, 5456 W. Washington Blvd., Los Angeles, Calif. – Pg. 847
Unison Products, Inc., Rt. 46 & Sixth St., Saddle Brook, N. J.

RIVETS ..... **Pg. 633**
A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N. Y.
Autoscrew Co., 216-222 W. 18th St., New York, N. Y.
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Chicago Rivet & Mach. Co., Bellwood, Ill.
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 633
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Fastex Div., Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Goodrich, B. F., Co., Aviation Products Div., Akron, Ohio
Hassall, John, Inc., Box 2242 W., Westbury, N. Y.
Hercules Fastener Co., 2722 N. Clybourn Ave., Chicago, Ill.
Huck Mfg. Co., 2480 Bellevue Ave., Detroit, Mich.
Lion Fastener, Inc., % Southco, Lester, Pa.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Milford Rivet & Machine Co., The, Milford, Conn.
National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio
Parker Seal, Div. Parker-Hannifin, 10567 Jefferson Blvd., Culver City, Calif.
Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.
Russell, Burdsell & Ward, Bolt & Nut Co., Port Chester, N. Y.
Southco Div., South Chester Corp., 233 Industrial Hwy., Lester, Pa.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Stimpson Co., Inc., 74 Franklin Ave., Brooklyn, N. Y.
Townsend Co., Box 237, New Brighton, Pa.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
Tubular Rivet & Stud Co., Weston Ave., Wollaston, Mass.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.

RODS. GROUND
Baumker Mfg. Co., Comm. Prod. Div., 3826-28 Summit St., Toledo, Ohio
Crown Metal Products Co., Wyano, Pa.
United Engineering Co., 16 Broadway, Toledo, Ohio
Utilities Service Co., 1 Pine St., Allentown, Pa.

RODS & TUBES. METAL
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Carpenter Steel Co., The, Alloy Tube Div., Springfield Road, Union, New Jersey
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Titan Metal Mfg. Co., Bellefonte, Pa.

ROTATORS
Alliance Mfg. Co., The, Alliance, Ohio
Antlab, Incorporated, 6330 Proprietors Road, Worthington, Ohio
Channel Master Corp., Ellenville, N. Y.
Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., South Plainfield, N. J.
Crown Controls Co., Inc., 40-44 S. Washington St., New Bremen, Ohio
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kearfott Company, Inc., Little Falls, N. J.
Lyndon Aircraft, Inc., 140 Clifford St., Newark, N. Y.
Moran Products Co., 2925 E. 55th St., Cleveland, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radiart Corp., The, 2900 Columbia Ave., Indianapolis, Ind.
Robinette W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Scientific-Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Telrex, Inc., 26 Neptune Hway., Asbury Park, N. J.
Wind Turbine Co., East Market St., W. Chester, Pa.

ROTORS. MOTOR AND GENERATOR
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Dalmotor Div., Yuba Consolidated Ind., Inc., 1375 Clay St., Santa Clara, Calif.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James International, 855 6th Ave., New York City, N. Y.
Laminations Co., 300 Main St., Stamford, Conn.
Magnetic Metals Co., Hayes Ave. 21st St., Camden, N. J.
Wincharger Corp., E. 7th & Division Streets, Box 1168, Sioux City, Iowa

RUBBER. CONDUCTIVE
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Connecticut Hard Rubber Co., 407 East St., New Haven, Conn.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.
Republic Rubber, Div. Lee Rubber & Tire Corp., 1410 Albert St., Youngstown, Ohio
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
TA Mfg. Co., Instrument Cases Div., 4607 Alger, Los Angeles, Calif.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.

RUBBER. HARD
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Garlock Packing Co., The, Palmyra, N. Y.
Luzerne Rubber Co., Muirhead Ave., P. O. Box 2191, Trenton, N. J.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Newth Rubber Co., Barrington, R. I.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.

RUBBER. NATURAL
Adhesive Products Corp., 1660 Boone Ave., New York, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Garlock Packing Co., The, Palmyra, N. Y.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
National Gasket & Washer Co., 124 E. 25 St., New York, N. Y.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Newth Rubber Co., Barrington, R. I.
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.
Republic Rubber, Div. Lee Rubber & Tire Corp., 1410 Albert St., Youngstown, Ohio
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.

RUBBER. SILICONE – SEE SILICONE RUBBER

RUBBER. SYNTHETIC
Adhesive Products Corp., 1660 Boone Ave., New York, N. Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.

RUBBER, SYNTHETIC (continued)
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Chicago-Allis Mfg. Co., 113 N. Green St., Chicago, Ill.
Connecticut Hard Rubber Co., 407 East St., New Haven, Conn.
Dow Corning Corp., Midland, Mich.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
Goodrich, B. F. Chemical Co., 3135 Euclid Ave., Cleveland, Ohio
Johns-Manville, 22 E. 40th St., New York, N. Y.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
National Gasket & Washer Co., 124 E. 25 St., New York, N. Y.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Newth Rubber Co., Barrington, R. I.
Products Research Co., 3126 Los Feliz Blvd., Los Angeles, Calif.
Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J.
Republic Rubber, Div. Lee Rubber & Tire Corp., 1410 Albert St., Youngstown, Ohio
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N. Y.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
U. S. Rubber Co., 1230 Ave. of the Americas, New York, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.

SAWS
Erikson Specialized Tool Co., Box 424, Pico, Calif.
Forsberg Mfg. Co., 125 Seaview Ave., Bridgeport, Conn.
Handicraft Tools, Inc., Div. of X-Acto, 48-41 Van Dam St., L. I. City, N. Y.
Homelite Div., Textron, Inc., 70 Riverdale Ave., Port Chester, N. Y.
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Santa Fe Springs, Calif.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
McGraw-Edison Co., Power Tool Div., 110 Main St., Burlington, Vt.
Millers Falls Co., Greenfield, Mass.
Radial Cutter Corp., 831 Bond St., Elizabeth, N. J.
Stueck, Inc., Box 355E, Old Saybrook, Conn.
Weller Electric Corp., 601 Stone S. Crossing Rd., Easton, Pa.
Wen Products, Inc., 5806 Northwest Hwy., Chicago, Ill.

SCALERS, BINARY, DECADE ..... Pgs. 516, 546
Adage, Inc., 292 Main St., Cambridge, Mass.
Electro Precision Corp., Arkadelphia, Ark. – Pg. 546
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Walkirt, 141 W. Hazel St., Inglewood, Calif. – Pg. 516

SCALES, DIAL ..... Pgs. 644, 744
Automation Management, Inc., Adams St., Westboro, Mass.
Cardy-Lundmark Co., 1801 W. Byron St., Chicago, Ill.
Chatillon, John & Sons, 85 Cliff St., New York, N. Y.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Conn-Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Etched Products Corp., 39-01 Queens Blvd., Long Island City, N. Y.
GM Adhesive Metal Nameplate, 3131 Western Ave., Seattle, Wash.
General Communication Co., 677 Beacon St., Boston, Mass.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N. Y.
Instrument Masters, Inc., Hamburg Tpke., Riverdale, N. J.
Kilo Engineering, 2121 Third St., Laverne, Calif.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechaneers, Inc., Westport, Conn.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Nameplates, Inc., 421 East 101st St., Brooklyn, N. Y.
New England Etching & Plating Co., 25 Spring St., Holyoke, Mass.
Precise Measurements Co., Millbrook Place, RD1, Flemington, N. J.
Richardson Scale Co., Van Houten Ave., Clifton, N. J.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N. Y. – Pg. 744
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Streeter-Amet Co., Grayslake, Ill.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Toledo Scale Co., 1027 Telegraph Rd., Toledo, Ohio
U. S. Radium Corp., Morristown, New Jersey
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.

SCANNERS ..... Pgs. 655, 666, 1084–1086, 1106, 1165
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Appalachian Electronic Instruments, 810 West Monroe Ave., Ronceverte, W. Va.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Cunningham, James Son & Co., 33 Litchfield St., Rochester, N. Y. – Pgs. 1084, 1085, 1086
Datex Corp., 1307 So. Myrtle Ave., Monrovia, Calif.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif. – Pg. 666
Ferrotec, Inc., 217 California St., Newton, Mass.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hogan Laboratories, Inc., 155 Perry St., New York, N. Y.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photobell Co., Inc., 43 Vesey St., New York, N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N. Y. – Pg. 1106
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Sylvania Electric Products, Inc., 1740 Broadway, New York, N. Y. – Pg. 1165
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

SCRAMBLERS, SPEECH
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Loyola Labs., Box 45074, Airport Sta., Los Angeles, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

SCREEN ROOMS ..... Pg. 472
Ace Engineering & Machine Co., Inc., Tomlinson Rd., Huntingdon Valley, Pa.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N. Y.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Kane Mfg. Co., Kane, Pa.
Lindgren, Erik A. & Assoc., 4515-17 N. Ravenswood Ave., Chicago, Ill. – Pg. 472
McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Shielding, Inc., Box 59, 30 Reade St., Riverton, N. J.

SCREENS, PROJECTORS, TV REAR
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Bodde Screen & Projector Cos., 11541 Bradley Ave., San Fernando, Calif.
Polacoat, Inc., 9750 Conklin Rd., Blue Ash, Ohio
Raven Screen Corp., 124 E. 124 St., New York, N. Y.

SCREW DRIVERS ..... Pgs. 1110, 1111
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Erikson Specialized Tool Co., Box 424, Pico, Calif. – Pg. 1111
Forsberg Mfg. Co., 125 Seaview Ave., Bridgeport, Conn.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 1110
General Hardware Co., 80 White St., New York, N. Y.
Handicraft Tools, Inc., Div. of X-Acto, 48-41 Van Dam St., L. I. City, N. Y.
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Santa Fe Springs, Calif.
Kedman Co., 233 S. 5th W., Salt Lake City, Utah
Kelsey-Hayes Co., 3600 Military, Detroit, Mich.
Millers Falls Co., Greenfield, Mass.
Moody Machine Products Co., P. O. Box 2248, Providence, R. I.
Neuses, P. K., Inc., W. Euclid & Snyer Sts., Arlington Hts., Ill.
Owatonna Tool Co., The, Owatonna, Minn.
Proto Tool Co., 2209 Santa Fe Ave., Los Angeles, Calif.
Richmont, Inc., 922 S. Myrtle Ave., P. O. Box 179, Monrovia, Calif.
Rosenberg Bros., 100 Landing Ave., Smithtown, N. Y.
Shakeproof Div., Illinois Tool Works, St. Charles Rd., Elgin, Ill.
Snap-On Tools Corp., Kenosha, Wisc.
Stanley Tools, New Britain, Conn.
Utica Drop Forge & Tool, Div. Kelsey-Hayes, 2515 Whitesboro Street, Utica, N. Y.
Xcelite, Inc., 19-42 Bank St., Orchard Park, N. Y.

SCREW FEEDS
Beaver Precision Prod., Inc., 651 N. Rochester Rd., Clawson, Mich.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.

SCREW MACHINE PRODUCTS ..... Pgs. 633, 636, 641
Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Acme Industrial Co., 200-222 N. Laffin St., Chicago, Ill.
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Anchor Expansion Bolt Co., 88 W. Broadway, New York, N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N.Y.
Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N. Y.
Autoscrew Co., 216-222 W. 18th St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Circon Component Corp., Municipal Airport, Goleta, Calif. – Pg. 633
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dalmore Corp., Div. of Atlas E-E Corp., 47 Prospect St., Woburn, Mass.
Diehl Co., 1728 Grand Central Terminal, New York, N. Y.
Eastern Mike Stand Co., 66 Christopher Ave., Brooklyn 12, N. Y.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Emmco Plastics Fabricators, 68 Vine St., Everett, Mass.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn 7, N. Y. – Pg. 636
Fischers Research & Development, 10043 Canoga Ave., Chatsworth, Calif.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
General Components, Inc., 225 E. 144th St., New York, N. Y.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Goe Engineering Co., 219 S. Mednik Ave., P.O. Box 22004, Los Angeles, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass.
Mattatuck Mfg. Co., 1981 E. Main St., Waterbury, Conn.
Moody Machine Products Co., P. O. Box 2248, Providence, R. I.
Moran Co., 115 Main St., El Segundo, Calif.
Morris, J. I. Co., 372 Elm St., Southbridge, Mass. – Pg. 641
National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Precise Mfg. Co., 923 S. Keeler Ave., Chicago, Ill.
Red Devil Mfg. Co., 1402 N. Ogden Ave., Chicago, Ill.
Research Dev. Mfg., Inc., 429 E. Collom St., Philadelphia, Pa.
Robinson Machine Works, 802 E. 8 St., New Albany, Ind.
Rosan, Inc., 2901 West Coast Hway., Newport Beach, Calif.
Sinclair Mfg. Co., Chartley, Mass.
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Standard Insert Co., 12270 Montague St., Pacoima, Calif.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa.
Steel, Herman D. Co., Lafayette Bldg., Philadelphia, Pa.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Waltham Screw Co., 77 Rumford Avenue, Waltham, Mass.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

SCREWS, ALSO SEE FASTENERS ..... Pgs. 519, 632–635, 641, 644
A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Aerotron Supply Co., 8504 S. Normandie Ave., Los Angeles, Calif.
Allen Mfg. Co., The, Drawer 570, Hartford, Connecticut
Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y.
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.
Alvo Nut & Bolt Co., Inc., 1601 Grande Vista Ave., Los Angeles, Calif.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Screw Co., Willimantic, Conn.
Anti-Corrosive Metal Products Co., Inc., River Rd., Castleton-On-Hudson, N. Y.
Atlas Screw & Specialty Co., Inc., 450 Broome St., New York 13, N. Y.

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Autoscrew Co., 216-222 W. 18th St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Buchanan Electrical Prod. Corp., 260 U. S. 22, Hillside, N. J. – Pg. 632
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Central Screw Co., 3501 Shields Ave., Chicago, Ill.
Circon Component Corp., Municipal Airport, Goleta, California – Pg. 633
Elso Tool & Screw Corp., Rockford, Ill.
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Components, Inc., 225 E. 144 St., New York, N. Y. – Pgs. 634, 635
Gries Reproducer Corp., 162 Beechwood Ave., New Rochelle, N. Y.
Hassall, John, Inc., Box 2242 W., Westbury, N. Y.
Hercules Fastener Co., 2722 N. Clybourn Ave., Chicago, Ill.
Lamson & Sessions Co., The, 5000 Tiedeman Road, Cleveland, Ohio
Moran Co., 115 Main St., El Segundo, Calif.
Morris, J. I. Co., 372 Elm St., Southbridge, Mass. – Pg. 641
National Lead Co., 111 Broadway, New York, N. Y.
National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nylogrip Prods., 449 Watertown St., Newton 58, Mass.
Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.
Precise Mfg. Co., 923 S. Keeler Ave., Chicago, Ill.
Reliance Div., Eaton Mfg. Co., 25 Charles Ave., S. E., Massillon, Ohio
Rosan, Inc., 2901 West Coast Hway., Newport Beach, Calif.
Russell, Burdsell & Ward, Bolt & Nut Co., Port Chester, N. Y.
SPS Western, 2701 So. Harbor Blvd., Santa Ana, Calif.
Shakeproof Div., Illinois Tool Works, St. Charles Rd., Elgin, Ill.
Sinclair Mfg. Co., Chartley, Mass.
Standard Pressed Steel Co., Box 1084, Jenkintown, Pa.
Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.
Stanley-Judd Div., Stanley Works, Wallingford, Conn.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Sterling Bolt Co., 363-405 W. Erie St., Chicago, Ill.
Thompson Bremer & Co., 228 N. La Salle, Chicago, Ill.
Torrington Co., Specialties Div., 59 Field St., Torrington, Conn.
Townsend Co., Box 237, New Brighton, Pa.
United-Carr Fastener Corp., 31 Ames St., Cambridge, Mass.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Waltham Screw Co., 77 Rumford Avenue, Waltham, Mass.
Weckesser Co., 5701 Northwest Hway., Chicago, Ill.

SEALING SERVICE. HERMETIC – SEE SERVICES. HERMETIC SEALING

SEALS. CARBON

Cartriseal Corporation, 3515 W. Touhy Ave., Lincolnwood, Ill.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Helwig Co., 2544 N. 30th St., Milwaukee, Wisc.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Stackpole Carbon Co., St. Marys, Penn.

SEALS. CERAMIC TO METAL ..... Pg. 779

Advanced Vacuum Prod. Div., General Ceramics, 430 Fairfield St., Stamford, Conn.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N.Y.
Carriseal Corporation, 3515 W. Tougy Ave., Lincolnwood, Ill.
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N.J.
Centralab Div., Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N.Y.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Constantin, L. O. & Co., Route 46, Lodi, N.J.
Diamonite Products Mfg., Co., Shreve, Ohio
Du-Co Ceramics Co., Box 587, Butler, Pa.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Frenchtown Porcelain Co., Frenchtown, N.J.
Garlock Packing Co., The, Palmyra, N. Y.
General Ceramics Corp., Keasbey, N.J. - Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N.J.
Mansol Ceramics, 140 Little St., Belleville, N.J.
Metaplast Co., Inc., 34-51 56th St., Woodside, N.Y.
Minneapolis–Honeywell, Ceramic Lab., 500 Washington Ave. S., Hopkins, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N.J.
Smith, E. C. Mfg., Co., Conshohocken, Pa.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
Vacuum Ceramics, Inc., Cary, Illinois
Vitroseal Corp., Vine & Race Sts, Ridgway, Pa.

SEALS. HERMETIC ..... Pg. 779

A. P. M. Co., Automatic & Precision Mfg., Co., 252 Hawthorne Ave., Yonkers, N. Y.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Advanced Vacuum Prod. Div., General Ceramics, 430 Fairfield St., Stamford, Conn.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, Ohio
Carborundum Co., The, P. O. Box 337, Niagara Falls, N.Y.
Centralab Div., Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Constantin, L. L. & Co., Route 46, Lodi, N.J.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Frenchtown Porcelain Co., Frenchtown, N.J.
Fusite Corp., 6000 Fernview Ave., Cincinnati, Ohio
Garde Mfg., Co., 588 Eddy St., Providence, R. I.
General Ceramics Corp., Keasbey, N.J. - Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Glass-Tite Industries, Inc., 88 Spectacle St., Cranston, R. I.
Heldor Mfg., Corp., 238 Lewis St., Paterson, N.J.
Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind.
Hermetic Pacific Corp., 4232 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N.J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N. J.
Johns-Manville, 22 E. 40th St., New York, N.Y.
Lundey Associates, Inc., 694 Main St., Waltham, Mass.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
Palmer Assoc., 55 Hall St., Brockton, Mass.
Philips Electronics, Inc., Electrical Industries Div., Murray Hill, N.J.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N.J.
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Sperti-Faraday, Cooper Hewitt Electric Co., Div., 720 Grand St., Hoboken, N.J.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Strat-O-Seal Mfg., Co., 3039 W. Fullerton Ave., Chicago, Ill.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
Vacuum Ceramics, Inc., Cary, Illinois
Vitroseal Corp., Vine & Race Sts., Ridgway, Pa.
Zell Products Corp., 276–280 Main St., Box 590, Norwalk, Conn.

SEALS. INSULATING ..... Pg. 779

Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Bacon Industries, Inc., 192 Pleasant St. Watertown, Mass.
Barwood, L. J. Mfg., Co., Inc., 22 Williams St., Everett, Mass.
Bonny Mfg., Co., 339 Auburn St., Auburndale, Mass.
Chemical & Power Products, Inc., 11 Broadway, New York, N.Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N.J.
Dixon Corp., Burnside St., Bristol, R. I.
Fusite Corp., 6000 Fernview Ave., Cincinnati, Ohio
General Ceramics Corp., Keasbey, N.J. - Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N.J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Isolantite Mfg., Co., 275 Warren Ave., Stirling, N.J.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Johns-Manville, 22 E. 40th St., New York, N. Y.
Lundey Associates, Inc., 694 Main St., Waltham, Mass.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N.J.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Sparta Mfg., Co., Dover, Ohio
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N.J.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L.I., N.Y.
Vitroseal Corp., Vine & Race Sts., Ridgway, Pa.
Zophar Mills, Inc., 115 26th St., Brooklyn, N.Y.

SEALS. METAL TO GLASS

Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Advanced Products, Co., 59 Broadway, No. Haven, Conn.
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Associated Engrg. & Mfg., Corp., Glen Ridge, N.J.
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, Ohio
Braun-Knecht-Heimann Co., Glass Engrg. Dept., 601 O'Neil Ave., Belmont, Calif.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N.Y.
Central Electronic Mfgrs., Inc., 2 Richwood Pl., Denville, N.J.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N.Y.
Constantin, L. L. & Co., Route 46, Lodi, N.J.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Fusite Corp., 6000 Fernview Ave., Cincinnati, Ohio
Glass-Tite Industries, Inc., 88 Spectacle St., Cranston, R. I.
Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind.
Hermetic Pacific Corp., 4232 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N.J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N.Y.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
Kontes Glass Co., Vineland, N. J.
Metaplast Co., Inc., 34-51 56th St., Woodside, N.Y.
Networks Electronics Corp., 14806 Oxnard St., Van Nuys, Calif.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Palmer Assoc., 55 Hall St., Brockton, Mass.
Philadelphia Scientific Glass Co., Route 1, Box 46C, Quakertown, Pa.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N.J.
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Vacuum Ceramics, Inc., Cary, Illinois
Vitroseal Corp., Vine & Race Sts., Ridgway, Pa.
Zell Products Corp., 276-280 Main St., Box 590, Norwalk, Conn.

SEALS. MICROWAVE ..... Pgs. 478, 479, 798, 803, 818

Airtron, Inc., Div., Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N.J.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. - Pg. 798
Elsin Electronic Corp., Eileen Way, Syossett, N.Y. - Pg. 803
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N.Y.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Wellesley, Mass. - Pg. 818
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N.Y.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N.J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N.J. - Pg. 478, 479
Technicraft Labs., Inc., Thomaston-Waterbury Road, Thomaston, Conn.
Telerad Mfg., Corp., 1440 Broadway, New York, N.Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio

SEALS. OIL ..... Pg. 819

A. P. M. Co., Automatic & Precision Mfg., Co., 252 Hawthorne, Ave., Yonkers, N.Y.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Allied Plastics Supply Corp., 75 Cliff St., New Yorkk N.Y.
American Felt Co., Glenville, Conn.
Barwood, L. J. Mfg., Co., Inc., 22 Williams St., Everett, Mass.
Beemer Engineering Co., 401 N. Broad St., Philadelphia, Pa.
Cartriseal Corporation, 3515 W. Touhy Ave., Lincolnwood, Ill.
Chicago-Allis Mfg., Co., 113 N. Green St., Chicago, Ill.
Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio

SEALS. OIL (continued)
Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich.
Felters Co., The, 210 South St., Boston, Mass.
Garlock Packing Co., The, Palmyra, N. Y.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, NY.
Johns-Manville, 22 E. 40th St., New York, N.Y.
McQuay-Norris Mfg., Co., 2320 Marconi St., St. Louis, Mo.
Parker Seal Div., Parker-Hannifin, 10567 Jefferson Blvd., Culver City, Calif. - Pg. 819
Porter, Wm. Co., 1007 Santa Fe Ave., Los Angeles, Calif.
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Sealol Corp., Warwick Industrial Pk., Providence, R. I.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Sparta Mfg., Co., Dover, Ohio
Tri-Point Plastics, Inc., 175-177, I. U. Willets Rd., Albertson, L.I., N.Y.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vibra Seal Corp., 2832 E. Grand Blvd., Detroit, Mich.

SEALS. R–F ..... **Pgs. 474, 478, 479, 818, 819**
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Airtron, Inc., Div., Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Budd-Stanley Co., Inc., 43-01 22nd St., Long Island City, N.Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middletown, Conn.
Metal Textile Corp., 647 E. First Ave., Roselle, N.J. - Pg. 474
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Development Labs., Inc., 92 Broad St., Babson Park 57, Wellesley, Mass. - Pg. 818
Parker Seal Div., Parker-Hannifin, 10567 Jefferson Blvd., Culver City, Calif. - Pg. 819
Schuyler Mfg., Corp., 84 Porete Ave., North Arlington, N.J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J. – Pgs. 478, 479
Tri-Point Plastics, Inc., 175-177, I. U. Willets Rd., Albertson, L. I., N.Y.
Walworth Co., Electronics Div., 89 Union St., Mineola, L. I., N.Y.

SEALS. RUBBER ..... **Pg. 819**
A. P. M. Co., Automatic & Precision Mfg., Co., 252 Hawthorne Ave., Yonkers, N.Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Barwood, L. J. Mfg., Co., Inc., 22 Williams St., Everett, Mass.
Beemer Engineering Co., 401 N. Broad St., Philadelphia, Pa.
Biddle, James G., Co., 1316 Arch St., Philadelphia, Pa.
Garlock Packing Co., The, Palmyra, N.Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Gaskets, Inc., Middletown, Conn.
Johns-Manville, 22 E. 40th St., New York, N.Y.
Linear, Inc., State Rd. and Levick St., Philadelphia, Pa.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Moxness Prod., Inc., 1914 Indiana Ave., Racine, Wisc.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Parker Seal, Div., Parker-Hannifin, 10567 Jefferson Blvd., Culver City, Calif. - Pg. 819
Porter, Wm., Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Rubbercraft Corp. of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Sonneborn, L. Sons, Inc., Bldg. Products Div., 404 4th Avenue, New York, N.Y.
Vibra Seal Corp., 2832 E. Grand Blvd., Detroit, Mich.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

SEALS. SHAFT ..... **Pg. 819**
A. P. M. Co., Automatic & Precision Mfg., Co., 252 Hawthorne Ave., Yonkers, N.Y.
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Beemer Engineering Co., 401 N. Broad St., Philadelphia, Pa.
Cartriseal Corporation, 3515 W. Touhy Ave., Lincolnwood, Ill.
Chemical & Power Products, Inc., 11 Broadway, New York, N.Y.
Chicago-Allis Mfg., Co., 113 N. Green St., Chicago, Ill.
Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio
Crane Packing Co., 6400 Oakton St., Morton Grove, Ill.
Felters Co., The, 210 South St., Boston, Mass.
Fulton Sylphon Div., Robertshaw–Fulton Controls Co., Knoxville, Tenn.
Garlock Packing Co., The, Palmyra, N.Y.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N.Y.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N.Y.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis 16, Minn.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Parker Seal Div., Parker-Hannifin, 10567 Jefferson Blvd., Culver City, Calif. - Pg. 819
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N.J.
St. Marys Carbon Co., State Rd., St. Marys, Pa.
Sealol Corp., Warwick Industrial Pk., Providence, R. I.
Sparta Mfg., Co., Dover, Ohio
Syntron Co., 264 Lexington, Homer City, Pa.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.

SEALS. SWITCH
A. P. M. Co., Automatic & Precision Mfg., Co., 252 Hawthorne Ave., Yonkers, N.Y.
Felters Co., The, 210 South St., Boston, Mass.
Neosil Products Co., 10 E. 39th St., New York, N.Y.
Philadelphia Scientific Glass Co., Route 1, Box 46C, Quakertown, Pa.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N.J.
Sparta Mfg., Co., Dover, Ohio
Zell Products Corp., 276-280 Main St., Box 590, Norwalk, Conn.

SEARCH UNIT. MAGNETIC TAPE – SEE TAPE SEARCH EQUIPMENT

SEISMOGRAPHS
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Texas
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Texas Instruments, Inds., Instrtation. Div., 3609 Buffalo Spdwy., Houston, Texas

SELECTORS. ELECTRONIC
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. & Bin N., Pasadena, Calif.
Mobil Electronics Mfg., Co., 1111 State Rd., Anderson, Ind.
Scantlin Electronics, Inc., 2215 Colby Ave., Los Angeles, Calif.
Sheffield Corp., The, Box 893, Dayton, Ohio
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.

SELENIUM – SEE METALS

SELSYNS – SEE MOTORS. SELSYNS

SEMICONDUCTOR PARTS
Alpha Metals, Inc., 56 Waters St., Jersey City, N.J.
Buckbee Mears Co., 4th & Rosabel Sts., St. Paul, Minn.
Cominco Metal Sales Div., 215 St. James St., W., Montreal, Canada
Glass-Tite Industries, Inc., 88 Spectacle St., Cranston, R. I.
King Laboratories, Inc., 127 Solar St., Syracuse, N.Y.
Sheffco Mfg., Corp., Div., Townsend, 323 Bergen Blvd., Fairview, N.J.
Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa.

SEMICONDUCTORS. DIODES – SEE DIODES & RECTIFIERS

SEMICONDUCTORS. TRANSISTORS – SEE TRANSISTORS

SENSORS – SEE SWITCHES. SENSORS

SENSORY EQUIPMENT – SEE CAMERAS. TV SYSTEMS. INFRARED EQUIP., ETC.

SERVICES. AERIAL SURVEYS ..... **Pg. 1153**
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Eitel–McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pg. 1153
Hastings Raydist, Inc., Research Div., Pine Ave., Hampton, Va.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Phila., Pa.

SERVICES. ASSEMBLY. SUB–ASSEMBLY... Pgs. 458, 466, 598, 599, 648, 814, 836, 837, 937, 939, 1074, 1179–1183, 1185–1187, 1189, 1191–1196, 1198, 1199, 1200–1206, 1212
Airtronix Development Corp., 4902 Church St., Brooklyn, N.Y.
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Calif.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pgs. 1179 – 1183
American Machine & Foundry Co., 11 Bruce Pl., Greenwich, Conn.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Applied Technology Corp., 475 Fifth Ave., New York, N.Y.
Arnold Engineering Co., P. O. Box G., Marengo, Ill. - Pgs. 598, 599
Associated Engrg., Corp., 65 Brookline St., Brookline, Mass. - Pg. 648
Aviation Electronic Service, No. 12 St., Whelling, Ill.
Audiosears Corp., Shepherd Hill Rd., Roxbury, N. Y. – Pg. 458
B & B Electronics, Corp., 17360 Gramercy Pl., Gardena, Calif. – Pg. 1185
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y. - Pgs. 1186, 1187
Bulova Watch Co., Electronics Div., 40-06 62nd St., Woodside, N.Y.
Bureau of Engraving, Inc., Ind. Div., 500 S. 4th St., Minneapolis, Minn.
CBC Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Penn. - Pg. 1191
CGS Laboratories, Inc., Routes 7 and 35, Ridgefield, Conn.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Christian Precision Mfg., Co., Inc., 801 Florence St., Camden, N.J.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. - Pg. 1189
Davidson Electrn. Development, 1221 Peach St., Erie, Pa.
Electrical Tower Service, 325 S. Washington St., Peoria, Ill.
Electro Contacts, Inc., Main St., Osterville, Mass.
Electronics, Inc., of Pa., 39 York Rd., Willow Grove, Pa.
Equip-A-Matic Engrg., Corp., 6045 W. Ogden Ave., Chicago, Ill.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
Inso Electronics Prods., Inc., Wire & Cable Div., 1200 Commerce Ave., Union, N.J. – Pg. 1193
Jansen Electronics Mfg., 2285 University Ave., St. Paul, Minn.
Juall Gear Co., Inc., 1108 Goffle Rd., Hawthorne, N.J.
Kearfott Co., Inc., Microwave Div., Dept. 25C, 14844 Oxnard Street, Van Nuys, Calif., - Pg. 814
Keisers Industries, Inc., Laumau St., Mt. Holly Springs, Pa.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N.Y. - Pg. 1194
Lattin Radio Laboratories, 1431 Sweeney- P. O. Box 44, Owensboro, Ky.
Lenz Mfg., Co., 1751 N. Western Ave., Chicago, Ill. – Pg. 1196
Lyman Electronic Corp. 12 Cass St., P. O. Box 1649, Springfield, Mass.
Magnetic Research Corp., 3160 W. El Segundo Blvd., Hawthorne, Calif. - Pg. 1074
Mechaneers, Inc., Westport, Conn.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Methode Mfg., Corp., 7447 Wilson Ave., Chicago, Ill. - Pg. 1196
Minshall Organ Co., 28 Buge St., Brattleboro, Vt.
Multi-Products Co., 21470 Coolidge Hway., Oak Park, Mich.
NJE Corp. 345 Carnegie Ave., Kenilworth, N.J. - Pgs. 937, 939
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Paraplegics Mfg., Co., Inc., 10068 Franklin Ave., Franklin Park, Ill.
Plastoid Corp., 42–61 24th St., Long Island City, N. Y. – Pgs. 1200, 1204
Precision Circuits, Inc., 705 So. Fulton Ave., Mt. Vernon, N.Y.
Radiation Eng. G. Labs., Main St., Maynard, Mass.
Rex Corp., 100 Hayward Rd., W. Acton, Mass. - Pg. 1205
Sanders Associates, Inc., 95 Canal St., Nashua, N.H.
Saxton Products, Inc., 1661 Boone Ave., Bronx, N.Y. - Pg. 1206
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Sightmaster Corp., Box 3260, Olneyville Sta., 50 Aleppo St., Providence, R. I.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Standard Tool & Mfg., Co., 237 Laurel Ave., Kearney, N.J.
Stanley Works, The, New Britain, Conn.
Suffolk Products Corp., Woodbine & Scudder, Northport, N.Y.
Taffet Radio & T. V. Co., 2705 Brooklyn-Queens Expressway, W., Woodside, N.Y.
Telex, Telex Park, St. Paul, Minn. - Pg. 466
Tensolite Insulated Wire Co., Inc., W. Main St., Tarrytown, N. Y. – Pg. 1212
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Universal Match Corp., Armament Div., Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Uniwave, Inc., Grand & Marine Sts., Farmingdale, N.Y. - Pg. 836
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Volta Mfg., Co., 2154 N. Halsted St., Chicago, Ill.
Waveline, Inc., Box 718, Caldwell, N.J. - Pg. 837
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

SERVICES. CALIBRATION ..... **Pg. 838**
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Booth Co., 265 S. Alexandria Ave., Los Angeles, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St., Laurent, Canada
Chesapeake Instrument Corp., Shadyside, Md.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Douglas Radio Labs., 176 Norfolk Ave., Boston, Mass.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Edison Electronic Co., 1902 N. Third, Temple, Texas
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y.
General Testing Labs., 227 W. Chestnut, P. O. Box 519, Monrovia, Calif.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Hermes Plastics, Inc., 13-19 University Pl., New York, N.Y.
Instrument Laboratories, 315 W. Walton Pl., Chicago, Ill.
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Phelps Precision Lab., 4232 Scott Ter., Minneapolis, Minn.
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Potter Aeronautical Corp., Route 22, Union, N.J.
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Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tatnall Measuring Systems Co., P. O. Box 245, Phoenixville, Pa.
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Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Weinschel Engineering, Kensington, Md. - Pg. 838
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Westronics of California, Div., Electromation, 318 E. Calaveras, Altadena, Calif.

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Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Burroughs Corp., Electro Data Div., 460 Sierra Madre Villa, Pasadena, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Colorado Research Corp., Broomfield Heights, Colo.
Computer Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. - Pg. 541
Computing Devices of Canada Ltd., P. O. Box 508, Ottawa, Canada
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Datics Corp., The, P. O. Box 9128, 6000 Camp Bowie Blvd., Fort Worth, Texas
Digitronics Corp., Albertson Ave., Albertson, L. I., N. Y.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Egan Laboratory, 107-56 113th St., Richmond Hill 19, N.Y.
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Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
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Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
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Western Union Telegraph Co., 60 Hudson St., New York, N.Y.
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Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

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Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Continental Electronics, 302 Oakland St., Brooklyn 32, N.Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
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Egan Laboratory, 107-56 113th St., Richmond Hill 19, N.Y.
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Electronic Engineers, Inc., 5615 W. Division St., Chicago, Ill.
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Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
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New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
New York Testing Labs., Inc., 47 West St., New York, N.Y.
North Electric Co., 553 S. Market St., Galion, Ohio
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Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N.Y.
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Pacific Technical Co., 2047 Sawtelle Blvd., Los Angeles, Calif.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
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Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Semiconductor Devices Corp., 66 Railroad Ave., Summit, N.J.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Soroban Engrg., Inc., Kissimmee Hgway., Melbourne, Fla.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Spectra Electronics Corp., Div., Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Spectrol Electronics Corp., 1704 S. Delmar Ave., San Gabriel, Calif. - Pg. 1036
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N.Y. - Pg. 1106
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Statistical Inst. Co., 330 Haven Ave., New York, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Strain Engrg., Service, 4556 Northside Dr., N. W., Atlanta, Ga.
Stromberg-Carlson, 1895 Hancock St., San Diego, Calif.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N.Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla .
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N.J.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
Technograph Electronics, P. O. Box 5253, Ardmore Sta., Winston-Salem, N. C.
Tele-Coil Co., Inc., 275 Saunders St., Camden, N.J.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.
Teller Co., Box 989, Butler, Pa.
Telonic Engineering Corp., 773 Broadway, Laguna Beach, Calif.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Textran Corp., Box 9207, Austin, Texas
Topper Mfg., Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Transistor Applications, Inc., 50 Broad St., Boston, Mass.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N.Y.
U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N.J.
Varian Associates, Palo Alto, Calif.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Waltham Electronics Corp., 751 Main St., Waltham, Mass.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
Weitermann Electronics, 1412 N. 30th St., Milwaukee, Wisc.
Westbury Electronics, Inc., 300 Shamer Dr., Westbury, N.Y. - Pg. 1077
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Western Union Telegraph Co., 60 Hudson St., New York, N.Y.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wheeler Labs., Inc., 122 Cutter Mill Road, Great Neck, L. I., N. Y.
White, Edwin L., 460 Coffee Pot Riviera, St. Petersburg, Fla.
Wintronics, 213 S. Hawthorne Blvd., Hawthorne, Calif.

SERVICES, MECHANICAL ..... **Pgs. 531, 601, 604, 605, 684, 835, 1036**

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Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Anthonsen All Metal Prod., Co., 630 Main St., Westbury, L. I., N.Y.
Applied Magnetics Corp., Santa Barbara A/P Bldg., Goleta, Calif.
Applied Technology Corp., 475 Fifth Ave., New York, N.Y.
Associated Engrg. & Mfg., Corp., Glen Ridge, N.J.
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.
Automation Management, Inc., Adams St., Westboro, Mass.

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Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Belock Instrument Corp., 112-03 14th Ave., College Point 56, N.Y.
Bird, Richard H. & Co., 1 Spruce St., Waltham, Mass. - Pg. 601
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Cartriseal Corporation, 3515 W. Touhy Ave., Lincolnwood, Ill.
Connecticut Valley Enterprises, P. O. Box 188, Essex, Conn.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dean & Benson Research, Inc., 16 Richmond St., Clifton, N.J.
Design Tool Corp., 80 Washington St., New York, N.Y.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Dewitt Development Co., 3008 W. 127th St., Blue Island, Ill.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electronic Enclosures, 2322 Michigan Ave., Santa Monica, Calif.
Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
Federal Machine Co., 807 Garfield Ave., Jersey City, N.J.
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Ferro Powdered Metals, Magnetic Materials Div., Salem, Ind.
Fisher, Oscar & Co., Inc., P. O. Box 426, Newburgh, N.Y.
GAP Instr. Corp., 116 E. Merrick Rd., Freeport, N. Y. – Pgs. 604, 605
General American Valve, Co., P. O. Box 444, Corona Del Mar, Calif.
General Devices, Inc., P. O. Box 253, Princeton, N.J.
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General Kinetics, Inc., 555 23 St., S. Arlington, Va.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif. - Pg. 684
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Halm Instrument Co., Inc., Glen Head Rd., Glen Head, N.Y.
Hathaway Instrument Div., Hamilton Watch Co., 5800 Jewell, Denver, Colo.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
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Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Kelk, George, Limited, 130 Willowdale Ave., Willowdale, Canada
Kellogg, M. W. Co., 711 3rd Ave., New York, N.Y.
Kelsey-Hayes Co., 3600 Military, Detroit, Mich.
Labelon Tape Co., 450 Atlantic Ave., Rochester, N.Y.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N.J.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N.Y.
Martin, R. W. & Co., 10111 Woodman Ave., San Fernando, Calif.
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Mechaneers, Inc., Westport, Conn.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
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Merz Eng., Inc., 200 S. Harding St., Indianapolis, Ind.
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Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
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Moulic Specialties Co., 1007 W. Washington St., Bloomington, Ill.
New York Testing Labs., Inc., 47 West St., New York, N.Y.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
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Palmer Instruments, 1028 Mission St., So. Pasadena, Calif.
Parameters, Inc., 195 Herricks Road, New Hyde Park, N.Y.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
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Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Robinette, W. C. Co., 802 Fair Oaks Ave., So. Pasadena, Calif.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Rosan, Inc., 2901 West Coast Hyway., Newport Beach, Calif.
Ruckelshaus, John G., Labs., Inc., Madison, New Jersey
Sheffield Corp., The, Box 893, Dayton, Ohio
Soroban Engrg., Inc., Kissimmee Hgway., Melbourne, Fla.
Specialty Engrg., Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Spectrol Electronics Corp., 17045 Delmar Ave., San Gabriel, Calif. - Pg. 1036
Standard Tool & Mfg., Co., 237 Laurel Ave., Kearny, N.J.
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Synchrosolve, Inc., 269 Green St., Brooklyn, N.Y.
Taft-Pierce Mfg., Co., The, 32 Mechanic Ave., Woonsocket, R. I.
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.
Teller Co., Box 989, Butler, Pa.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, N.Y. - Pg. 835
U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N.J.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

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Amerac, Inc., Dunham Road, Beverly, Mass. - Pg. 791
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ARRA Antenna & Radome Research Assoc., 1 Bond St., Westbury, N. Y. – Pg. 792
Automatic Electric Sales Corp., Northlake, Ill.
Automation Dynamics Corp., 255 County Rd., Tenafly, N.J.
Bomac Labs., Inc., Salem Rd., Beverly, Mass. - Pgs. 1145, 1146
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
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Centronix, Inc., 4000 N. W., 28th St., Miami, Fla.
Colorado Research Corp., Broomfield Heights, Colo.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dorsett Laboratories, Inc., P. O. Box 862, 401 Boyd St., Norman, Oklahoma
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Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Egan Laboratory, 107-56 113th St., Richmond Hill 19, N. Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y.
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Ferrotec, Inc., 217 California St., Newton, Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
Grigg, James W., 9889 Ramona Ave., Montclair, Calif.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hutcheson, Guy C., 1100 W. Abram St., Box 32, Arlington, Texas
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass.
ITT Labs., Div., Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
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McMillan Industrial Co., Brownville Ave., Ipswich, Mass.
Mechaneers, Inc., Westport, Conn.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Myse, Daryal A. & Assoc., 1411 Penn. Ave., N. W., Washington, D. C.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
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Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y. – Pg. 831
Pyrofilm Resistor Co., Inc., U. S. Highway 46, Parsippany, N.J. - Pg. 1033
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiation Eng. Labs., Main St., Maynard, Mass.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Scientific-Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Spectra Electronics Corp., Div., Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N.Y. - Pg. 1106
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Taylor, Archer S., Box 1479, Missoula, Mont.
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Telerad Mfg., Corp., 1440 Broadway, New York, N.Y.
Textran Corp., Box 9207, Austin, Texas
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Varian Associates, Palo Alto, Calif.
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.
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Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wheeler Labs., Inc., 122 Cutter Mill Road, Great Neck, L. I., N.Y.
White, Edwin L., 460 Coffee Pot Riviera, St. Petersburg, Fla.

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Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.
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BJ Electronics Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
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Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St., W., Montreal, Canada
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Datics Corp., The, P. O. Box 9128, 6000 Camp Bowie Blvd., Fort Worth, Texas
Egan Laboratory, 107-56 113th St., Richmond Hill 19, N.Y.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
Grigg, James W., 9889 Ramona Ave., Montclair, Calif.
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Isotopes Specialties Co., Box 688, Burbank, Calif.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lubcke, Harry R., 2443 Creston Way, Hollywood, Calif.
Manhattan Physical Research Group, Inc., 556 W. 191st St., New York, N.Y.
Mechaneers, Inc., Westport, Conn.
National Lead Co., 111 Broadway, New York, N.Y.
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Nuclear Corp. of America, 2 Richwood Pl., Denville, N.J.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nuclear Products-Erco, Div., ACF Industries, Inc., Box 5, Riverdale, Md.
Ohmart Corp., 2236 Bogen St., Cincinnati, Ohio
Parsons, Ralph M., Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif. - Pg. 1104
Physics Research Labs., Inc., 507 Hemstead Turnpike, Box 555, Hempstead, N.Y.
Radiation Dynamics, Inc., 1800 Shames Drive, Westbury, N.Y.
Sandia Corp., Sandia Base, Albuquerque, N. Mexico
Specialty Engrg., Div., Specialty Assembl. & Pack, 79 Clifton Pl., Brooklyn, N.Y.
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
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Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Bergen Laboratories, 247 Crooks Ave., Clifton, N.J.
Bernard Assoc., 237 E. 39th St., New York, N.Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Chester Labs., Box 646A, Devon, Pa.
Continental Electronics, 302 Oakland St., Brooklyn 32, N.Y.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N.Y.
Davis, George Co., Consulting Engrs., Munsey Bldg., Washington, D. C.
Douglas Microwave Co., Inc., 252 E. Third St., Mt. Vernon, N.Y. - Pg. 801
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Du Treil, L. J. N. & Assoc., 10412 Jefferson Hway., New Orleans, La.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Egan Laboratory, 107-56 113th St., Richmond Hill 19, N.Y.
Electro Mechanical Engr., 1124 South 3rd St., Minneapolis, Minn.
Electronics, Inc. of Pa., 39 York Rd., Willow Grove, Pa.
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.

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Hatfield, J. B., 906 - 36th Ave., Seattle, Wash.
Heffelfinger, John B., 8401 Cherry St., Kansas City, Mo.
Hutcheson, Guy C., 1100 W. Abram St., Box 32, Arlington, Texas
ITT Labs., Div., Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
Kear & Kennedy, 1302 18th St., N. W., Washington, D. C.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N.J.
Lenz Electric Mfg., Co., 1751 N. Western Ave., Chicago, Ill. - Pg. 1195
Lohnes & Culver, Munsey Bldg., Washington, D. C.
Lubcke, Harry R., 2443 Creston Way, Hollywood, Calif.
Mechaneers, Inc., Westport, Conn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
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Northwest Instrument Co., 2313 Third Ave., Seattle, Wash.
Philco Corp., Govt. & Ind., Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Radiaphone Co., Inc., 600 E. Evergreen St., Monrovia, Calif.
Radiation Eng. G. Labs., Main St., Maynard, Mass.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Rountree, J. G., 5622 Dyer St., Dallas, Texas
Sams, Howard W. & Co., Inc., 2201 E. 46 St., Box 558, Indianapolis, Ind.
Scatter Communications, Inc., 4923 St. Elmo Ave., Bethesda, Md.
Schindlers, 2429 Beverly Ave., Santa Monica, Calif.
Security Controls, Inc., 503 Franklin St., Buffalo, N.Y.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Strain Engrg. Service, 4556 Northside Dr., N. W., Atlanta, Ga.
Stromberg-Carlson Div., General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Taylor, Archer S., Box 1479, Missoula, Mont.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N. Y.
Thale Engrg. Corp., 2104 E. Villa St., Pasadena, Calif.
Ultraudio Products, Div., Oberline, Inc., P. O. Box 921, Beverly Hills, Calif.
Vectrol Engrg., Inc., P. O. Box 1089, Dept. M 59, Stamford, Conn.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.
Weitermann Electronics, 1412 N. 30th St., Milwaukee, Wisc.
Westronics of Califomia, Div., Electromation, 318 E. Calaveras, Altadena, Calif.
Wheeler Labs., Inc., 122 Cutter Mill Road, Great Neck, L. I., N. Y.
White, Edwin L., 460 Coffee Pot Riviera, St. Petersburg, Fla.

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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Colorado Research Corp., Broomfield Heights, Colo.
Davis, George Co., Consulting Engrs., Munsey Bldg., Washington, D. C.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
Harwald Co., Inc., 1245 Chicago Ave., Evanston, Ill.
Hatfield, J. B., 906 - 36th Ave., Seattle, Wash.
Hutcheson, Guy C., 1100 W. Abram St., Box 32, Arlington, Texas
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif. - Pg. 531
Jerrold Electronics, Indl. Prod. Div. Dept. T. E. D., 27 Jerrold Bldg., Phila., Pa.
Kear & Kennedy, 1302 18th St., N. W., Washington, D. C.
Lohnes & Culver, Munsey Bldg., Washington, D. C.
Lubcke, Harry R., 2443 Creston Way, Hollywood, Calif.
Mechaneers, Inc., Westport, Conn.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Multi-Tron Laboratory, Inc., 9861 Derby Lane, Westchester, Ill.
Myse, Daryal A. & Assoc., 1411 Penn. Ave., N. W., Washington, D. C.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis, Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Rountree, J. G., 5622 Dyer St., Dallas, Texas
Sams, Howard W. & Co., Inc., 2201 E. 46 St., Box 558, Indianapolis, Ind.
Strain Engrg. Service, 4556 Northside Dr., N. W., Atlanta, Ga.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Taylor, Archer S., Box 1479, Missoula, Mont.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.
Wheeler Labs., Inc., 122 Cutter Mill Road, Great Neck, L. I., N. Y.

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American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Ansley Mfg., Co., Arthur, New Hope, Pa.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Belock Instrument Corp., 112-03 14th Ave., College Point 56, N. Y.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
By-Buk Co., 4314 West Pico Blvd., Los Angeles, Calif.
Chart-Pak, Inc., Leeds, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Cable Corp., 615 Somerville Ave., Somerville, Mass.
Federal Electric Corp., 621 Industrial Ave., Paramus, N.J.
Forter-Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City of Industry, Calif.
Griffin Co., 2157 James Ave., St. Paul, Minn.
Hallamore Electronics Co., Div., Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hansen, William Co., 165 Silver Brook Ave., Wiles, Mich.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Kalite Technical Co., 715 Mattison Ave., Asbury Park, N. J.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N.J.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Mast Development Co., Inc., 2212 E. 12 St., Davenport, Iowa
Mechaneers, Inc., Westport, Conn.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Miller Industries, 1525 Marion, Grand Haven, Mich.
New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
Pabst Engrg, Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Petz-Emery, Inc., Pleasant Valley, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Post, Frederick Co., 3650 N. Avondale Ave., Chicago 18, Ill.
Sams, Howard W. & Co., Inc., 2201 E. 46 St., Box 558, Indianapolis, Ind.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Skycraft Tool Engrg., Co., 2610 Willo Lane, Costa Mesa, Calif.
Standard Tool & Mfg. Co., 237 Laurel Ave., Kearny, N.J.
Taft-Peirce Mfg., Co., The, 32 Mechanic Ave., Woonsocket, R. I.
Zero Mfg., Co., 1121 Chestnut St., Burbank, Calif.

SERVICES. ENCAPSULATION ..... Pgs. 507, 515, 600, 648, 784

A-1 Precision Products, 5454 W. Washington Blvd., Los Angeles, Calif. - Pg. 600
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Applied Technology Corp., 475 Fifth Ave., New York, N.Y.
Aries Labs., Inc., 45-33 Davis Street, Long Island City, N.Y.
Associated Engineering Corp., 65 Kent St., Brookline, Mass. Pg. 648
Atlas Mineral Products Co., Mertztown, Pa.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Biggs, Carl H. Co., 1547 14th St., Santa Monica, Calif.
Biwax Corp., 3444 Howard St., Skokie, Ill. - Pg. 507
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
CK Components, 101 Morse St., Watertown, Mass.
Cadre Industries Corp., Box 150, Endicott, N.Y.
Colorado Research Corp., Broomfield Heights, Colo.
Control Data Corp., 501 Park Ave., Minneapolis, Minn.
Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N.Y.
Deluxe Coils, Inc., Wabash, Ind.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N.H.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electron Products, Inc., 430 N. Halstead St., Pasadena, Calif.
Electronet, Div., of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Cable Corp., 615 Somerville Ave., Somerville, Mass.
Electronic Plastics Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N.Y.
General Plastics Corp., 165 3rd Ave., Paterson, N.J.
Good Electronic, Box 2706, West Palm Beach, Florida
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hull Corp., Dansville Rd., Hatboro, Pa.
Hull-Standard Corp., Davisville Rd., Hatboro, Pa.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Key Resistor Corp., 321 W. Redondo Beach Blvd., Gardena, Calif.
Mechaneers, Inc., Westport, Conn.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Metta Engrging. & Sales Co., 252 E. 16th St., Paterson, N.J.
Milro Controls Co., Park Ridge, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New York Testing Labs., Inc., 47 West St., New York, N.Y.
Nopco Chemical Co., Plastics Div., 175 Schuyler Ave., North Arlington, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Panel Controls Co., 3105 Madison Ave., S. E. Grand Rapids, Mich.
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Iowa
RHO Engrg. Co., 2242 Sepulveda Blvd., Los Angeles, Calif. - Pg. 515
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Rowe Engravers, 262 E. 16th St., Paterson, N.J.
Schjeldahl Co., Northfield, Minn.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Telechrome Mfg., Corp., 28 Ranick Dr., Amityville, N.Y.
Telex, Telex Park, St. Paul, Minn.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Twin City Metalseal Corp., 801 S. E. 8 St., Minneapolis, Minn.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Unison Products, Inc., Route 46, & Sixth St., Saddle Brook, N.J.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westronics of California, Div., Electromation, 318 E. Calaveras, Altadena, Calif.
Wirco Electronics Inc., 11680 McBean Dr., El Monte, Calif.

SERVICES. ENGRAVING AND PROFILING

Ackerman Engravers, 458 Broadway, New York, N.Y.
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Emblem Co., Inc., P. O. Box 116, Utica, N.Y.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Conn-Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N.Y.
Etching Co. of Calif., Q Circuits Div., 1208 Howard St., San Francisco, Calif.
Fisher & Crome, 110 N. Camac St., Philadelphia, Pa.
Globe Electrical Mfg., Co., 1729 W. 134th St., Gardena, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Helko Products Co., 243 W. 55 St., New York, N.Y.
Hermes Plastics, Inc., 13-19 University Pl., New York, N.Y.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N.J.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N.Y.
Jan Hardware Mfg., Co., 38–01 Queens Blvd., Long Island City, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kilo Engineering, 2121 Third St., Laverne, Calif.
Kirkland, H. R. Co., 8 King St., Morristown, N.J.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N.Y.
New Hermes Engraving Machine Corp., 13-19 University Pl., New York, N.Y.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.

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Precision Engraving. Co., 10 Ridgedale Ave., Hanover, N.J.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N.J.
Telker, Inc., N. Murray Ridge Rd., Elyria, Ohio

SERVICES. ENVIRONMENTAL TESTING ..... **Pgs. 645, 648**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acton Laboratories, Inc., 536 Main St., Acton, Mass. - Pg.645
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Ark Engineering., 431 W. Tabor Rd., Philadelphia, Pa.
Associated Engineering Corp., 65 Kent St., Brookline, Mass. - Pg. 648
Associated Testing Labs., Inc., 127 Clinton Rd., Caldwell, N.J.
BJ Electronics, Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Belock Instrument Corp., 112-03 14th Ave., College Point 56, N. Y.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Eicor Div., The Scranton Corp., 4059 North Ave., Chicago 39, Ill.
Electrical Testing Labs., Inc., 2 East End Ave., New York, N. Y.
Environmental Equipment Co., 371 Linden St., Brooklyn, N.Y.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N.Y.
Flame Research, Inc., P. O. Box 10502, Pittsburgh, Pa.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
General Testing Labs., 227 W. Chestnut, P. O. Box 519, Monrovia, Calif.
Hallamore Electronics Co., Div., Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
International Radiant Corp., 111 New York Ave., Westbury, N.Y.
Jan Hardware Mfg., Co., 38-01 Queens Blvd., Long Island City, N.Y.
Mechaneers, Inc., Westport, Conn.
Miller Industries, 1525 Marion, Grand Haven, Mich.
New York Testing Labs, Inc., 47 West St., New York, N.Y.
Parameters, Inc., 195 Herricks Road, New Hyde Park, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rototest Labs., Inc., 2803 Los Flores Blvd., Lynwood, Calif.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N.J.
Technology Instrument Corp., 523 Main St., Acton, Mass.
Telex, Telex Park, St. Paul, Minn.
U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N.J.
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.

SERVICES. FABRICATION. METAL .... **Pgs. 463, 467, 468, 470, 481, 514, 579, 831, 836**

Abalon Precision Mfg., Co., 540 Casanova St., Bronx, N. Y.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Accurate Specialties Co., Inc., 37-13 57th Street, Woodside, N.Y.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Air Transport Mfg., 1114 N. Sycamore Ave., Los Angeles, Calif.
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Allied Fabricating Corp., 1538 N. Clybourn Ave., Chicago, Ill.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Calif.
Alpitec, Inc., 49 Gleason Ave., Stamford, Conn.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Emblem Co., Inc., P. O. Box 116, Utica, N.Y.
American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Anetsberger Bros., Inc., Northbrook, Ill.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Art Wire & Stamping Co., 227 High St., Newark, N.J.
Artisan Metal Works Co., 11400 Madison Avenue, Cleveland, Ohio
Arwood Precision Casting, 75 Washington St., Brooklyn, N.Y.
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Autoscrew Co., 216-222 W. 18th St., New York, N.Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Baltic Metal Products Co., Dept E, 120 Sutton St. Brooklyn, N.Y. - Pg. 467
Baumker Mfg. Co., Comm. Prod. Div., 3826-28 Summit St., Toledo, Ohio
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Blickman, Inc., 201 Gregory Ave., Weehawken, N.J.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio – Pg. 468
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Columbia Metal Box Co., 260 E. 143rd St., Bronx, N.Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N.Y.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago 48, Ill.
Cross, H. Co., 15 Beekman St., New York, N.Y.
Crown Electronics Div., Marathon Metal Prd., 67 Huntington St., Cortland, N.Y.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N.Y.
Daystrom Instrument, Archbald, Pa.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Donnelly Mfg. Co., Div., Of The Indian Co., 580 Winter St., Waltham, Mass.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N.H.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Enclosures 2322 Michigan Ave., Santa Monica, Calif.
Electronic Parts Mfg. Co., Inc., 508-10 25th St., Union City, N.J.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N.Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Federal Machine Co., 807 Garfield Ave., Jersey City, N.J.
Feiner, P. & Sons, 522 W. 45 St., New York, N.Y.
Ferro Powdered Metals, Magnetic Materials Div., Salem, Ind.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N.Y.
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N.Y.
General Dynamics Corp., Electric Boat Div., Groton, Conn.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Golden Co., 1054 38 St., Brooklyn, N.Y.
Golding Mfg., Co., 52 Elm St., Newark, N.J. - Pg. 470
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Gravely Furniture Co., Inc., Ridgeway Div., Martinsville, Va.
Hallamore Electronics Co., Div., Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hansen, William Co., 165 Silver Brook Ave., Wiles, Mich.
Heldor Mfg., Corp., 238 Lewis St., Paterson, N.J.
Hi-Lo Mfg., Corp., 1122-26 W. Newport Ave., Chicago, Ill.
Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
Holden-Massey Corp., 142 Allen Blvd., Farmingdale, N.Y.
Hughes-Treitler Mfg., Corp., 1045 39th St., Brooklyn, N.Y.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N.Y.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N.J.
Jan Hardware Mfg., Co., 38-01 Queens Blvd., Long Island City, N.Y.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N.Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kees, F. D. Mfg., Co., 700 Park St., Beatrice, Neb.
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N.J.
Kinetics Corp., 2 Churchill Rd., Hingham, Mass.
Kling Metal Spinning Co., 247 Centre St., New York, N. Y.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
La Vezzi Machine Works, 4635 W. Lake St., Chicago, Ill.
Lorentzen, H. K., Inc., 391 W. Broadway, New York 12, N.Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Mandex Mfg., Co., Inc., 2614 W. 48th St., Chicago, Ill.
Mast Development Co., Inc., 2212 E. 12 St., Davenport, Iowa
Master Mechanics Mfg., Co., Inc., 541 Sixth Ave., New York, N.Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Merz Eng., Inc., 200 S. Harding St., Indianapolis, Ind.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., El Monte, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Mobil Electronics Mfg., Co., 1111 State Rd., Anderson, Ind.
Mohawk Mfg., Co., The, P. O. Box 1110, Middletown, Conn.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Mundt, Charles & Sons, 53 Fairmount Ave., Jersey City, N.J.
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
National Gasket & Washer Co., 124 E. 25 St., New York, N. Y.
National Lead Co., 111 Broadway, New York, N.Y.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, Ill.
New London Instrument Co., Inc., 82 Union Street, Box 189, New London, Conn.
Newark Spinning & Stamping Co., 472 Bloy St., Hillside, N.J.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N.Y.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
Nielson Hardware Corp., 770 Wethersfield Ave., Hartford, Conn.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nostrand Metal Fabricators, 321 Lexington Ave., Brooklyn, N.Y.
Oiljak Mfg., Co., The, Montclair, N.J.
P & J Engrg., Inc., 7336 Bellaire Ave., No. Hollywood, Calif.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Petz-Emery, Inc., Pleasant Valley, N.Y.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N.Y. - Pg. 514
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Iowa
Plastic Mold & Engrg., Co., 157 Clifford St., Providence, R. I. – Pg. 463
Premier Instrument Corp., 33 New Broad St., Portchester, N. Y. – Pg. 831
Research Dev. Mfgr., Inc., 429 E. Collom St., Philadelphia, Pa.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N.J.
Sorenson Industrial Elect., Route 10, Dover, N.J.
Specialty Engrg., Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Spincraft, Inc., 4122 W. State St., Milwaukee, Wisc.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Springfield Spring, 837 State St., Springfield, Mass.
Standard Tool & Mfg., Co., 237 Laurel Ave., Kearny, N.J.
Stanley Aviation Corp., 2501 Dallas St., Denver, Colo.
Stanley Works, The, New Britain, Conn.
Sunbank Electronics, Inc., 515 S. Varney St., Burbank, Calif. – Pg. 579
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N.Y.
Taller & Cooper Co., 75 Front, St., Brooklyn, N.Y.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N.Y.
Thermionic Products Co., Interhaven Ave., Plainfield, N. J.
Tickle, A. Engrg. Works, 21 Delavan St., Brooklyn, N.Y.
Titchener, E. H. & Co., 67 Clinton St., Binghamton, N. Y.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N.Y.
Twigg Industries, Brazil, Ind.
Uniwave, Inc., Grand & Marine Sts., Farmingdale, New York - Pg. 836
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Walworth Co., Electronics Div., 89 Union St., Mineola, L. I., N. Y.
Warren Corp., 2901 Brighton Rd., Pittsburgh, Pa.
Watson Mfg., Co., Inc., 4800 Taylor St., Jamestown, N. Y. - Pg. 481
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.
York Metal Products, Inc., 350 Greenwich St., New York, N.Y.
Zero Mfg., Co., 1121 Chestnut St., Burbank, Calif.

SERVICES. FABRICATION. NON-METAL **Pgs. 463, 640, 648, 772, 774, 777, 780, 835, 1191**

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.

SERVICES. FABRICATION. NON–METAL (continued)

Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Cal.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N.Y.
American Lava Corp., Cherokee Blvd. & Mfgrs., Road, Chattanooga, Tenn.
American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Anchor Plastics Company, 36-36 36th Street, Long Island City, N.Y.
Associated Engineering Corp., 65 Kent St., Brookline, Mass. - Pg. 648
Auburn Mfg., Co., Pease Ave. & Stack St., Middletown, Conn.
Autoscrew Co., 216-222 W. 18th St., New York, N.Y.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bacon Industries, Inc., 192 Pleasant St., Watertown, Mass.
Baer Co., N. S., 9 Montgomery St., Hillside, N.J.
Bolta Products, Div., General Tire & Rubber Co., Lawrence, Mass.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Boonton Molding Co., 326 Myrtle Ave., Boonton, N.J.
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. - Pg. 1191
Cable Specialist of Conn., 95 Kitts Lane, Newington, Conn.
Cadre Industries Corp., Box 150, Endicott, N.Y.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Chemical & Power Products, Inc., 11 Broadway, New York, N.Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Texas
Como Plastics, Inc., 97-24 Albert Rd., Ozone Park, N.Y.
Conn-Craft Co., 301 Fairlawn Ave., Waterbury, Conn.
Consolidated Molded Prods. Corp., Scranton, Pa.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N.Y.
Coors Porcelain Co., 600 Ninth St., Golden, Colo.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
D & R Plastic Welders, Inc., Hazardville, Conn.
Dell Optics Co., Ltd., 327 55 St., West New York, N.J. - Pg. 777
Dimick Mfg., Co., Jefferson, Ore.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N.H.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Emeloid Co., Inc., The, 1239 Central Ave., Hillside, N.J.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Farnam Mfg., Co., Inc.,Sweeten Cr. Rd., Asheville, N.C.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Federal Machine Co., 807 Garfield Ave., Jersey City, N.J.
Felsenthal, G. & Sons, Inc., 3500 N. Kedzie, Chicago, Ill.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Fisch Mfg. Co., Inc., Bedford Hills, N.Y.
Fluorulon Labs., Inc., Box 305, Caldwell, N.J.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N.Y. - Pgs. 772, 774
Franklin Fibre-Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Products Corp., Union Springs, New York
Globe Electrical Mfg., Co., 1729 W. 134th St., Gardena, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City of Industry, Calif.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill.
Hampden Mfg., Co., Inc., 3 Rivers, P. O. Box 89, Palmer, Mass.
Hansen, William Co., 165 Silver Brook Ave., Wiles, Mich.
Hi-Lo Mfg. Corp., 1122-26 W. Newport Ave., Chicago, Ill.
Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N.Y.
Howard Crystal Holders, Inc., 2600 Grand Ave., Kansas City, Mo.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N. J.
Industrial Engravers, Inc., 2212 McDonald Ave., Brooklyn, N.Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Kane Mfg., Co., Kane, Pa.
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N.J.
Kurz-Kasch, Inc., 1421 S. Broadway, Dayton, Ohio
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pg. 640
Maigne, O. J. Co., 321 Pearl St., New York, N.Y.
Masonite Corp., 111 W. Washington St., Chicago, Ill.
Master Mechanics Mfg., Co., Inc., 541 Sixth Ave., New York, N.Y.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Mechaneers, Inc., Westport, Conn.
Meller, Adolf, Co., 387 Charles St., Box 702, Providence, R. I.
Merz, Eng., Inc., 200 S. Harding St., Indianapolis, Ind.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Mundt, Charles & Sons, 53 Fairmount Ave., Jersey City, N.J.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
NY-Glass, Inc., 2501 E. 68th St., Long Beach, Calif.
National Gasket & Washer Co., 124 E. 25 St., New York, N.Y.
National Multi-Prods., Co., 5049 N. Clark St., Chicago, Ill.
Nester, L. G. Co., Inc., Box 231, Millville, N. J.
Newth Rubber Co., Barrington, R. I.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
P & J Engrg., Inc., 7336 Bellaire Ave., No. Hollywood, Calif.
Panel Controls Co., 3105 Madison Ave., S. E., Grand Rapids, Mich.
Penn Fibre & Specialty Co., 2020 E. Westmoreland St., Philadelphia, Pa.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Iowa
Plastic Mold & Engrg., Co., 157 Clifford St., Providence, R. I. – Pg. 463
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Printloid, Inc., 10-10 44th Ave., Long Island City, N.Y.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
S-R Electronics, 3200 First Ave., S., Seattle, Wash.
Schjeldahl Co., Northfield, Minn.
Scientific-Atlanta, Inc., 2162 Piedmont Rd., N. E., Atlanta, Ga.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N.J.
Sparta Mfg., Co., Dover, Ohio
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Stanley Aviation Corp., 2501 Dallas St., Denver, Colo.
Supreme Process Corp., 44 Bond St., Westbury, N.Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N.Y.
Syncor Products Co., 30 Western Ave., Malden, Mass.
Synthane Corp., 12 River Rd., Oaks, Pa.
Telex, Telex Park, St. Paul, Minn.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Townsend Co., Box 237, New Brighton, Pa.
Tri-Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
Tri-Point Plastics, Inc., 175-177 I. U. Willets Rd., Albertson, L. I., N. Y. - Pgs. 780, 835
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
U. S. Precision Lens & Plastics, Inc., 626 Broadway, Cincinnati, Ohio
Uniwave, Inc., 109 Marine Street, Farmingdale, New York
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Western Coil & Electrical Co., 215 State St., Racine, Wisc.
Zenith Optical Lab., 1940 Great Neck Rd., Copiague, N.Y.

SERVICES. FILM BADGE

Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Atomic Film Badge Corp., 244-02 Jamaica Ave., Bellerose, N.Y.
Bar-Ray Products, Inc., 209 25th St., Brooklyn, N.Y.
Isotopes Specialties, Co., Box 688, Burbank, Calif.
Landauer, R. S., Jr. & Co., 3920 216th St., Matteson, Ill.
Nuclear-Chicago Corp., 223 W. Erie St., Chicago, Ill.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Picker X–Ray Corp., 25 S. Broadway, White Plains, N. Y.
St. John X-Ray Lab., Califon, N.J.
Specialty Engrg. Div., Specialty Assembl. & Pack, 79 Clifton Pl., Brooklyn, N.Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.

SERVICES. HERMETIC SEALING ..... Pg. 648

A. P. M. Co., Automatic & Precision Mfg., Co., 252 Hawthorne Ave., Yonkers, N.Y.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N.Y.
Aries Labs., Inc., 45-33 Davis Street, Long Island City, N.Y.
Associated Engineering Corp., 65 Kent St., Brookline, Mass. -Pg.648
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Frenchtown Porcelain Co., Frenchtown, N.J.
Glasseal Products Co., Inc., 1111 E. Elizabeth Ave., Linden, N.J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N.Y.
Lundey Associates, Inc., 694 Main St., Waltham, Mass.
Metaplast Co., Inc., 34-51 56th St., Woodside, N.Y.
Mitronics, Inc., 1290 Central Ave., Hillside, N.J.
Networks Electronic Corp., 14806 Oxnard St. Van Nuys, Calif.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Sealtron Corp., Reading Rd., Box 73, Cincinnati, Ohio
Strat-O-Seal Mfg., Co., 3039 W. Fullerton Ave., Chicago, Ill.
Trans-Sil Corp., 55 Honeck St., Englewood, N.J.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.

SERVICES. MODEL SHOP

Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
All American Engineering Co., Dupont Airport, Wilmington, Dela.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N.J.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
American Research & Mfg., Co., 920 Halpine Avenue, Rockville, Maryland
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Anthonsen All Metal Prod., Co., 630 Main St., Westbury, L. I., N. Y.
Associated Designers, 135 Las Tunas Dr., San Gabriel, Calif.
Avionics Corp. of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Barnes Development Co., 213 W. Baltimore Ave., Lansdowne, Pa.
Belock Instrument Corp., 112–03 14th Ave., College Point 56, N. Y.
Blaine Electronetics, Inc., 14757 Keswick St., Van Nuys, Calif.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cadre Industries Corp., Box 150, Endicott, N.Y.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Clegg Laboratories, Div., Clegg, Inc., Morristown, N. J.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Consolidated Productions, Inc., 3991 S. W., 12th Terrace, Fort Lauderdale, Florida
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Crown Controls Co., Inc., 40-44 S. Washington St., New Bremen, Ohio
D & R Plastic Welders, Inc., Hazardville, Conn.
Daystrom Instrument, Archbald, Pa.
Design Tool Corp., 80 Washington St., New York, N.Y.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Doty Accoustical Electronic Labs., Inc., P. O. Box 272, Tobyhanna, Pa.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N.H.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Parts Mfg. Co., Inc., 508-10 25th St., Union City, N.J.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N.Y.
General Kinetics, Inc., 555 23 St., S. Arlington, Va.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Good Electronic, Box 2706, West Palm Beach, Florida
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hansen, William Co., 165 Silver Brook Ave., Wiles, Mich.
Harman, F. Ward Ass., Div., Marine Model Co., Halesite, L. I., N. Y.
Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill.
Industrial Development Labs., Inc., 982 River Rd., Edgewater, N.J.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N.J.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
MacLeod & Hanopol, Inc., 10 Roland St., Charlestown, Mass.

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Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Mast Development Co., Inc., 2212 E. 12 St., Davenport, Iowa
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Merz Engrg., Inc., 200 S. Harding St., Indianapolis, Ind.
Meter-Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Millen, James Mfg., Co., Inc., 150 Exchange St., Malden, Mass.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
Nutron Mfg., Inc., 67 Monroe Ave., Staten Island, N.Y.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Orbit Instrument Corp., 656 Main St., Westbury, N.Y.
P & J Engrg., Inc., 7336 Bellaire Ave., No. Hollywood, Calif.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Petz-Emery, Inc., Pleasant Valley, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Iowa
Research Dev. Mfgr., Inc., 429 E. Collom St., Philadelphia, Pa.
S-R Electronics, 3200 First Ave., S., Seattle, Wash.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Sorenson Industrial Elect., Route 10, Dover, N.J.
Specialty Engrg., Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Spinform, Inc., 65 Mechanic St., Attleboro, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N.Y.
Uniwave, Inc., Grand & Marine Sts., Farmingdale, New York
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

SERVICES. PACKAGING

Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N.Y.
Ansley Mfg. Co., Arthur, New Hope, Pa.
Applied Technology Corp., 475 Fifth Ave., New York, N.Y.
Associated Designers, 135 Las Tunas Dr., San Gabriel, Calif.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N.J.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Continental Can Co., Inc., 100 E. 42nd St., New York, N.Y.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N.H.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electronic Enclosures, 2322 Michigan Ave., Santa Monica, Calif.
Good Electronic, Box 2706, West Palm Beach, Florida
Hi-Lo Mfg., Corp., 1122-26 W. Newport Ave., Chicago, Ill.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N.Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, Ill.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif.
Rowe Engravers, 262 E. 16th St., Paterson, N.J.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
S-R Electronics, 3200 First Ave., S., Seattle, Wash.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N.Y.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N.J.
Telex, Telex Park, St. Paul, Minn.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
U.S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Western Coil & Electrical Co., 215 State St., Racine, Wisc.

SERVICES. PERSONNEL, TECHNICAL

Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Datics Corp., The, P. O. Box 9128, 6000 Camp Bowie Blvd., Fort Worth, Tex.
Decision, Inc., 5751 Mariemont Ave., Cincinnati, Ohio
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Cable Corp., 615 Somerville Ave., Somerville, Mass.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Federal Electric Corp., 621 Industrial Ave., Paramus, N. J.
Jerrold Electronics, Indl. Prod. Div., Dept. T E D 27, Jerrold Bldg., Phila., Pa.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N. J.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Manhattan Physical, Research Group, Inc., 556 W. 191st St., New York, N. Y.
Martin, R. W. & Co., 1011 Woodman Ave., San Fernando, Calif.
Mechaneers Inc., Westport, Conn.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Meter–Mix Corp., 626 Dorchester Ave., S. Boston, Mass.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sams, Howard W. & Co., Inc., 2201 E. 46 St. – Box 558, Indianapolis, Ind.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Statistical Tabulating Corp., 100 Church St., New York, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

SERVICES. PLATING ..... Pgs. 506, 781

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Cal.
American Emblem Co. Inc., P.O. Box 116, Utica, N. Y.
American Nickeloid Co., Second St., Peru, Ill.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Bart Mfg. Corp., 227 Main St., Belleville, N. J.
Bel Fuse, Inc., 198 Van Vorst St., Jersey City, N. J. – Pg. 506
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Boonton Molding Co., 326 Myrtle Ave., Boonton, N. J.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Bureau Of Engraving, Inc., Ind. Div., 500 S. 4th St., Minneapolis, Minn.
Ceramet Corp., 5905 Broadway, New York, N. Y.
Channel Master Corp., Ellenville, N. Y.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Croname, Inc., 6279 Howard St., Chicago, Ill.
Defiance Printed Circuit Corp., P. O. Box 136, 81 Albion St., Wakefield, Mass.
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N. J.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Metals, Inc., 858 Goldsboro St., Greensboro, N.C.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
Gravely Furniture Co. Inc., Ridgeway Div., Martinsville, Va.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Instrument Development Labs, Inc., 67 Mechanic St., Attleboro, Mass.
Keil Engrg. Products Co., 6833 Manchester St., St. Louis, Mo.
M–W Laboratories, Inc., 1824 Milwaukee Ave., Chicago, Ill.
Merit Plating Co., 216 East 141st St., Bronx, N. Y.
Metaplast Co., Inc., 34–51 56th St., Woodside, N. Y.
Norgen Stemac, 5400 So. Delaware, Littleton, Colo.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Poinsettia Co., Inc., 112 Cedar Ave., Pitman, N. J.
Precision Electroplating Co., 519 S. Oakley Blvd., Chicago, Ill.
Sibley Co., The, Haddam, Conn.
Spectronic Plating, Div. Spectranome Plating, 33 W. 13th St., New York, N. Y.–Pg. 781
Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa.
Technic, Inc., 39 Snow St. – P. O. Box 965, Providence, R. I.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Ultra Electro Forming Co., 110 Cedar Ave., Pitman, N. J.
Wright Metalcoaters, Inc., 255 West St., S. Hackensack, N. J.

SERVICES. PUBLICATIONS

All American Engineering Co., Dupont Airport, Wilmington, Del.
Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Benson–Lehner Corp., 11930 W. Olympic Blvd., Los Angeles, Calif.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Can.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Can.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
Dare, Inc., Route 25, Troy, Ohio
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Decision, Inc., 5751 Mariemont Ave., Cincinnati, Ohio
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Federal Electric Corp., 621 Industrial Ave., Paramus, N. J.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Howard Co., Inc., 2201 S. 46 St., Indianapolis, Ind.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kalite Technical Co., 715 Mattison Ave., Asbury Park, N. J.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N. J.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Mechaneers Inc., Westport, Conn.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Missileonics, Inc., Melbourne Airport, Melbourne, Fla.
Oelrich Publications, 4308 N. Milwaukee Ave., Chicago, Ill.
Parks, Henry Francis Lab., Box 1665, Lake City Station, Seattle, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Rider, John F. Publisher, Inc., Dept. EEM – 59 116 W. 14th St., New York, N. Y.
Sams, Howard W. & Co., Inc., 2201 E. 46 St. – Box 558, Indianapolis, Ind.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Technical Publishing House, 4 Tyler Rd., Lexington, Mass.
United Catalog Publishers, Inc., 60 Madison Ave., Hempstead, N. Y.
Westgate Lab. Inc., 506 S. High St., Yellow Springs, Ohio

SERVICES. QUALIFICATION TESTING

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Research & Mfg. Co., 920 Halpine Ave., Rockville, Md.
Ark Engineering Co., 431 W. Tabor Rd., Philadelphia, Pa.
Associated Testing Labs., Inc., 127 Clinton Rd., Caldwell, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dean & Benson Research, Inc., 16 Richmond St., Clifton, N. J.
Double E Products Co., 208 Standard St., El Segundo, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electrical Testing Labs., Inc., 2 East End Ave., New York, N. Y.
Filtron Co., Inc., 131–15 Fowler Ave., Flushing, N. Y.
General Testing Labs., 227 W. Chestnut, P. O. Box 519, Monrovia, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Mechaneers Inc., Westport, Conn.
Miller Industries, 1525 Marion, Grand Haven, Mich.
New York Testing Labs., Inc., 47 West St., New York, N. Y.
Parameters, Inc., 195 Herricks Road, New Hyde Park, N. Y.
Rototest Labs. Inc., 2803 Los Flores Blvd., Lynwood, Calif.
U.S. Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.

SERVICES. SILK SCREENING ..... Pg. 506

Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Emblem Co. Inc., P.O. Box 116, Utica, N. Y.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Avionics Corp. Of America, Maple Ave. & Horsham Rd., Horsham, Pa.
Bel Fuse, Inc., 198 Van Yorst St., Jersey City, N. J.–Pg. 506
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Chicago Dial Co., 29th at La Salle St., Chicago, Ill.
Chicago Thrift–Etching Corp., 1555 No. Sheffield Ave., Chicago, Ill.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Croname, Inc., 6279 Howard St., Chicago, Ill.
Crown Electronics Div., Marathon Metal Prod., 67 Huntington St., Cortland, N. Y.
Defiance Printed Circuit Corp., P. O. Box 136, 81 Albion St., Wakefield, Mass.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Dry Screen Process, Inc., 1016 Madison Ave., Pittsburgh, Pa.
Dunlap Electronics, 764 9th St., Des Moines, Iowa

SERVICES. SILK SCREENING (continued)
Dura Plastics Of N. Y., Inc., 303–5th Ave., New York, N. Y.
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Fabra–Print Inc., 801 S. E. 8 St., Minneapolis, Minn.
Factory Enterprises, Inc., 3431 Butler St., Pittsburgh, Pa.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Graphik Circuits Div., Cinch Mfg., 200 S. Canyon Rd., City Of Industry, Calif.
Hampden Mfg. Co., Inc., 3 Rivers – P. O. Box 89, Palmer, Mass.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Keil Engrg. Products Co., 6833 Manchester St., St. Louis, Mo.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Mech–Tranic Equipment Co., F. O. Box 510, Silver Spring, Md.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York, N. Y.
Miller Dial & Name Plate Co., 4400 N. Temple City Blvd., Elmonte, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Naz–Dar Co., 465 Milwaukee Ave., Chicago, Ill.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif.
Permanent Label Corp., 49 Ackerman St., Bloomfield, N. J.
Poinsettia Co., Inc., 112 Cedar Ave., Pitman, N. J.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Printloid, Inc., 10–10 44th Ave., L. I. City, N. Y.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rowe Engravers, 262 E. 16th St., Paterson, N. J.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J.
Supreme Process Corp., 44 Bond St., Westbury, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Vinson, E. R. Co., 1401 Middle Harbor Rd., Oakland, Calif.
Westronics, Inc., 3605 McCart St., Fort Worth, Tex.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif.

SERVICES. TRAINING AIDS
Allied Engraving & Stamping Co., 17 Eln St., Buffalo, N. Y.
Atomic Labs. Inc., 3086 Claremont Ave., Berkeley, Calif.
Barnes & Reinecke, 230 E. Ohio St., Chicago, Ill.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Fla.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Dirigo Compass & Instrument Co., Boeing Field – Box 37, Seattle, Wash.
Duralith Corp., 1025 Race St., Philadelphia, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Teaching Labs., 1818 M St., N. W., Washington, D. C.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N. Y.
Federal Electric Corp., 621 Industrial Ave., Paramus, N. J.
Film Assocs., 4600 S. Dixie Hgwy., Dayton, Ohio
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Harman, F. Ward Ass., Div. Marine Model Co., Halesite, L. I., N. Y.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Md.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N. J.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Manhattan Physical Research Group, Inc., 556 W. 191st St., New York, N. Y.
Mast Development Co. Inc., 2212 E. 12 St., Davenport, Iowa
Mechaneers Inc., Westport, Conn.
Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago, Ill.
Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Nuclear Products–Erco, Div. ACF Industries, Inc., Box 5, Riverdale, Md.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photographic Analysis Inc., 13272 Ventura Blvd., No. Hollywood, Calif.
Reflectone Corp., Post Rd. & Myano Lane, Stamford, Conn.
Rider, John F. Publisher, Inc., Dept. EEM – 59, 116 W. 14th St., New York, N. Y.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Sams, Howard W. & Co., Inc., 2201 E. 46 St. – Box 558, Indianapolis, Ind.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Teller Co., Box 989, Butler, Pa.
Videon Electronic Corp., 902 E. Michigan St., Indianapolis, Ind.
Westgate Lab. Inc., 506 S. High St., Yellow Springs, Ohio

SERVICES. TREATMENT. FUNGUS AND MOISTUREPROOFING
A. P. M. Co., Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Globe Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif.
Hi–Lo Mfg. Corp., 1122–26 W. Newport Ave., Chicago, Ill.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
Twin City Metalseal Corp., 801 S. E. 8 St., Minneapolis, Minn.

SERVICES. TREATMENT. HEAT ..... Pg. 559
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Gas Furnace Co., 130 Spring St., Elizabeth, N. J.
Apex Electronics Inc., 100 Eighth St., Passaic, N. J.
Atlas E–E Corp., 47 Prospect St., Woburn, Mass.–Pg. 559
Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
Forter–Teichmann Co., 1212 Clark Bldg., Pittsburgh, Pa.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
Hayes, C. I., Inc., 862 Wellington Ave., Cranston, R. I.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Kinetics Corp., 2 Churchill Rd., Hingham, Mass.
Sargeant & Wilbur Heat Treating Corp., 170 York Ave., Pawtucket, R. I.
Taft–Peirce Mfg. Co., The, 32 Mechanic Ave., Woonsocket, R. I.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

SERVICES. WELDING
Anthonsen All Metal Prod. Co., 630 Main St., Westbury, L. I., N. Y.
Artisan Metal Works Co., 11400 Madison Ave., Cleveland, Ohio
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Crown Electronics Div., Marathon Metal Prod., 67 Huntington St., Cortland, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Federal Machine Co., 807 Garfield Ave., Jersey City, N. J.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
General Dynamics Corp., Electric Boat Div., Groton, Conn.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hi–Lo Mfg. Corp., 1122–26 W. Newport Ave., Chicago, Ill.
High Vacuum Equip. Corp., 2 Churchill Rd., Hingham, Mass.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Hughes–Treitler Mfg. Corp., 1045 39th St., Brooklyn, N. Y.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Kelsey–Hayes Co., 3600 Military, Detroit, Mich.
Lorentzen, H. K. Inc., 391 W. Broadway, New York, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham, Mass.
Miller Industries, 1525 Marion, GrandHaven, Mich.
Mobil Electronics Mfg. Co., 1111 State Rd., Anderson, Ind.
Nutron Mfg. Co., Inc., 67 Monroe Ave., Staten Island, N. Y.
Oiljak Mfg. Co., The, Montclair, N. J.
P & J Engrg. Inc., 7336 Bellaire Ave., No. Hollywood, Calif.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Pioneer Industries, Inc., 2700 Hawkeye Dr. – Box 1500, Sioux City, Ia.
Riester & Thesmacher Co., The, 1520 West 25th St., Cleveland, Ohio
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Smith, A. L., Iron Co., Smithcraft Fabr. Div., 200 Bent St., Cambridge, Mass.
Spincraft Inc., 4122 W. State St., Milwaukee, Wisc.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Tickle, A. Engrg. Works, 21 Delavan St., Brooklyn, N. Y.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
U.S. Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vacuum Tube Prods. Co., 2020 Short St., P. O. Box 810, Oceanside, Calif.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif.

SERVOS – SEE CONTROLS. SERVOS

SFERICS EQUIPMENT
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Servomechanisms, Inc., Mechatrol Div., 1200 Prospect Ave., Westbury, N. Y.
Textran Corp., Box 9207, Austin, Tex.

SHAFTS. FLEXIBLE & RIGID – SEE COUPLINGS. SHAFT–RIGID. ETC.

SHEETS. METAL CLAD PRINTED CIRCUIT
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Dela.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Pilgrim Prodts., Inc., 271 Central St., W. Acton, Mass.
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

SHEET METAL STOCK
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Armco Steel Corp., 703 Curtis St., Middletown, Ohio
Belmnt Smelting & Refinig Work, 330 Belmont Ave., Brooklyn, N. Y.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Brush Beryllium Co., 4301 Perkins Ave., Cleveland, Ohio
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Harvey & Co., 41–18 38th St., L. I. City, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Overly–Hautz Co., The, 11500 Madison Ave., Cleveland, Ohio
Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Wah Chang Corp., 233 Broadway, New York, N. Y.

SHELLS. ALL TYPES ..... Pgs. 602, 784
Aluminum Co. Of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brass Co., 414 Meadow St., Waterbury, Conn.
Artisan Metal Works Co., 11400 Madison Ave., Cleveland, Ohio
Brooks & Perkins, Inc., 1950 W. Fort St., Detroit, Mich.
Corry–Jamestown Mfg. Co., Corry, Pa.
Electronic Prod. & Development, Inc., 138 Nevada St., El Segundo, Calif.–Pg. 602
Epoxy Products Inc., Div. Joseph Waldman & Sons, 137 Coit St., Irvington, N. J.–Pg. 784
Falstrom Co., Falstrom Court, Passaic, N. J.
General Metals, Inc., 858 Goldsboro St., Greensboro, N.C.
Kling Metal Spinning Co., 247 Centre St., New York, N. Y.
Mid–West Metal Prod., Inc., 450 E. Donovan Rd., Kansas City, Kan.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Sinclair Mfg. Co., Chartley, Mass.
Spincraft Inc., 4122 W. State St., Milwaukee, Wisc.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.

SHIELDS. CATHODE–RAY TUBE
Ainslie Corp., 312 Quincy Ave., Quincy, Mass.
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
General Aviation & Elect. Mfg. Co., 179 Berger St., Wood Ridge, N. J.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., L. I. City, N. Y.
Magnetic Metals Co., Hayes Ave., 21st St., Camden, N. J.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Micro–Circuits Co., New Buffalo, Mich.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.

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Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.

SHIELDS. COIL
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., L. I. City, N. Y.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Mirro Aluminum Co., Manitowoc, Wisc.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Thale Engrg Corp., 2104 E. Villa St., Pasadena, Calif.

SHIELDS AND DISSIPATORS. HEAT–SEE TUBE/TRANSISTOR HEAT DISSIPATORS

SHIELDS. ELECTROSTATIC
Ace Engineering & Machine Co., Inc., Tomlinson Rd., Huntingdon Valley, Pa.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Micro–Circuits Co., New Buffalo, Mich.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. FERRITE
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Ferroxcube Corp. Of America, 125 E. Bridge St., Saugerties, N. Y.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, Tenn.

SHIELDS. GLASS. R–F
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. HEAT ..... Pgs. 478, 479
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Technical Wire Products Inc., 48 Brown Ave., Springfield, N. J.–Pgs. 478, 479
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. LEAD
Bar–Ray Products, Inc., 209 25th St., Brooklyn, N. Y.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.
National Lead Co., 111 Broadway, New York, N. Y.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Nuclear–Chicago Corp., 223 W. Erie St., Chicago, Ill.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Ray Proof Corp., P. O. Box 1454, Stamford, Conn.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Warren Corp., 2901 Brighton Rd., Pittsburgh, Pa.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. MAGNETIC ..... Pgs. 474, 566
Ace Engineering & Machine Co. Inc., Tomlinson Rd., Huntingdon Valley, Pa.
Aerovox Corp., Crowley Div., 1 Central Ave., West Orange, N. J.
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Elco Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 566
Jan Hardware Mfg. Co., 38–01 Queens Blvd., L. I. City, N. Y.
Magnetic Metals Co., Hayes Ave. 21st St., Camden, N. J.
Magnetics, Inc., P. O. Box 391, Butler, Pa.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.–Pg. 474
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
National Moldite Co., 250 South St., Newark, N. J.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. NUCLEAR RADIATION
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Atomic Accessories, Inc., 244–02 Jamaica Ave., Bellerose, N. Y.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bar–Ray Products, Inc., 209 25th St., Brooklyn, N. Y.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Controlled Atmosphere Enclosures, 128–35 226th Ave., Springfield Gardens, N. Y.
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Firth Sterling Inc., 3113 Forbes St., Pittsburgh, Pa.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Isotopes Specialties Co., Box 688, Burbank, Calif.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
National Radiac, Inc., 475 Washington St., Newark, N. J.
Norton Co., 1 New Bond St., Worcester, Mass.
Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis, Ind.
Nucleonic Corp. Of America, 196 De Graw St., Brooklyn, N. Y.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Ray Proof Corp., P. O. Box 1454, Stamford, Conn.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Technical Associates, 140 W. Providencia Ave., Burbank, Calif.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Volk Radiochemical Co., 5412 N. Clark St., Chicago, Ill.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.

SHIELDS. RADIO IGNITION ..... Pgs. 478, 479
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Co–Op Industries, Inc., 100 Oakdale Rd., Chester, N. J.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.–Pgs. 478, 479
Thale Engrg. Corp., 2104 E. Villa St., Pasadena, Calif.

SHIELDS. RUBBER
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Electronet, Div. Of Rue Products, 1628 Venice Blvd., Venice, Calif.
Roberts Toledo Rubber Co., 4143 Monroe St., Toledo, Ohio
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

SHIELDS. SHEET OR SCREEN – ALSO SEE SCREEN ROOMS ..... Pgs. 478, 479, 481
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.–Pgs. 478, 479
Topatron, Inc., 942 E. Ojai Ave., Ojai, Calif.
U.S. Plywood Corp., Electr. Structures Dept., 55 W. 44th St., New York, N. Y.
Watson Mfg. Co., Inc., 4800 Taylor St., Jamestown, N. Y.–Pg. 481
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. TRANSFORMER
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., L. I. City, N. Y.
Kling Metal Spinning Co., 247 Centre St., New York, N. Y.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Magnetic Metals Co., Hayes Ave. 21st St., Camden, N. J.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.

SHIELDS. TUBE. LINERS AND INSERTS Pgs. 474, 477–479, 559, 566, 820, 1144, 1157–1159, 1061
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Atlas E–E Corp., 47 Prospect St., Woburn, Mass.–Pg. 559
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.–Pg. 1144
EBY Sales Co., 130 Lafayette St., New York, N. Y.
ELCO Corp., M St. Below Erie Ave., Philadelphia, Pa.–Pg. 566
International Electronic Research Corp., 145 W. Magnolia Blvd., Burbank, Calif.–Pgs. 1061, 1157 – 1159
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.–Pg. 474
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Middlesex Paper Tube Co., 345 Chelmford St., Lowell, Mass.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.–Pg. 820
National Moldite Co., 250 South St., Newark, N. J.
Nems Clarke, Div. Vitro, Corp. Of America, 919 Jesup–Blair Dr., Silver Spring, Md.
Newton Insert Co., 6500 Avalon Boulevard, Los Angeles, Calif.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Schuyler Mfg. Corp., 84 Porete Ave., North Arlington, N. J.–Pg. 477
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.–Pg. 478, 479
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIELDS. WIRE ..... Pgs. 1186, 1187, 1194
Alpha Wire Corp., 200 Varick St., New York, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles, Calif.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N. Y.–Pg. 1194
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
National–Standard Co., Niles, Mich.
New England Electrical Works, Inc., Lisbon, N. H.
Perfection Mica Co., Magnetic Shield Div., 1322 N. Elston, Chicago, Ill.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Thale Engrg. Corp., 2104 E. Villa St., Pasadena, Calif.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

SHIFTERS. PHASE. COLOR
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Dytronics, P. O. Box 3676, Columbus, Ohio
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

SHIFTERS. PHASE. MICROWAVE ..... Pgs. 796, 798, 799, 800, 810, 818, 820, 837
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Budd–Stanley Co., Inc., 43–01 22nd St., L. I. City, N. Y.–Pg. 796
Demornay–Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif.–Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.–Pg. 800
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, Calif.
Ferrotec, Inc., 217 California St., Newton, Mass.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pg. 810
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Maxson, W. L. Corp, 475 Tenth Ave., New York, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner Pkway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley, Mass.–Pg. 818
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y.–Pg. 820
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Waveline, Inc., Box 718, W. Caldwell, N. J.–Pg. 837

SHIMS ..... Pg. 607
Acme Mfg. & Gasket Co., 738 N. 41 St., Philadelphia, Pa.
Anti–Corrosive Metal Products Co., Inc., River Rd., Castleton–On–Hudson, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Crucible Steel Co. Of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh, Pa.

SHIMS (continued)
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
General Gaskets, Inc., Middletown, Conn.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N.Y. – Pg. 607
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Wilmington Fibre Specialty Co., New Castle, Del.
Wrought Washer Mfg. Co., 2252 South Bay St., Milwaukee, Wisc.

SHORAN SYSTEMS – SEE NAVIGATION

SHUNTS. METER ..... **Pgs. 670, 694–698, 1030, 1034**
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Bach–Simpson Ltd., 1255 Brydges St., London, Can.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro Mechanical Instr. Co., Perkasie, Pa. – Pg. 670
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio–Pgs. 694–698
International Resistance Co., 401 N. Broad St., Phil., Pa.–Pg. 1030
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa.–Pg. 1034
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Winslow Co., Inc., 707 Lehigh Ave., Union, N. J.

SHUTTERS. MICROWAVE ..... **Pgs. 796, 1145, 1147**
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Bonac Labs. Inc., Salem Rd., Beverly, Mass.–Pgs. 1145, 1147
Budd–Stanley Co., Inc., 43–01 22nd St., L. I. City, N. Y.–Pg. 796
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Associates, Inc., Burlington, Mass.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., 109 Marine St., Farmingdale, N. Y.

SIGNAL LIGHTS – SEE LIGHTS. SIGNAL

SILICON – SEE METALS

SILICON OILS
Central Scientific Co., Of Canada, 146 Kendal Ave., Toronto, Can.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L.I., N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Silicone Products Dept., Waterford, N. Y.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.

SILICONE GREASES
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Ed–Berl Products, Inc., 96 S. Grand Ave., Baldwin, L. I., N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Silicone Products Dept., Waterford, N. Y.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.

SILICONE INSULATORS & INSULATION – SEE INSULATING COMPOUNDS

SILICONE RUBBER
Connecticut Hard Rubber Co., 407 East St., New Haven, Conn.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Corning Corp., Midland, Mich.
Emerson & Cuming, Inc., 869 Washington St., Canton, Mass.
Garlock Packing Co., The, Palmyra, N. Y.
General Electric Co., Plastics Dept., 2200 N. 22nd St., Decatur, Ill.
General Electric Co., Silicone Products Dept., Waterford, N. Y.
General Gaskets, Inc., Middletown, Conn.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Minnesota Rubber Co., 3630 Wooddale Ave., Minneapolis, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Moxness Prod. Inc., 1914 Indiana Ave., Racine, Wisc.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Permacel, U. S. Highway 1, New Brunswick, N. J.
Permanent Label Corp., 49 Ackerman St., Bloomfield, N. J.
Plymouth Rubber Co., Inc., Canton, Mass.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Rubbercraft Corp. Of Calif., 1800 W. 220 St., Torrance, Calif.
Russell Gasket Co., 7424 Bessemer Ave., Cleveland, Ohio
Union Carbide Corp., Silicones Div., 30 E. 42nd St., New York, N. Y.
Western Felt Works, 4029 Ogden Ave., Chicago, Ill.

SILICONES – SEE METALS

SILK SCREENS & PROCESSING SERVICES – SEE SERVICES. SILK SCREENING

SILVER AND ALLOYS – SEE METALS

SIMULATORS & TRAINERS
Atomic Labs. Inc., 3086 Claremont Ave., Berkeley, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Can.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Central Dynamics Ltd., 147 Hymus Blvd., Pte. Claire, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Computing Devices Of Candad Ltd., P. O. Box 508, Ottawa, Can.
Daystrom Instrument, Archbald, Pa.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Technical Institute, 970 W. Manchester, Inglewood, Calif.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
General Dynamics Corp., Electric Boat Div., Groton, Conn.
General Kinetics, Inc., 555 23 St., S. Arlington, Va.
Gilfillan Bros. Inc., 1815 Venice Blvd., Los Angeles, Calif.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Md.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., L. I. City, N. Y.
Link Aviation, Inc., Binghamton, N. Y.
Mast Development Co. Inc., 2212 E. 12 St., Davenport, Iowa
Melody Master Mfg. Co., 2842 N. Cicero Ave., Chicago, Ill.
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N., Hopkins, Minn.
Nuclear Products–Erco, Div. ACF Industries, Inc., Box 5, Riverdale, Md.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Philbrick Researches, Inc., 285 Columbus Ave., Boston, Mass.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Servonics, Inc., 822 N. Henry St., Alexandria, Va.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.
Westronics Of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.

SIMULATORS. FLIGHT ..... **Pgs. 684, 722**
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Bendix Aviation Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Can.
Canadian Curtiss–Wright Ltd., 1980 Sherbrooke St. W., Montreal, Can.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Computing Devices Of Canada Ltd., P. O. Box 508, Ottawa, Can.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Donner Scientific Co., 888 Galindo St., Concord, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Federal Scientific Corp., 615 W. 131 St., New York, N. Y.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hampstead, N. Y.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif.–Pg. 684
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.–Pg. 722
Mid–Century Instrumatic Corp., 611 Broadway, New York, N. Y.
Nuclear Products–Erco, Div. ACF Industries, Inc., Box 5, Riverdale, Md.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Royal Industries, Inc., 1035 Westminster Ave., Alhambra, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Task Corp., 1009 E. Vermont, Anaheim, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore, Md.

SIMULATORS. SIGNAL ..... **Pgs. 722, 796, 814, 824, 970, 971, 1104**
Ampex Instrument Div., 934 Charter St., Redwood, Calif.–Pgs. 970, 971
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
Belock Instrument Corp., 112–03 14th Ave., College Point, N. Y.
Budd–Stanley, 43–01 22nd St., L. I. C., N. Y. – Pg. 796
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Can.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N. Y.
Federal Scientific Corp., 615 W. 131 St., New York, N. Y.
General Applied Science Labs., 59 Hempstead Gardens Dr., Hempstead, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway – P. O. & Bin N., Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.–Pg. 814
Link Aviation, Inc., Binghamton, N. Y.
Micro Gee Prod., Inc., 6319 W. Slauson Ave., Culver City, Calif.–Pg. 722
National Elctrns Labs., Sub. Thiokol Chem., 1713 Kalorama NW, Washington, D. C.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Parsons, Ralph M. Co., Electrn. Div., 151 S. De Lacey Ave., Pasadena, Calif.–Pgs. 824, 1104
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair, Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Statistical Inst. Co., 330 Haven Ave., New York, N. Y.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.

SLEEVES – SEE INSULATION PARTS

SLIDES. CHASSIS ..... **Pgs. 481, 482**
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Chassis–Trak, Inc., 525 S. Webster Ave., Indianapolis, Ind.
Flotron Industries, 301 E. Regent St., Inglewood, Calif.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Grant Pulley & Hardware Corp., High St., W. Nyack, N. Y.

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Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Jonathan Mfg. Co., 720 E. Walnut Ave., Fullerton, Calif.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Slideways Mfg. Co., 8075 Woodley Ave., Van Nuys, Calif.
Watson Mfg. Co., Inc., 4800 Taylor St., Jamestown, N. Y.–Pg. 481
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.–Pg. 482

SLIDES. EQUIPMENT. CABINET ..... Pgs. 476, 481, 482

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Grant Pulley & Hardware Corp., High St., W. Nyack, N. Y.
Jonathan Mfg. Co., 720 E. Walnut Ave., Fullerton, Calif.
Par–Metal Prod. Corp., 32–48 49th St., L. I. City, N. Y.–Pg. 476
Slideways Mfg. Co., 8075 Woodley Ave., Van Nuys, Calif.
Watson Mfg. Co., Inc., 4800 Taylor St., Jamestown, N. Y.–Pg. 481
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.–Pg. 482

SLIDES. EQUIPMENT. HARDWARE ..... Pgs. 476, 482

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y.
Amco Engineering Co., 7333 W. Ainslie St., Chicago, Ill.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Grant Pulley & Hardware Corp., High St., W. Nyack, N. Y.
Jonathan Mfg. Co., 720 E. Walnut Ave., Fullerton, Calif.
Par–Metal Prods. Corp., 32–48 49th St., L. I. City, N. Y.–Pg. 476
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.–Pg. 482

SLIDING LOADS. MICROWAVE ..... Pgs. 796, 798, 799, 800, 804, 817

Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Budd–Stanley Co., Inc., 43–01 22nd St., L. I. City, N. Y.–Pg. 796
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., Inc., 252 E. Third St., Mt. Vernon, N. Y.–Pg. 800
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.–Pg. 804
Gombos, John Co.,Inc., 103 Montgomery Ave., Irvington, N. J.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner Pkway, Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
T.E.M., Inc., 71 Okner Parkway, Livingston, N. J.–Pg. 817
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine St., Farmingdale, N. Y.
Waveline, Inc., Box 718, W. Caldwell, N. J.

SLOTTED LINES. MICROWAVE ..... Pgs. 796, 798, 799, 800, 804, 809, 810, 834, 837

Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N. Y.
Budd–Stanley Co., Inc., 43–01 22nd St., L. I. City, N. Y.–Pg. 796
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Can.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif.–Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co. Inc., 252 E. Third St., Mt. Vernon, N. Y.–Pg. 800
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y.–Pg. 804
General Radio Co., 22 Baker Ave., W. Concord, Mass.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif.–Pgs. 809, 810
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Microtech, Inc., 2975 W. Main St., Moorestown, N. J.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Radar Design Corp., Box 38, Syracuse, N.Y..
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N. Y.–Pg. 834
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Ta–Mar, Inc., 11571 W. Jefferson Blvd.–Box 1217, Culver City, Calif.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 MarineSt., Farmingdale, N. Y.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Waveline, Inc., Box 718, W. Caldwell, N. J.–Pg. 837
Wright Engineering Co.,180 E. California St., Pasadena, Calif.

SNIPS

Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.
In–Dus–Tronic Div., H. Boker & Co., Inc., 101 Duane St., New York, N. Y.
Kraeuter & Co.,Inc., 583–585 18th Ave., Newark, N. J.

SOCKETS. ADAPTER ..... Pgs. 566, 569, 576, 654, 771

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Anaheim Electronics Co., Inc., 2259 W. Falmouth, Anaheim, Calif.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Barker Products Co., 3 Component Park, West Bridgewater, Mass.
Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa. – Pg. 654
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Dero Electronics, 134 Nassau Rd., Roosevelt, N. Y.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Erca Tool–Die & Stamping Co., 19 Ash St., Brooklyn, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass.
Morse Co., Frank W., 354 Congress St., Boston, Mass.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., – P.O. Box 729, Pomona, Calif. – Pg. 576
Rodale Mfg. Co., Inc., Emmaus, Pa.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Vidaire Electronics Mfg. Corp., 44 Church St., Baldwin, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Workman Tv, Inc., 309 Queen Anne Rd., Teaneck, N. J.

SOCKETS. COIL

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Millen, James Mfg. Co.,Inc., 150 Exchange St., Malden, Mass.

SOCKETS, CRYSTAL ..... Pgs. 566, 771

Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

SOCKETS, DIODE – ALSO SEE HOLDERS, DIODE

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.

SOCKETS. LAMP ..... Pgs. 857–876, 878, 879

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aeronautical Electric Co., 5656 Northwest Hway., Chicago, Ill.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Circon Component Corp., Municipal Airport, Goleta, Calif.
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Dialight Corp. Of America, 60 Stewart Ave., Brooklyn, N. Y.–Pgs. 857–871
Drake Mfg. Co., 4620 N. Olcott Ave., Chicago, Ill.–Pg. 872–875
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
Gem Electric Mfg. Co., 233–37th St., Brooklyn, N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Leecraft Mfg. Co. Inc., 58–60 Greene St., Dept. E, New York, N. Y.–Pgs. 878, 879
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Morse Co., Frank W., 354 Congress St., Boston, Mass.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Star–A–Electric Mfg. Co., 269 Meserol St., Brooklyn, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.

SOCKETS. MINIATURE ..... Pgs. 566, 569, 576, 771, 857–871, 878, 879

Aeronautical Electric Co., 5656 Northwest Hway., Chicago, Ill.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Circon Component Corp., Municipal Airport, Goleta, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Dialight Corp. Of America, 60 Stewart Ave., Brooklyn, N. Y.–Pgs. 857–871
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
Garlock Packing Co., The, Palmyra, N. Y.
Gem Electric Mfg. Co., 233–37th St., Brooklyn, N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Javex, P. O. Box 646, Redlands, Calif.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Leecraft Mfg. Co. Inc., 58–60 Greene St., Dept. E, New York, N. Y.–Pgs. 878, 879
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Morse Co., Frank W., 354 Congress St., Boston, Mass.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R.I.
Pomona Electronics Co., Inc., 1126 W. 5th Ave.–P. O. Box 729, Pomona, Calif.–Pg. 576
Rodale Mfg. Co., Inc., Emmaus, Pa.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
U.S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.

SOCKETS. MINIATURE (continued)
Wade Electric Products, 400 Jacob St., Sturgis, Mich.

SOCKETS. PENCIL TUBE ..... Pgs. 569, 878, 879
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Jettron Products, Route 10, Hanover, N. J.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Leecraft Mfg. Co. Inc., 58–60 Greene St., Dept. E, New York, N. Y.–Pgs. 878, 879

SOCKETS. PILOTLIGHT ASSEMBLIES ..... Pgs. 857–876, 878, 879
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aeronautical Electric Co., 5656 Northwest Hway., Chicago, Ill.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Circon Component Corp., Municipal Airport, Goleta, Calif.
Dialight Corp. Of America, 60 Stewart Ave., Brooklyn, N. Y.–Pgs. 857–871
Drake Mfg. Co., 4620 N. Olcott Ave., Chicago, Ill.–Pgs. 872–875
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. T.
Elbema Corp., 1805 Belcroft Ave., El Monte, Calif.–Pg. 876
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Korry Mfg., Inc., 223 8th Ave., N., Seattle, Wash.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Leecraft Mfg. Co. Inc., 58–60 Greene St., Dept. E, New York, N. Y.–Pgs. 878, 879
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Marco Industries Co., 207 S. Helena St. – P. O. Box 110, Anaheim, Calif.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Tingstol Co., 1461 W. Grand Ave., Chicago, Ill.

SOCKETS. PRINTED CIRCUIT ..... Pgs. 566, 569, 644, 771, 1157–1159
Circon Component Corp., Municipal Airport, Goleta, Calif.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Good Electronic, Box 2706, West Palm Beach, Fla.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
International Elctrn. Res. Corp., 145 W. Magnolia Blvd., Burbank, Calif. – Pgs. 1157–1159
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, IH.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R.I.
Superex Electronics Corp., 4–6 Radford Pl., Yonkers, N. Y.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.–Pg. 644

SOCKETS. RELAY ..... Pgs. 569, 654, 1157–1159
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Anaheim Electronics Co., Inc., 2259 W. Falmouth, Anaheim, Calif.
Armel Electronics Inc., 840 Fifth Ave., Brooklyn, N. Y.
Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa.–Pg. 654
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa.
International Elctrn. Res. Corp., 145 W. Magnolia Blvd., Burbank, Calif.–Pgs. 1157–1159
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
North Electric Co., 553 S. Market St., Galion, Ohio
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Viking Industries, Inc., 21343 Roscoe Blvd., Canoga Park, Calif.

SOCKETS. SUBMINIATURE ..... Pgs. 566, 569, 600, 771
A–1 Precision Products, 5454 W. Washington Blvd., Los Angeles, Calif.–Pg. 600
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Circon Component Corp., Municipal Airport, Goleta, Calif.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Jettron Products, Route 10, Hanover, N. J.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R.I.
Pomona Electronics Co., Inc., 1126 W. 5th Ave.–P. O. Box 729, Pomona, Calif.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Viking Industries, Inc., 21343 Roscoe Boulevard, Canoga Park, Calif.

SOCKETS. TRANSISTOR ..... Pgs. 566, 568, 569, 771
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aeronautical Electric Co., 5656 Northwest Hway., Chicago, Ill.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J.–Pg. 771
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill.–Pg. 568
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Industrial Hardware, Mfg. Corp., 109 Prince St., New York, N. Y.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Plastic Mold & Engrg. Co., Inc., 157 Clifford St., Providence, R. I.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Sylvania Electronic Products, Inc., Parts Div., Warren, Pa.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Workman Tv, Inc., 309 Queen Anne Rd., Teaneck, N. J.

SOCKETS. TUBE & ADAPTER ALSO SEE HOLDERS. TUBE ..Pgs. 532, 566, 569, 576, 600, 771
A–1 Precision Prod. Co., 5454 W. Washington Blvd., Los Angeles, Calif.–Pg. 600
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Alden Products Co., 146 N. Main St., Brockton, Mass.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Eitel–McCullough, Inc., 301 Industrial Rd., San Carlos, Calif.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa. – Pg. 566
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Garlock Packing Co., The, Palmyra, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.–Pg. 532
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.–Pg. 569
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
National Co., Inc., 61 Sherman St., Malden, Mass.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Pomona Electronics Co., Inc., 1126 W. 5th Ave.–P. O. Box 729, Pomona, Calif.–Pg. 576
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Workman Tv, Inc., 309 Queen Anne Rd., Teaneck, N. J.

SOCKETS. TURRET
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.

SOCKETS. UHF TUBE ..... Pg. 566
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa.
Jettron Products, Route 10, Hanover, N. J.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill.

SOCKETS. WIRING PLUG
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aeronautical Electric Co., 5656 Northwest Hway., Chicago, Ill.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Circon Component Corp., Municipal Airport, Goleta, Calif.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Eby Sales Co., 130 Lafayette St., New York, N. Y.
Elco Corp., M. St. Below Erie Ave., Philadelphia, Pa.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.

SOLDER. ALL TYPES ..... Pgs. 1108, 1110, 1112
All–State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.
Allen L. B. Co., Inc., 9329 Berenice, Schiller Park, Ill.
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
American Metal Climax, Inc., 61 Broadway, New York, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.–Pg. 1108
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Chemalloy Electronics Co., Gillespie Airport, Santee, Calif.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Dalweld Co. Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Dunton, M. W. Co., 7 Goff St., Providence, R. I.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Electrovert, Inc., 124 E. 40th St., New York, N. Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Farrelloy Co., 1243 N. 26 St., Philadelphia, Pa.
Gem Electric Mfg. Co., 233–37th St., Brooklyn, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Metallurgical Prods., Roosevelt Pk., Box 237, Detroit, Mich.
Handy & Harman, 82 Fulton St., New York, N. Y.
Johnson Mfg. Co., Inc., 616 First St., N., Mt. Vernon, Ia.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.–Pg. 1112
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Lenk Mfg. Co., The, Franklin, Ky.
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
Materials For Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Metals & Controls Corp., General Plate Div., 31 Forest St., Attleboro, Mass.
Metz Refining Co., 369 Mulberry St., Newark, N. J.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Multicore Sales Corp., Dept. MY 1299, 80 Shore Rd., Pt. Washington, N. Y.–Pg. 1110
National Lead Co., 111 Broadway, New York, N. Y.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif.
New York Solder Co., 684 E. 133rd St., Bronx, N. Y.
Rayline, Inc., 161 First St., Mineola, N. Y.
Ruby Chemical Co., 68 McDowell St.–P. O. Box 1108, Columbus, Ohio
Standard Packaging Corp., Johnston Foil Div., 6106 So. Broadway, St. Louis, Mo.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Technical Research & Development Labs., Box 544, Cincinnati, Ohio
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, N. Y.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.
Workman Tv, Inc., 309 Queen Anne Rd., Teaneck, N.J.

SOLDER POTS ..... Pg. 1109
Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
American Gas Furnace Co., 130 Spring St., Elizabeth, N. J.
Cerro De Pasco Sales Corp., 300 Park Ave., New York, N. Y.
Dee Electric Co., 1101 N. Paulina St., Chicago, Ill. – Pg. 1109
Delta Chemical Works, 21 W. 60th St., New York, N. Y.

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Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago, Ill.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Electric Soldering Iron Co., W. Elm St., Deep River, Conn.
Electronics, Inc. of Pa., 39 York Rd., Willow Grove, Pa.
Electrovert, Inc., 124 E. 40th St., New York, N. Y.
Farrelloy Co., 1243 N. 26 St., Philadelphia, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Miac Prods. Co., 742 Walnut St., Ft. Wayne, Ind.
Technical Research & Development Labs., Box 544, Cincinnati, Ohio
Turner Brass Works, 821 Park Ave., Sycamore, Ill.
Vulcan Electric Co., 88 Holten St., Danvers, Mass.
Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J.

SOLDER RINGS & PREFORMS ..... **Pgs. 1108, 1112**
Allen L. B. Co., Inc., 9329 Berenice, Schiller Park, Ill.
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N. Y.–Pg. 1108
Art Wire & Stamping Co., 227 High St., Newark, N. J.
Belmont Smelting & Refining Work, 330 Belmont Ave., Brooklyn, N. Y.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Farrelloy Co., 1243 N. 26 St., Philadelphia, Pa.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Handy & Harman, 82 Fulton St., New York, N. Y.
Johnson Mfg. Co., Inc., 616 First St., N., Mt. Vernon, Ia.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.–Pg. 1112
Materials For Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
National Lead Co., 111 Broadway, New York, N. Y.
Special Chemicals Corp., 100 S. Water St., Ossining, N. Y.
Stover Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Templeman, D. R., Co., 8 Park St., Plainville, Conn.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.

SOLDERING EQUIP., PRINTED CIRCUIT ..... **Pg. 1111**
Design Tool Corp., 80 Washington St., New York, N. Y.
Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago, Ill.
Electrovert, Inc., 124 E. 40th St., New York, N. Y.
Erikson Specialized Tool Co., Box 424, Pico, Calif. – Pg. 1111
Farrelloy Co., 1243 N. 26 St., Philadelphia, Pa.
Gregg Electric Sales Co., 620 Essex St., Lawrence, Mass.
Hexacon Electric Co., 161 W. Clay Ave., Roselle Park, N. J.
Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
Jefferson Electronic Prods. Corp., 322 State St., Santa Barbara, Calif.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Lenk Mfg. Co., The, Franklin, Ky.
Lepel High Frequency Labs., 55th & 37th Ave., Woodside, N. Y.
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
Mechaneers, Inc., Westport, Conn.
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Ungar Electric Tools, Inc., 4101 Redwood Ave., Los Angeles, Calif.
Vulcan Electric Co., 88 Holten St., Danvers, Mass.
Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J.
Wall, P. Mfg. Co., Erie & Grant St., P. O. Box 71, Grove City, Pa.

SOLDERING EQUIP., ULTRASONIC ..... **Pg. 1111**
Aeroprojects, Inc., 310 E. Rosedale Ave., West Chester, Pa.
Alcar Instruments, Inc., 17 Industrial Ave., Little Ferry, N. J.
Circo Ultrasonics Corp., 51 Terminal Ave., Clark, N. J.
Erikson Specialized Tool Co., Box 424, Pico, Calif.–Pg. 1111
Farrelloy Co., 1243 N. 26 St., Philadelphia, Pa.
Gregg Electric Sales Co., 620 Essex St., Lawrence, Mass.
Gulton Industries, Inc., Vibro Ceramics Div., 212 Durham Ave., Metuchen, N. J.
McKenna Labs., 2503 Main St., Santa Monica, Calif.
Mechaneers Inc., Westport, Conn.
Wye Industries, 6 General Devine Way, Boston, Mass.

SOLDERING GUNS
Electric Soldering Iron Co., W. Elm St., Deep River, Conn.
Gregg Electric Sales Co., 620 Essex St., Lawrence, Mass.
Hexacon Electric Co., 161 W. Clay Ave., Roselle Park, N. J.
Lenk Mfg. Co., The, Franklin, Ky.
Luma Electric Equip. Co., P. O. Box 132, Toledo, Ohio
Roche, Paul Co., 11 Park Pl., New York, N. Y.
Ungar Electric Tools, Inc., 4101 Redwood Ave., Los Angeles, Calif.
Vari Corp., 2825 Cedar Ave., Minneapolis, Minn.
Wall, P. Mfg. Co., Erie & Grant St., P. O. Box 71, Grove City, Pa.
Wassco Electric Prods. Corp., 1213 W. Acres, Joliet, Ill.
Weller Electric Corp., 601 Stone's Crossing Rd., Easton, Pa.
Zephyr Mfg. Co., 201 Hindry Ave., Box 759, Inglewood, Calif.

SOLDERING IRONS & ACCESSORIES ..... **Pgs. 506, 1110–1113**
American Electrical Heater, 6110 Cass Ave., Detroit, Mich.
Anchor Products Co., 2712 W. Montrose Ave., Chicago, Ill.
Atlas Mfg. Co., Inc., 1126 S. Decatur St., Montgomery, Ala.
Bow Solder Products Co., 251 Freeman St., Brooklyn, N. Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago, Ill.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L. I. City, N. Y.
Electric Soldering Iron Co., W. Elm St., Deep River, Conn.
Erikson Specialized Tool Co., Box 424, Pico, Calif.–Pg. 1111
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.
Gen. Cement Mfg. Co., Div. of Textron Inc. Corp., 400 S. Wyman St., Rockford, Ill.–Pgs. 506, 1110
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Gregg Electric Sales Co., 620 Essex St., Lawrence, Mass.
Hexacon Electric Co., 161 W. Clay Ave., Roselle Park, N. J.
Johnson Mfg. Co., Inc., 616 First St., N., Mt. Vernon, Ia.
Joslyn–Hudson, Inc., Subs. Amelco, 2040 Colorado Ave., Santa Monica, Calif.
Kemode Mfg. Co., Inc., 161 W. 18th St., New York, N. Y.
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.–Pg. 1112
Kwikheat Mfg. Co., 3732 San Fernando Rd., Glendale, Calif.
Lenk Mfg. Co., The, Franklin, Ky.
Mitchell Industries, Inc., P.O. Box 17, Mineral Wells, Tex.
National Specialties Co., 1902 Howell St., Ft. Wayne, Ind.
Oryx Co., 9015 Wilshire Blvd., Beverly Hills, Calif.
Roche, Paul Co., 11 Park Pl., New York, N. Y.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Selas Corp. of America, Dresher, Pa.
Technicraft Co., 1156 Commonwealth Ave., Boston, Mass.
Ungar Electric Tools, Inc., 4101 Redwood Ave., Los Angeles, Calif.
Ungar, Sid, Co., Inc., Box 312 – 1729 W. Washington, Venice, Calif.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, N. Y.
Vari Corp., 2825 Cedar Ave., Minneapolis, Minn.
Vulcan Electric Co., 88 Holten St., Danvers, Mass.
Wall, P. Mfg. Co., Erie & Grant St., P. O. Box 71, Grove City, Pa.
Wassco Electric Prods. Corp., 1213 W. Acres, Joliet, Ill.
Weller Electric Corp., 601 Stone's Crossing Rd., Easton, Pa.
Wilder Mfg. Co., Inc., Mechanic St. & Erie R. R., Port Jervis, N. Y.–Pg. 1113
Zephyr Mfg. Co., 201 Hindry Ave., Box 759, Inglewood, Calif.

SOLENOID DRIVERS, SOLID STATE
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.

SOLENOIDS ALSO SEE COILS ..... **Pgs. 584, 998, 1082, 1087**
A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Adel Precision Prod. Div., General Metals, 10777 Vanowen St., Burbank, Calif.
Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Applied Dynamics Corp., 32 N. Main St., Natick, Mass.
Artisan Electronics Corp., 171 Ridgedale Ave., Morristown, N. J.
Asquith Co., S. A., 427 W. Chevy Chase Dr., Glendale, Calif.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Caltron Products Co., 3518 W. Pico Blvd., Los Angeles, Calif.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Controls Company Of America, Schiller Park, Ill.–Pg. 1082
Cunningham, James, Son & Co., 33 Litchfield St., Rochester, N. Y. – Pg. 1087
Curtiss–Wright Corp., Electr. Div. Comp. Dept., 620 Passaic Ave., W. Caldwell, N. J.
Curtiss–Wright Corp., Electr. Div. Instrs. Dept., 631 Central Ave., Carlstadt, N. J.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Five Star Co., 10 W. Main St., Plantsville, Conn.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hillburn Electronic Prod., 55 Nassau Ave., Brooklyn, N. Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Induction Motors Corp., 570 Main St., Westbury, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Knopp, Inc., 1307 66th St., Oakland, Calif.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Leetronics, 30 Main St., Brooklyn, N. Y.
Leland, G. H. Inc., 123 Webster St., Dayton, Ohio
Lisk Co., Clifton Springs, N. Y.
Magne Tec. Corp., The, 11785 W. Olympic Blvd., Los Angeles, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maurer, J. A. Inc., 37–01 31st St., L. I. City, N. Y.
Mcquay–Norris Mfg. Co., 2320 Marconi St., St. Louis, Mo.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif.
Menlo Park Engineering, 721 Hamilton Ave., Menlo Park, Calif.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Naybor, E. V. Laboratories, Inc., 26 Manorhaven Blvd., Pt. Washington, N. Y. – Pg. 998
New York Coil Co., Phoenixville, Pa.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago, Ill.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
P. S. P. Engrg. Co., Div. Induction Motor Corp., 6058 Walker Ave., Maywood, Calif.–Pg. 584
Pacific Solenoids, Inc., 500 E. Franklin Ave., El Segundo, Calif.
Phillips Control Corp., 59 W. Washington St., Joliet, Ill.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
U. S. Relay Co., 717 No. Coney Ave., Azusa, Calif.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Waco, Inc., 2032 Broadway, Santa Monica, Calif.
West Coast Electrical Mfg., 233 W. 116th Pl., Los Angeles, Calif.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Winatic Corp., The, P. O. Box 240, Endicott, N. Y.

SOLVENTS ..... **Pg. 505**
Allied Chemical Corp., General Chemical Div., 40 Rector St., New York, N. Y.–Pg. 505
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
Aries Labs., Inc., 45–33 Davis St., L. I. City, N. Y.
Barco Chemical Products Co., 701–703 S. Lasalle, Chicago, Ill.
Cobehn, Inc., 226 Passaic Ave., Caldwell, N. J.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dow Chemical Co., Midland, Mich.
Electronic Engineers, Inc., 5615 W. Division St., Chicago, Ill.
Electroparts, P.O. Box 1137, Glendale, Calif.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
Kerden Chemical Co., P. O. Box 1076, Cleveland, Ohio
Kester Solder Co., 4201 Wrightwood Ave., Chicago, Ill.
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
Mona Industries, Inc., Patterson, N. J.
Oakite Products Inc., 79 Rector St., New York, N. Y.
Octagon Process, Inc., 64 Bank St., Staten Island, N. Y.
Robins Industries Corp., 36–27 Prince St., Flushing, N. Y.
Sterling Varnish Co., Haysville Borough, Sewickley, Pa.
Wye Industries, 6 General Devine Way, Boston, Mass.

SONAR SYSTEMS
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Briggs Associates, Inc., 10 Dekalb St., Norristown, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Chesapeake Instrument Corp., Shadyside, Md.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N. Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N. Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
MP Engineering Co., Fairfield, Conn.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.

SONAR SYSTEMS (continued)
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas Tex.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.

SONOMETER – SEE AUDIOMETER

SOUND RECORDING EQUIP. – SEE MICROPHONES, RECORDERS, ETC

SOUND SYSTEMS, COMPLETE – SEE PUBLIC ADDRESS SYSTEMS

SPACERS ..... Pg. 772
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Anti–Corrosive Metal Products Co., Inc., River Rd., Castleton–On–Hudson, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Buchanan Electrical Products Corp., 260 U.S. 22, Hillside, N. J.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y.–Pg. 772
Garde Mfg. Co., 588 Eddy St., Providence, R.I.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kees, F. D. Mfg. Co., 700 Park St., Beatrice, Neb.
Linde Co., Crystals Dept. – Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Louthan Mfg. Co., P. O. Box 781, East Liverpool, Ohio
Monadnock Mills, 1977 First Ave., San Leando, Calif.
Sinclair Mfg. Co., Chartley, Mass.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
U.S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.

SPACISTORS
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.

SPAGHETTI – SEE INSULATION PARTS, TUBING

SPEAKER CONES & PARTS
Ferro Powdered Metals, Magnetic Materials Div., Salem, Ind.
Welsh, Wm. H. Co., Inc., 2241 Indiana Ave., Chicago, Ill.

SPEAKERS, CRYSTAL
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.

SPEAKERS, DRIVER UNITS ..... Pg. 456
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.–Pg. 456
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Dare, Inc., Route 25, Troy, Ohio
Hartley Products Co., 521 E. 162rd St., Bronx, N. Y.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rockbar Corp., 650 Halstead Ave., Mamaroneck, N. Y.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Stephens Tru–Sonic, Inc., 8538 Warner Dr., Culver City, Calif.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

SPEAKERS, DYNAMIC, ELECTRO
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
Becker Electronics Mfg. Co., Horton & Rockaway Aves., Valley Stream, N. Y.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Quam–Nichols Co., Marquette Rd. At Prairie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.

SPEAKERS, DYNAMIC, P–M ..... Pgs. 460, 462, 465, 466
Arkay Products Mfg. Co., 4111–13 W. Jefferson Blvd., Los Angeles, Calif.
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Becker Electronics Mfg. Co., Horton & Rockaway Aves., Valley Stream, N. Y.
Carbonneau Industries, Inc., 100 Lexington Ave., S.W., Grand Rapids, Mich.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Federal Electronics Sales, Div. Fedtro, Electronics Bldg., Rockville Centre, N. Y.–Pg. 460
General Phones Corp., 5711 Howe St., Pittsburgh, Pa.
Hartley Products Co., 521 E. 162nd St., Bronx, N. Y.
Heath Co., Benton Harbor, Mich.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Lake Mfg. Co., 2323 Chestnut St., Oakland, Calif.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Minneapolis Speaker Co., 3806 Grand Ave., S. Minneapolis, Minn.
Neshaminy Electronic Corp., Easton Rd., Neshaminy, Pa.
North American Philips, High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N. Y.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.–Pg. 462
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Quam–Nicholas Co., Marquette Rd. At Prairie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Mfg. Engineers, Inc., Div. Electro–Voice, Inc., Buchanan, Mich.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Rockbar Corp., 650 Halstead Ave., Mamaroneck, N. Y.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., L. I. City, N. Y.
Sonotone Corp., Electronic Applications Div., CCC–39, Elmsford, N. Y.–Pg. 465
Stephens Tru–Sonic, Inc., 8538 Warner Dr., Culver City, Calif.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.–Pg. 466
Transducers, Inc., 2957 Honolula Ave., La Crescenta, Calif.
Utah Radio Products Corp., 1124 E. Franklin St., Huntington, Ind.
Wright–Zimmerman, New Brighton, Minn.

SPEAKERS, ELECTROSTATIC ..... Pg. 1098
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif.–Pg. 1098
Neshaminy Electronic Corp., Easton Rd., Neshaminy, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.

SPEAKERS, EXPLOSION & FLAME PROOF ..... Pg. 456
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.–Pg. 456
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.

SPEAKERS, HIGH FIDELITY, SYSTEMS ..... Pgs. 462, 465
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Ampex Corp., Instrumentation Div., 934 Charter St., Redwood City, Calif.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Arnhold Ceramics, Inc., 1 E. 57th St., New York, N. Y.
BarkerSales Co., 339 S. Broad Ave., Ridgefield, N. J.
Becker Electronics Mfg. Co., Horton & Rockaway Aves., Valley Stream, N. Y.
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, N. J.
Bozak Sales Co., The, R. T., Box 1166, Darien, Conn.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Duotone Co., Inc., Locust St., Keyport, N. J.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., L. I. City, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Hartley Products Co., 521 E. 162nd St., Bronx, N. Y.
Heath Co., Benton Harbor, Mich.
Hobbs, Guy Inc., Dallastown, Pa.
Holland Standards, Inc., Box 908, 717 Center Point Rd., N.E., Cedar Rapids, Iowa
Intelex Systems Inc., 22 Thames St., New York, N. Y.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
KLH Research & Dev. Corp., 30 Cross St., Cambridge, Mass.
Magnavox Co., The, 2131 Bueter Rd., Fort Wayne, Ind.
Minneapolis Speaker Co., 3806 Grand Ave., S. Minneapolis, Minn.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Neshaminy Electronic Corp., Easton Rd., Neshaminy, Pa.
North American Philips, High Fidelity Prod. Div., 230 Duffy Ave., Hicksville, N. Y.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.–Pg. 462
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Pilot Radio Corp., 37–06 36th St., L. I. City, N. Y.
Port–O–Vox Corp., 521 W. 43 St., New York, N. Y.
Quam–Nichols Co., Marquette Rd. At Prairie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. Of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Reeves Equipment Corp., Tandberg Div., 10 E. 52 St., New York, N. Y.
Rockbar Corp., 650 Halstead Ave., Mamaroneck, N. Y.
Setchell Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Sieler Design Products, 10460 San Pablo Ave., El Cerrito, Calif.
Sonotone Corp., Electronic Applications Div., CCC–39, Elmsford, N. Y.–Pg. 465
Stephens Tru–Soncic, Inc., 8538 Warner Dr., Culver City, Calif.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Utah Radio Products Corp., 1124 E. Franklin St., Huntington, Ind.
Viking Of Minn., 9600 Aldrich Ave., S. Minneapolis, Minn.
Weathers Industires, Div. Advanced Industries, 66 E. Gloucester, Barrington, N. J.
Wharfedale, Div. British Industries Corp., 80 Shore Rd., Pt. Washington, N. Y.

SPEAKERS, HORNS – SEE HORNS, SPEAKER

SPEAKERS, IONIZATION
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.

SPEAKERS, MARINE ..... Pg. 456
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.–Pg. 456
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N. Y.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

SPEAKERS, WEATHERPROOF ..... Pgs. 456, 462
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y.–Pg. 456
Becker Electronics Mfg. Co., Horton & Rockaway Aves., Valley Stream, N. Y.
Bogen–Presto, Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey
Carbonneau Industries, Inc., 100 Lexington Ave., S. W., Grand Rapids, Mich.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N. Y.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Minneapolis Speaker Co., 3806 Grand Ave., S., Minneapolis, Minn.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill. – Pg. 462
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Quam–Nichols Co., Marquette Rd. at Prairie Ave., Chicago, Ill.
Racon Electric Co., Inc., 1261 Broadway, New York, N. Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Remler Co., 2101 Bryant St., San Francisco, Calif.
Tannoy Ltd., 38 Pearl St., New York, N. Y.
University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y.
Utah Radio Products Corp., 1124 E. Franklin St., Huntington, Ind.

SPECTROMETERS, MASS
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.

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American Optical Co., Instrument Div., Box A, Buffalo, N. Y.
Atomic Labs Inc., 3086 Claremont Ave., Berkeley, Calif.
Beckman/Scientific Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.

SPECTROMETERS & SPECTROGRAPHS

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Applied Research Labs., P. O. Box 1710, Glendale, Calif.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Franklin Electronics, Inc., Bridgeport, Pa.
Gaertner Scientific Corp, The, 1261 Wrightwood Ave., Chicago, Illinois
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Perkin-Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Solarton, Inc., 530 Cooper St., Camden, N. J.
Varian Associates, Palo Alto, Calif.

SPECTROPHOTOMETERS

American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
American Instrument Co., 8030 Georgia Ave., Silver Spring, Md.
Applied Physics Corporation, 2724 So. Peck Rd., Monrovia, Calif.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Beckman/Scientific Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.
Epic, Inc., 154 Nassau St., New York, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland, Ohio
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Kruger, Harold Instruments, Box 164, San Gabriel, Calif.
Librascope, Inc., Commercial Div., 40 E. Verdugo Ave. – Box 550, Burbank, Calif.
Perkin-Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
Phoenix Precision Instrument Co., 3803 N. 5 St., Philadelphia, Pa.
Research Instruments Corp., 18 S. 12th St., Richmond, Va.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

SPECTROSCOPIC SOURCE UNITS

Applied Research Labs., P. O. Box 1710, Glendale, Calif.
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass.
Bausch & Lomb Optical Co., 879 St. Paul St., Rochester, N. Y.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.

SPLICING EQUIPMENT, FILM

Eastman Kodak Co., Special Prod. Sls. Div., Rochester, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Harwald Co., Inc., 1245 Chicago Ave., Evanston, Ill.
Plymouth Rubber Co., Inc., Canton, Mass.
Shepard Laboratories, Inc., Broad St., Summit, N. J.

SPLICING EQUIPMENT, MAGNETIC TAPE

Alonge Products Inc., 163 W. 23 St., New York, N. Y.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Magnecessories, Box 6960, Washington, D. C.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Orradio Industries, Inc., Shamrock Circle, Opelika, Ala.
Reiter Co., 3340 Bonnie Hill Dr., Hollywood, Calif.
Robins Industries Corp., 36-27 Prince St., Flushing, N. Y.
Shepard Laboratories, Inc., Broad St., Summit, N. J.
Tech Laboratories, Inc., Palisades Park, N. J.

SPLICING EQUIPMENT, PAPER TAPE

Prestoseal Mfg. Corp., 37-27 33 St., Long Island City, N. Y.

SPRING CONTACT, METAL STOCK

Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.
Springfield Spring, 837 State St., Springfield, Mass.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.

SPRINGS, ANTENNA ..... Pg. 633

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
Henry Products Co., 842 Rockaway Ave., Brooklyn, N. Y.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.
Springfield Spring, 837 State St., Springfield, Mass.
Wind Turbine Co., East Market St., W. Chester, Pa.

SPRINGS, HAIRSPRING ..... Pg. 633

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
American Laubscher Corp., 250 W. 57th Street, New York, N. Y.
Chatillon, John & Sons, 85 Cliff St., New York, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Springfield Spring, 837 State St., Springfield, Mass.

SPRINGS, HELICAL, PRECISION ..... Pg. 607

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
Ace Spring Mfg. Co., 78 W. Houston St., New York, N. Y.
Barnes-Gibson-Raymond Div., P. O. Box 555, 40300 Plymouth Rd., Plymouth, Mich.
Chatillon, John & Sons, 85 Cliff St., New York, N. Y.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Instrument Specialties Co., Inc., 254 Bergen Blvd., Little Falls, N. J.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lee Spring Co., Div. Leetronics, Inc., 30 Main St., Brooklyn, N. Y.
Leetronics, 30 Main St., Brooklyn, N. Y.
Mid-West Spring Mfg. Co., Mentone, Ind.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Templeman, D. R., Co., 8 Park St., Plainville, Conn.

SPRINGS, LEAF, PRECISION

General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Instrument Specialties Co., Inc., 254 Bergen Blvd., Little Falls, N. J.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Lee Spring Co., Div. Leetronics, Inc., 30 Main St., Brooklyn, N. Y.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

SPRINGS, RADIO AND PHONO HARDWARE ..... Pg. 633

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
I. E. Manufacturing, 325 N. Hoyne Ave, Chicago, Ill.
Mid-West Spring Mfg. Co., Mentone, Ind.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.
Springfield Spring, 837 State St., Springfield, Mass.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Templeman, D. R., Co., 8 Park St., Plainville, Conn.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

SPRINGS, SPIRAL, PRECISION ..... Pg. 607

Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Barnes-Gibson-Raymond Div., P.O. Box 555, 40300 Plymouth Rd., Plymouth, Mich.
Chatillon, John & Sons, 85 Cliff St., New York, N. Y.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lee Spring Co., Div., Leetronics, Inc., 30 Main St., Brooklyn, N. Y.
Leetronics, 30 Main St., Brooklyn, N. Y.
Mattatuck Mfg. Co., 1981 E. Main St., Waterbury, Conn.
Mid-West Spring Mfg. Co., Mentone, Ind.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y.
PIC Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y. – Pg. 607
Springfield Spring, 837 State St., Springfield, Mass.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Templeman, D. R., Co., 8 Park St., Plainville, Conn.

STAMPINGS, METAL OR PLASTIC ..... Pgs. 467, 473, 559, 633, 772, 774, 778

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Accurate Spring Mfg. Co., 3811 W. Lake St., Chicago, Ill.
Acme Mfg. & Gasket Co., 738 N. 41 st., Philadelphia, Pa.
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Allied Engraving & Stamping Co., 17 Elm St., Buffalo, N. Y.
Allied Fabricating Corp., 1538 N. Clybourn Ave., Chicago, Ill.
Alpha Metals, Inc., 56 Waters St., Jersey City, N. J.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Emblem Co., Inc., P. O. Box 116, Utica, N. Y.
American MICA Insulation Co., Manasquan, N. J.
Ansco Div., General Aniline & Film Corp., 40 Charles St., Binghamton, N. Y.
Art Wire & Stamping Co., 227 High St., Newark, N. J.
Atlas E-E Corp., 47 Prospect St., Woburn, Mass. – Pg. 559
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Augat Bros., Inc., 31 Perry Ave., Attleboro, Mass.
Auto Test, Inc., 600 Michigan Ave., Chicago, Ill.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Baltic Metal Products Co., Dept. E., 120 Sutton St., Brooklyn, N. Y. – Pg. 467
Barnes-Gibson-Raymond Div., P. O. Box 555, 40300 Plymouth Rd., Plymouth, Mich.
Barwood L. J. Mfg. Co., Inc., 22 Williams St., Everett, Mass.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Carroll Pressed Metal, Inc., 133 Dewey St., Worcester, Mass.
Centronix, Inc., 4000 N. 2. 28th St., Miami, Fla.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Colman Elctrn. Prod., Inc., P. O. Box 7026, Amarillo, Texas
Como Plastics, Inc., 97-24 Albert Rd., Ozone Park, N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Culver-Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Dahlstrom Metallic Door Co., Special Products Div., Jamestown, N. Y.
Diehl Co., 1728 Grand Central Terminal, New York, N. Y.
Dimick Mfg. Co., Jefferson, Ore.
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Division Lead Co., 7742 W. 61st Pl., Summit, Ill.
Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn, N. Y.
Electro-Products, Inc., 15050 Schaefer Hwy., Detroit, Mich.
Elzee Metal Products Co., Inc., 775 39th St., Brooklyn, N. Y.
Erca Tool-Die & Stamping Co., 19 Ash Street, Brooklyn, N.Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Etched Products Corp., 39-01 Queens Blvd., Long Island City, N. Y.
Etching Co. of Calif., Q Circuits, Div., 1208 Howard St., San Francisco, Calif.
Falstrom Co., Falstrom Court, Passaic, N. J.
Farwell Metal Fabricating, 123 W. Fairfield Ave., St. Paul, Minn.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plaines, Ill.
Federal Tool & Mfg. Co., 3600 Alabama Ave., Minneapolis, Minn.
Feiner, P. & Sons, 522 W. 45 St., New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N. Y. – Pgs. 772, 774

STAMPINGS, METAL OR PLASTIC (continued)
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Findings & Supply Co., Industrial Div., Leach Bldg., Attleboro, Mass.
General Metals, Inc., 858 Goldsboro St., Greensboro, N. C.
Golden Co., 1054 38 St. Brooklyn, N. Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
H. K. Metalcraft Mfg. Co., 3785 10 Ave., New York, N. Y.
HPL Mfg. Co., 15210 Miles Ave., Cleveland, Ohio
Hampden Mfg. Co., Inc., 3 Rivers – P. O. Box 89, Palmer, Mass.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N. Y.
Holden–Massey Corp., 142 Allen Blvd., Farmingdale, N. Y.
Hudson Tool & Die Co., Inc., 18 Malvern St., Newark, N. J.
I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill.
Independent Metal Fabricator, 321 Casanova St., Bronx, N. Y.
Industrial Hardware Mfg. Corp., 109 Prince St., New York, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
King Laboratories, Inc., 127 Solar St., Syracuse, N. Y.
Kling Metal Spinning Co., 247 Centre St., New York, N.Y.
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N. Y.
Laminated Sheet Products Corp., 449 Neponset St., P. O. Box 390, Norwood, Mass.
Laminations Co., 300 Main St., Stamford, Conn.
La Vezzi Machine Works, 4635 W. Lake St., Chicago, Ill.
Lee Spring Co., Div. Leetronics, Inc., 30 Main St., Brooklyn, N. Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Lorentzen, H. K. Inc., 391 W. Broadway, New York, N. Y.
M. M. Enclosurers, Inc., 111 Bloomingdale Rd., Hicksville, L. i., N. Y. – Pg. 473
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Master Mechanics Mfg. Co., Inc., 541 Sixth Ave., New York, N. Y.
Mattatuck Mfg. Co., 1981 E. Main St., Waterbury, Conn.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Micro Gear, Box 6, Prophetstown, Ill.
Middletown Mfg. Co., Middletown, Conn.
Mid–West Spring Mfg. Co., Mentone, Ind.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Milwaukee Stamping Co., 800 S. 72 St., Milwaukee, Wisc.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mirro Aluminum Co., Manitowoc, Wisc.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Mohawk Mfg. Co., The, P. O. Box 1110, Middletown, Conn.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Monadnock Mills, 1977 First Ave., San Leandro, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
National Lead Co., 111 Broadway, New York, N. Y.
Newcomb Spring of Conn., Inc., Route 10, Southington, Conn.
Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N .Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Norwalk Thermostat Co., Norwalk, Ohio
Nylon Molding Corp., 41 South Ave., Garwood, N. J.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Penn Television Products Co., 1835 Ruan St., Philadelphia, Pa.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
PIX Mfg. Co., Inc., 81A Hudson St., Newark, N. J.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Sheffco Mfg. Corp., Div. Townsend, 323 Bergen Blvd., Fairview, N. J.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Sightmaster Corp., Box 3260 – Olneyville Sta., 50 Aleppo St., Providence, R. I.
Sinclair Mfg. Co., Chartley, Mass.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
Sparks Co., 906 E. Center St., Milwaukee, Wisc.
Spinform Inc., 65 Mechanic St., Attleboro, Mass.
Stanley Works, The, New Britain, Conn.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N. J.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa.
Stewart Stamping Co., 630 Central Park Ave., Yonkers, N. Y.
Stimpson Co., Inc., 74 Franklin Ave., Brooklyn, N. Y.
Stone City Products Co., 1206–Seventh Street, Bedford, Indiana
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Tayloreel Corp., 185 Murray St., Rochester, N. Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Teiner, Roland Co., Inc., 134 Tremont St., Everett, Mass.
Tepfor & Sons, Inc., 651 Lexington Ave., Brooklyn, N. Y.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Universal Mfg. Co., Inc., 1168 Grove St., Irvington, N. J.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.
Winzeler Mfg. & Tool Co., 7355 W. Wilson Ave., Chicago, Ill.
Wrought Washer Mfg. Co., 2252 South Bay St., Milwaukee, Wisc.
Zell Products Corp., 276–280 Main St. – Box 590, Norwalk, Conn.
Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif.

STAMPS, MARKING
Griffin Co., 2157 James Ave., St. Paul, Minn.
Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N. Y.
Krengel Mfg. Co., Inc., 227 Fulton St., New York, N. Y.
Matthews & Co., James &., 3832 Forbes Ave., Pittsburgh, Pa.
Mayer, George Jay Co., 546 E. Market St., Indianapolis, Ind.
Noble & Westbrook Mfg. Co., 20 Westbrook St., E. Hartford, Conn.

STANDARDS, ATOMIC BEAM
National Co., Inc., 61 Sherman St., Malden, Mass.

STANDARDS, CAPACITANCE ..... **Pgs. 485, 661, 669, 752, 764**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Arco Electronics Inc., 64 White St., New York, N. Y. – Pg. 485
Boonton Electronics Corp., Morris Plains, N. J. – Pg. 661
Electro–Measurements, Inc., 7524 S. W. Macadam Ave., Portland, Ore. – Pg. 669
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Heath Co., Benton Harbor, Mich.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Liquidometer Corp., The, 41–03 36th St., L. I. City, N. Y.
Minneapolis–Honeywell Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y. – Pg. 752
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

STANDARDS, FREQUENCY ..... **Pgs. 589, 594, 655, 706, 716, 720, 724, 726, 727, 735, 736, 804, 810, 812, 958**
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American Time Prod. Co., 580 Fifth Avenue, New York, N. Y.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Blackhawk Engrg. Co., Box 146, Janesville, Wisc.
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Bulova Watch Co., Electronics Div., 40–06 62nd St., Woodside, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Delta–F, Inc., 113 E. State St., Geneva, Ill.
Designers for Industry, 4241 Fulton P'kway., Cleveland, Ohio
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro–Associates, Box 22, St. Albans, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
Fecker, J.W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Furzehill Labs., 550 Fifth Ave., New York, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wis.
Greenray Industries, Electronics Div., Mechanicsburg, Pa.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pgs. 810, 812
Hill Electronics, Inc., 300 North Chestnut St., Mechanicsburg, Pa. – Pg. 589
Hycon Eastern, Inc., 75 Cambridge P'kway., Cambridge, Mass.
Industrial Test Equipment Co., 55 E. 11 St., New York, N. Y. – Pg. 706
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Knights, James K., Co., The, 101 E. Church St., Sandwich, Ill.
Lavoie Laboratories, Inc., Morganville, N. J. – Pg. 716
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Marconi Instruments, Ltd., 111 Cedar Lane, Englewood, N. J. – Pg. 720
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Norrman Laboratories, Williams Bay, Wisc. – Pg. 724
Northeastern Engrg., Inc., 25 South Bedford St., Manchester, N. H.
Panoramic Radio Products, Inc., 520 S. Fulton St., Mt. Vernon, N. Y. – Pgs. 726, 727, 735, 736
Philamon Laboratories, Inc., 90 Hopper St., Westbury, New York
Pitometer Log Corp., 237 Lafayette St., New York, N. Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Reeves–Hoffman Div. Dynamics Corp. of America, Carlisle, Pa. – Pg. 594
Riverbank Labs., Dept. of Engrg., P. O. Box 65, Geneva, Ill.
Standard Electronics Research Corp., 2 E. End Ave., New York, N. Y.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.
VARO Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

STANDARDS, INDUCTANCE ..... **Pg. 752**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Boonton Radio Corp., Intervale Road, Boonton, N. J.
Burnell & Co., Inc., Dept. 0, 10 Pelham Parkway, Pelham, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Sullivan, H.W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N.Y. – Pg. 752

STANDARDS, INSTRUMENT, CALIBRATION – ALSO SEE TESTERS, METERS **Pgs. 743, 791**
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California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
North Atlantic Industries, Inc., 603 Main St., Westbury, N. Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J. – Pg. 743
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.

STANDARDS, MOLECULAR
National Co., Inc., 61 Sherman St., Malden, Mass.

STANDARDS, PHASE ..... **Pg. 645**
Acton Labs., Inc., 533 Main St., Acton, Mass. – Pg. 645

STANDARDS, RESISTANCE ..... **Pgs. 654, 669, 710, 711, 752, 764, 1016**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa. – Pg. 654
Consolidated Resistance Co. of America, Inc., 44 Prospect St., Yonkers, N. Y. – Pg. 1016
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Measurements Inc., 7524 S. W. Macadam Ave., Portland, Ore. – Pg. 669
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Resistance, Inc., 577 E. 156th St., New York, N. Y.
Gray Instrument Co., 200 E. Church Lane, Philadelphia, Pa.
Heath Co., Benton Harbor, Mich.
Julie Research Lab., Inc., 556 West 168th St., New York, N. Y. – Pgs. 710, 711
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Miller Electro–Research Labs., 5529 S. 5th St., Milwaukee, Wisc.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. at 35th St., Phila., Pa.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
Physics Research Labs., Inc., 507 Hempstead Turnpike, Box 555, Hempstead, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Sullivan, H. W., Ltd., Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y. – Pg. 752
Ultronix, Dept. 59, 111 East 20th Ave., San Mateo, Calif.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764

STANDARDS, TEMPERATURE
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Smith, E. C. Mfg. Co., Conshohocken, Pa.

STANDARDS, TIME ..... **Pgs. 546, 655, 724, 812**
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 665
Borg Equip. Div., Amphenol–Borg Electronics, 120 S. Main St., Janesville, Wisc.
Designers for Industry, 4241 Fulton Pkway., Cleveland, Ohio

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Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electro Precision Corp., Box 669, Arkadelphia, Ark. – Pg. 546
Fecker, J. W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Geotechnical, The, Corp., 3401 Shiloh Rd., Garland, Texas
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 812
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Co., Inc., 61 Sherman St., Malden, Mass.
Norrman Laboratories, Williams Bay, Wisc. – Pg. 724
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif.
Textran Corp., Box 9207, Austin, Texas

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Beckman/Systems Div., 325 N. Muller St., Anaheim, Calif.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Conn.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Demolab Corp., 1550 N. Highland Ave., Hollywood, Calif.
EPR **Special Products Corp., 675 Barbey St., Brooklyn, N. Y.**
Electronic Measurements Co., Inc., Eatontown, N. J. – Pg. 896
Elk Electronic Labs., Inc., 333 W. 52nd St., New York, N. Y.
Holt Instrument Lab., Oconto, Wisc.
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Julie Research Lab., Inc., 556 West 168th St., New York, N.Y. – Pg. 710
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Rubicon Instr. Div., Ridge Ave. At 35th St., Phila., Pa.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N.Y. – Pg. 940
Physics Research Labs., Inc., Box 555, Hempstead, N. Y. – Pg. 740
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Radiation, Inc., P.O. Box 37, Melbourne, Fla.
Sensitive Research Instrument Corp., 310 Main St., New Rochelle, N.Y. – Pg. 744
Transistor Devices, Div. Instr. Masters, 11 Hamburg Tpke., Riverdale, N.J.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141

STANDS, MICROPHONE ..... **Pg. 456**
American Microphone Mfg., Div. GC–Textron, 400 So. Wyman St., Rockford, Ill.
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y. – Pg. 456
B & K Instruments, Inc., 511 Oalmoor, Bay Village, Ohio
Baughman Co., 1914 Cogswell Rd., El Monte, Calif.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, N.J.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dazer Mfg. Corp., 4481 Duncan Ave., St. Louis, Mo.
Eastern Mike Stand Co., 66 Christopher Ave., Brooklyn 12, N.Y.
Electro–Voice, Inc., Cecil & Carroll Sts., Buchanan, Mich.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Fen–Tone Corp., 106 5th Ave., New York, N.Y.
Flexo International Corp., 3720–N. Milwaukee Ave., Chicago, Ill.
Henry Products Co., 842 Rockaway Ave., Brooklyn, N.Y.
Luxo Lamp Corp., Dock St., Pt. Chester, N.Y.
Racon Electric Co., Inc., 1261 Broadway, New York, N.Y.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Roanwell Corp., 180 Varick St., New York, N.Y.
Snyder Mfg. Co., 22nd & Ontario St., Philadelphia, Pa.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y.
Turner Co., The, 909 17th St., N.E., Cedar Rapids, Iowa

STANDS, PROJECTOR ..... **Pg. 456**
Atlas Sound Corp., 1447 39th St., Brooklyn, N. Y. – Pg. 456
Equipto Div., Aurora Equipment Co., Aurora, Ill.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.

STANDS, SPEAKER ..... **Pg. 456**
Atlas Sound Corp., 1447 39th St., Brooklyn, N.Y. – Pg. 456
Henry Products Co., 842 Rockaway Ave., Brooklyn, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl, 15–1, Camden, N.J.

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Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. – Pg. 800
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 810
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pgs. 820, 823
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N.Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Waveline, Inc., Box 718, W. Caldwell, N.J.

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Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N.Y.
Staplex Co., Air Sampler Div., 777 Fifth Ave., Brooklyn, N.Y.

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Allis–Chalmers Mfg. Co., 935 S. 70th St., Milwaukee, Wisc.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N.J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio

STATORS, MOTOR & GENERATOR
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James International, 855 6th Ave., New York, N.Y.
Laminations Co., 300 Main St., Stamford, Conn.
Magnetic Metals Co., Hayes Ave. 21st St., Camden, N. J.

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STEEL – SEE METALS
STEREOPHONIC EQUIP. – SEE AMPLIFIERS, PREAMPLIFIERS, TUNERS, PICKUPS, RECORDERS, ETC.

STEREOSCOPE
Buhl Optical Co., 1009 Beech Ave., Pittsburgh, Pa.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Thomas Instrument Co., Route 1, Phoenix, N. Y.

STILLS & DEMINERALIZERS
Barnstead Still & Sterilizers Co., Inc., 2 Lanesville Ter., Boston, Mass.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Culligan, Inc., Northbrook, Ill.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Penfield Mfg. Co., Inc., 19 High School Ave., Meriden, Conn.

STIMULATORS
American Electronic Labs., Inc., 121 N. 7th St., Philadelphia, Pa.
Applegate & Co., C. J., 1840 24th St., Boulder, Colorado
Aviation Electronic Service, No. 12 St., Whelling, Ill.
Electro–Medical Lab., Inc., S. Woodstock, Vt.
Electrodyne Co., Endicott St., Norwood, Mass.
Ensco, Inc., 3100 Eldredge St., Salt Lake City 15, Utah
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Lab–Tronics, Inc., 3656 N. Lincoln Ave., Chicago, Ill.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Mooradian High Frequency Labs., 13 W. Fort Lee Rd., Bogota, N.J.
Standard Electronics Research Corp., 2 E. End Ave., New York, N.Y.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.

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Electronic Prod. & Development, Inc., 138 Nevada St., El Segundo, Calif. – Pg. 602
Enthone, Inc., 442 Elm St., New Haven, Conn.
Fidelity Chemical Products Corp., 472 Frelinghuysen Ave., Newark, N.J.
General Cement Mfg. Co., Div. Textron, 400 S. Wyman, Rockford, Ill. – Pg. 506
London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill.
Mona Industries, Inc., Paterson, N. J.
Octagon Process, Inc., 64 Bank St., Staten Island, N.Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Wye Industries, 6 General Devine Way, Boston, Mass.

STRIPPERS, WIRE, HAND
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N.J.
Carpenter Mfg. Co., Inc., P.O. Box 217 Highbridge Rd., Dewitt, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Eraser Co., Inc., The, 1068 So. Clinton St., Syracuse, N. Y.
General Cement Mfg. Co., Div. Of Textron, 400 S. Wyman St., Rockford, Ill.
General Hardware Co., 80 White St., New York, N.Y.
Holub Industries, Inc., 413 DeKalb Ave., Sycamore, Ill.
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.
Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
MacDonald & Co., 1324 Ethel St., Glendale, Calif.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Miller, K. Tool & Mfg. Co., Inc., 8 Cass St., Springfield, Mass.
Neuses, P. K., Inc., W. Euclid & Snyder Sts., Arlington Hts., Ill.
Proto Tool Co., 2209 Santa Fe Ave., Los Angeles, Calif.
Smith, Herman H., Inc., 2326 Nostrand Ave., Brooklyn, N.Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

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Carpenter Mfg. Co., Inc., P.O. Box 217, Highbridge Rd., Dewitt, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Prod. & Development, Inc., 138 Nevada St., El Segundo, Calif. – Pg. 602
Eraser Co., Inc., The, 1068 So. Clinton St., Syracuse, N.Y.
Eubanks Engineering Co., 260 No. Allen Ave., Pasadena, Calif.
High Speed Hammer Co., Inc., The, 313 Norton St., Rochester, N. Y.
Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
Jennings Machine Corp., 3452 Ludlow St., Philadelphia, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.
Thomas Instrument Co., Route 1, Phoenix, N. Y.
Western Electronic Prods., 655 Colman St., Altadena, Calif.
Wire Stripper Co., 1721 Eastham Ave., East Cleveland, Ohio
Wybar Electronics, Inc., Box 388, Auburn, N. Y.

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Eraser Co., Inc., The, 1068 So. Clinton St., Syracuse, N.Y.

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Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
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American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Auto Test, Inc., 600 S. Michigan Ave., Chicago, Ill.
Berkshire Labs., 3 Pleasant St., Hanover, N. H.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Chadwick–Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif.
Communication Measurements Labs., Inc., 350 Leland Ave., Plainfield, N. J.
Edmund Scientific Corp., 502 E. Gloucester Pike, Barrington, N. J.
Electronic Brasing Co., 140 Glenridge Ave., Montclair, N. J.
Epic, Inc., 154 Nassau St., New York, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hickok Electrical Instr. Co., 10500 DuPont Ave., Cleveland, Ohio – Pg. 698
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Loral Electronics Corp., 825 Bronx River Ave., New York, N. Y.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Pantek Co., Box 212, El Segundo, Calif.
Slaughter Co., Piqua, Ohio – Pg. 747
Sticht, H. H. Co., Inc., 27 Park Pl., New York 7, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Western Gear Corp., 2600 E. Imperial Hghwy., P.O. Box 182, Lynwood, Calif.
Wilcox Research Co., 7250 Hinds Ave., No. Hollywood, Calif.

STRONTIUM & COMPONENTS – SEE METALS
STUDIO EQUIPMENT – SEE CONSOLES, CAMERAS, LIGHTING EQUIP., ETC.

STRAIN RELIEFS ..... **Pg. 779**
American Molded Products Co., 2727 W. Chicago Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Fastex Div. Ill. Tool Works, 195 Algonquin Rd., Des Plains, Ill.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 779
Heyman Mfg. Co., East Michigan Ave., Kenilworth, N. J.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.

STYLI, CUTTING
Astatic Corp., Conneaut, Ohio
Audio Devices, Inc., 444 Madison Ave., New York, N. Y.
Bogen-Presto, Div. Siegler Corp., P. O. Box 500, Paramus, New Jersey

STYLI. CUTTING (continued)
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Duotone Co., Inc., Locust St., Keyport, N. J.
Electrovox Co., Inc., 60 Franklin St., East Orange, N. J.
Fidelitone, Inc., 6415 Ravenswood Ave., Chicago, Ill.
Jensen Industries, Inc., 7333 W. Harrison St., Forest Park, Ill.
Miller, M. A. Mfg. Co., 4th & Church St., Libertyville, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Recoton Corp., 52-35 Barnett Ave., L. I. City, N. Y.
Reeves Soundcraft Corp., Great Pasture Rd., Danbury, Conn.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

STYLI. PLAYBACK
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Astatic Corp., Conneaut, Ohio
Audio Devices, Inc., 444 Madison Ave., New York, N. Y.
Bennett, Paul & Co., 230 N. Ohio St., Chicago, Ill.
Capps & Co., Inc., 20 Addison Place, Valley Stream, N. Y.
Duotone Co., Inc., Locust St., Keyport, N. J.
Electrovox Co., Inc., 60 Franklin St., East Orange, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fidelitone, Inc., 6415 Ravenswood Ave., Chicago, Ill.
Jensen Industries, Inc., 7333 W. Harrison St., Forest Park, Ill.
Materials For Elctrns., Contl. Hotel Bldg., 152-25 138th Ave., Jamaica, N. Y.
Miller, M. A. Mfg. Co., 4th & Church St., Libertyville, Ill.
Pfanstiehl Chemical Corp., 104 Lake View Ave., Waukegan, Ill.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Recoton Corp., 52-35 Barnett Ave., L. I. City, N. Y.
Reeves Soundcraft Corp., Great Pasture Rd., Danbury, Conn.
Televex Co., The, 46 Lakeview Ave., Yonkers, N. Y.
Tetrad Co., Inc., 62 St. Mary St., Yonkers, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

STYLUS. UNIT. HOT
Bracke-Seib X-Ray Co., Inc., 16 Pelham Bay Pk., W., Pelham Manor, N. Y.
Capps & Co., Inc., 20 Addison Place, Valley Stream, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.

SUPPLIES POWER – SEE POWER SUPPLIES

SUPPORTS. TUBE – SEE HOLDERS. TUBE

SUPPRESSORS. HARMONIC
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Essex Electronics, Berkeley Heights, N.J.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.

SUPPRESSORS. NOISE ..... Pg. 1017
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Continental Carbon, Div. of Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Dynamic Electronics, N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Essex Electronics, Berkeley Heights, N. J.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
Ohio Carbon Co., The, 12508 Berea Road, Cleveland, Ohio
Penn. Resistor Corp., 526 N. Broad St., Lansdale, Pa.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Tobe–Deutschmann Corp., 921 Providence Hway., Norwood, Mass.
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.

SUPPRESSORS. PARASITIC ..... Pgs. 1145, 1150
Bomac Labs., Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1150
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Dynamic Electronics, N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.

SWITCHBOARDS
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Automatic Electric Sales Corp., Northlake, Ill.
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., Distribution Assemblies Dept., Plainville, Conn.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
Industrial Components, Inc., 9651 S. W. Canyon Rd., Portland, Ore.
J–B–L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lattin Radio Laboratories, 1431 Sweeney – P. O. Box 44, Owensboro, Ky.
Lorain County Radio Corp., 203 9th St., Lorain, Ohio
Mullenbach Div., Electric Machinery Mfg., 2100 E. 27th St., Los Angeles, Calif.
Network Industries, Inc., Box 397, Bayonne, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
Palmer, M. V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.

SWITCHES. AIR PRESSURE ..... Pgs. 614, 765, 1080, 1097, 1098, 1116
Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla. – Pgs. 765, 1080
Coleman Engineering Co., Inc., 3500 Torrance Blvd., Torrance, Calif.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Dietz, Henry G., Co., 12–16 Astoria Blvd., Long Island City, N. Y.
Dwyer Mfg. Co., P. O. Box 373, Michigan City, Ind.
Electric Switch Corp., 2320 S. Tibbs Ave. – P. O. Box 41037, Indianapolis, Ind.
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Fairchild Controls Corp., Comp. Div., 225 Park Ave., Hicksville, N. Y., Pg. 1116
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Giannini, G. M., Co., Inc., 918 E. Green St., Pasadena, Calif.
Goode, J. J., Assoc., 65 Eliot St., Ashland, Mass.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Halax Corp., P. O. Box 425, Los Gatos, Calif.
Kidde, Walter, & Co., Inc., 675 Main St., Belleville, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Littelfuse, Inc., 1865 Miner St., Des Plaines, Ill. – Pg. 1097
McQuay–Norris Mfg. Co., 2320 Marconi St., St. Louis, Mo.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif., Pg. 1098
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Rotron Mfg. Co., Inc., Woodstock, N. Y. – Pg. 614
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
United Electric Controls Co., 85 School St., Watertown, Mass.

SWITCHES, ANTI–CAPACITY ..... Pg. 1090
Federal–Anti–Cap Switch Corp., 24 Brunck Rd., P. O. Box 25, Lancaster, N. Y.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass., Pg. 1090
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.

SWITCHES, BAROSWITCH ..... Pgs. 765, 1080
Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla. – Pgs. 765, 1080
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Inter–Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Kollsman Instrument, Sub. Standard Coil Prodts., 80–08 45th Ave., Elmhurst, N. Y.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.

SWITCHES, CENTRIFUGAL
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
Topp Industries, Inc., 5221 W. 102nd, Los Angeles, Calif.
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

SWITCHES, CIRCUIT BREAKER ..... Pg. 899
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Allard Instrument Corp., 146 E. 2nd St., Mineola, N. Y.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Electronic Research Assoc., Inc., 67 Factory Place, Cedar Grove, N.J. – Pg. 899
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., Circuit Protective Dept., 41 Woodford Ave., Plainville, Conn.
Heinemann Electric Co., 120 Plum St. – P. O. Box 299, Trenton, N. J.
I–T–E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Mears Electric Controls, Inc., Swan Island, Portland, Ore.
Mechanical Prods., Inc., 1824 River St., Jackson, Mich.
Mel–Rain Corp., 2100 Fletcher Ave., Indianapolis, Ind.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

SWITCHES. COAXIAL CABLE ..... Pgs. 659, 707, 800
ARRA Corporation, Antenna & Research Assoc., 1 Bond St., Westbury, N.Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L. I., N. Y.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Automatic Metal Products Corp., 315–323 Berry St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio – Pg. 659
Cable Electric Products, 234 Dabell St., Providence, R. I.
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Danbury Knudson, Div. Amphenol Electric, Box 148 – Thorpe St., Danbury, Conn.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Don–Lan Electronics, Inc., 1101 Olympic Blvd., Santa Monica, Calif.
Douglas Microwave Co., Inc., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dow–Key Company, Inc., S. E. Highway 59, Thief River Falls, Minn.
Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles, Calif.
General Communication Co., 677 Beacon St., Boston, Mass.
Hycon Eastern, Inc., 75 Cambridge Pkway, Cambridge, Mass.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
James Vibrapower Co., 4050 N. Rockwell St., Chicago, Ill.
Jerrold Electronics, Indl. Prod. Div., Dept. T.E.D., 27 Jerrold Bldg., Phila., Pa. – Pg. 707
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Strand Engrg. Co., 1354 N. Main St., Ann Arbor, Mich.
Ta–Mar, Inc., 11571 W. Jefferson Blvd. – Box 1217, Culver City, Calif.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Tech. Laboratories, Inc., Palisades Park, N. J.
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Trad Electronics Corp., 1001 First Ave., Asbury Park, N. J.
United Electric Controls Co., 85 School St., Watertown, Mass.

SWITCHES. CONTACT ..... Pgs. 986, 987, 1014, 1080, 1088, 1099, 1100
Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cinema Engineering, Div. Aerovox, 1100 Chestnut, Burbank, Calif.–Pgs. 1014, 1080
Comar Electric Co., 3349 W. Addison St., Chicago, Ill.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L.I., N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J. – Pg. 1088
Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N.J.
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Inertia Switch, 527 Lexington Ave., New York, N.Y.
Instrument Development Labs, Inc., 67 Mechanic St., Attleboro, Mass.

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J–B–L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Milli–Switch Corp., Sub P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Tech Laboratories, Inc., Palisades Park, N.J. – Pg. 1100
Unimax Switch Div., The W.L. Maxson Corp., Ives Rd., Wallingford, Conn.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

SWITCHES, CROSSBAR ..... Pgs. 1084–1087

Cunningham, J. Son & Co., 33 Litchfield St., Rochester, N.Y.–Pgs. 1084–1087
Intelex Systems, Inc., 22 Thames St., New York, N.Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Ave., Philadelphia, Pa.
North Electric Co., 553 S. Market St., Galion, Ohio
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill.

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Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Centralab Distributors, Div. Globe Union, Inc., 984 E.Keefe, Milwaukee, Wisc.–Pg. 1080
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Digitran Co., 45 W. Union St., Pasadena, Calif.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Milli–Switch Corp., Sub. P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N.Y.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago, Ill.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Shallcross Mfg. Co., Preston St., Selma, N.C.
Teck Laboratories, Inc., Palisades Park, N.J. – Pg. 1100
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Circle Mfg. Co., 720 Monmouth St. – P.O. Box 591, Trenton, N.J.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L.I. City, N.Y.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Radar Design Corp., Box 38, Syracuse, N.Y.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N.Y.

SWITCHES, ELECTRONIC ..... Pgs. 550, 646, 707, 729, 754, 880, 1002, 1003, 1177

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Advanced Electronic Mfg. Corp., 2116 S. Sepulveda Blvd., Los Angeles, Calif. – Pg. 646
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
B & M. Electronics Mfg. Co., 2516 Dodge Ave., Fort Wayne, Ind.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Burroughs Corp., Electronic Tube Div., P.O. Box 1226, Plainfield, N.J.
CGS Laboratories, Inc., Routes 7 & 35, Ridgefield, Conn.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Chicago Miniature Lamp Works, 1510 N. Ogden Ave., Chicago, Ill.
Circle Mfg. Co., 720 Monmouth St., P.O. Box 591, Trenton 4, N.J.
Consolidated Productions, Inc , 3991 S.W. 12th Terrace, Fort Lauderdale, Fla.
Continental Electronics, 302 Oakland St., Brooklyn 32, N.Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Datascan, Inc., 48 Notch Road, Little Falls, N.J.
Deltron, Inc., 2905 N. Leithgow St., Philadelphia, Pa.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Dow–Key Company, Inc., S.E. Highway 59, Thief River Falls, Minn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N.Y.
Electric Machinery Mfg. Co., 800 Central Ave., Minneapolis, Minn.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N.Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R.I.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Heath Co., Benton Harbor, Mich.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Md.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Jerrold Electronics, Indl. Prod. Div., Dept. TED, 27 Jerrold Bldg., Phila., Pa. – Pg. 707
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N.Y.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Mallory P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Milli–Switch Corp., Sub P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa. – Pg. 550
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Newton Co., 55 Elm St., Manchester, Conn.
Opad Electric Co., 69–12 Murray St., New York, N.Y.
Panoramic Radio Prod., Inc., 520 So. Fulton Ave., Mt. Vernon, N.Y. – Pg. 729
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N.J.
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Ripley Co., Inc., Middletown, Conn.
Saraent Electric Corp., 630 Merrick Rd., Lynbrook, N.Y.
Scaico Controls, Box 41, Cooper St., Delanco, N.J.
Shallcross Mfg. Co., Preston St., Selma, N.C.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, N.Y.
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Teletronics Lab., Inc., 54 Kinkel St., Westbury, N.Y. – Pg. 754
Tempo Instrument, Inc., Commercial St., P.O. Box 338, Hicksville, N.Y. – Pas. 1002, 1003
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn. – Pg. 880
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Warren Components, Div. El–Tronics, Inc., Warren, Pa.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

SWITCHES, FLOAT TYPE

Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
American Designed Components, Inc., Jericho, N.Y.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Bernco Engineering Corp., P.O. Box 41037, Indianapolis, Ind.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Jo–Bell Products, Inc., 5456 W. 111 St., Oak Lawn, Ill.
Liquidometer Corp., The, 41–03 36th St., L.I. City, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Ave., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N.J.
Penn Controls, Inc., Goshen, Ind.
Revere Corp. of America, Wallinaford, Conn.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

SWITCHES, FOOT ..... Pg. 1090

Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
Hetherington Inc., 1420 Delmar Dr., Folcroft, Pa.
Leviton Mfg. Co. Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Linemaster Switch Corp., Box 52 Woodstock, Conn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div. 7 W. Spring St., Freeport, Ill.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Recora Co., The, Box 68 – Powis Rd., St. Charles, Ill.
Soundscriber Corp., The, 6 Middletown Ave., N. Haven, Conn.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Vemaline Prods. Co., P.O. Box 222, Hawthorne, N.J.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.

SWITCHES, HOOK

Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.

SWITCHES, INERTIA ..... Pg. 1117

Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif. – Pg. 1117
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Humphrey, Inc., 2805 Canon St., San Diego, Calif.
Instruments Div., W. L. Maxson Corp., 475 10th Ave., New York, N. Y.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Maxson, W. L., Corp., 475 Tenth Ave., New York, N. Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Minneapolis–Honeywell, Ordnance Div., 600 2nd St., N. Hopkins, Minn.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

SWITCHES, INTERLOCK

British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Capitol Machine Co., Switch Div., 36 Balmforth St. – P.O. Box 1095, Danbury, Conn.
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass.
General Electric Co., Circuit Protective Dept., 41 Woodford Ave., Plainville, Conn.
Gordos Corp., 250 Glenwood Ave., Bloomfield, N.J.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hays Mfg. Co., Automatic Controls Division, 801 W. 12th St., Erie, Pa.
Inertia Switch, 527 Lexington Ave., New York, N.Y.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Unimax Switch Div., The W.L. Maxson Corp., Ives Rd., Wallingford, Conn.
Winterburn Mfg. Co., P.O. Box 386, Putnam, Conn.

SWITCHES, KEY ..... Pg. 764

Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Atacon Corp., 527 N. Union St., Calion, Ohio
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Carter Parts Co., 3401 Madison St., Skokie, Ill.

SWITCHES, KEY (continued)
Circle Mfg. Co., 720 Monmouth St., P. O. Box 591, Trenton, N. J.
Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
General Cement Mfg., Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Minneapolis–Honeywell Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mossman, Donald P. Inc., P. O. Box 265, Brewster, N. Y.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N. Y.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764

SWITCHES, KNIFE
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Cable Electric Products, 234 Dabell St., Providence, R.I.
Circle Mfg. Co., 720 Monmouth St., – P.O. Box 591, Trenton, N.J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., L.I. City, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
General Electric Co., Circuit Protective Dept., 41 Woodford Ave., Plainville, Conn.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
Hetherington, Inc., 1420 Delmar Rd., Folcroft, Pa.
Kolton Electric Mfg. Co., 123 New Jersey R R Ave., Newark, N.J.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Pittsburgh Electric Corp., P.O. Box 868, Pittsburgh, Pa.

SWITCHES, LEVER ..... Pgs. 1080, 1089, 1090, 1096, 1099
Automatic Electric Sales Corp., Northlake, Ill.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cable Electric Products, 234 Dabell St., Providence, R.I.
Capitol Machine Co., Switch Div., 36 Balmforth St. – P.O. Box 1095, Danbury, Conn.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Centralab Distributors, Div. Globe Union, Inc., 984 Keefe, Milwaukee, Wisc.–Pg. 1080
Circle Mfg. Co., 720 Monmouth St., – P.O. Box 591, Trenton, N.J.
Clare, C.P. & Co., 3101 Pratt Blvd., Chicago, Ill.
Control Products, Inc., 306 Sussex St., Harrison, N.J.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. – Pg. 1089
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Inst. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
International Instruments, P.O. Box 2954, New Haven, Conn.
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 1096
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Milli–Switch Corp., Sub P.R. Mallory & Co. Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mossman, Donald P. Inc., P.O. Box 265, Brewster, N.Y.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago, Ill.
Pollak, Joseph, Corp., 85 Freeport St., Boston, Mass.
Roanwell Corp., 180 Varick St., New York, N.Y.
Sargent Electric Corp., 630 Merrick Rd., Lynbrook, N.Y.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Unimax Switch Div., The W.L. Maxson Corp., Ives Rd., Wallingford, Conn.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Webster Electric Co., 1900 Clark St., Racine, Wisc.

SWITCHES, LIMIT ..... Pgs. 586, 1089, 1114
Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Arch Gear Works, Inc., 97 Holmes St., N. Quincy, Mass.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automatic Electric Sales Corp., Northlake, Ill.
Cherry Electrical Products, 1650 Deefield Rd., Highland Park, Ill.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Electric Switch Corp., 2320 S. Tibbs Ave. – P.O. Box 41037, Indianapolis, Ind.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Products Labs., 4500 Ravenswood, Chicago., Ill. – Pg. 1114
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. – Pg. 1089
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Inertia Switch, 527 Lexington Ave., New York, N.Y.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Milli–Switch Corp., Sub P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div. 7 W. Spring St., Freeport, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Penn Controls, Inc., Goshen, Ind.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Unimax Switch Div., The W.L. Maxson Corp., Ives Rd., Wallingford, Conn.
United Electric Controls Co., 85 School St., Watertown, Mass.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa. – 586

SWITCHES, LOCK
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Birnbach Radio Col, Inc., 145 Hudson St., New York, N.Y.
Circle Mfg. Co., 720 Monmouth St., P.O. Box 591, Trenton 4, N.J.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Milli–Switch Corp., Sub P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Sargent Electric Corp., 630 Merrick Rd., Lynbrook, N.Y.
Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N.Y.
Smith, Herman H., Inc., 2326 Nostrand Ave., Brooklyn, N. Y.
United Electric Controls Co., 85 School St., Watertown, Mass.

SWITCHES, MERCURY ..... Pg. 1091
American Designed Components, Inc., Jericho, N.Y.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Atlas Electric Products Co., P. O. Box 1591, Erie, Pa.
Bernco Engineering Corp., P.O. Box 41037, Indianapolis, Ind.
Durakool, Inc., 1010 N. Main St., Elkhart, Ind.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N.Y.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N.Y.
Electric Switch Corp., 2320 S. Tibbs Ave., P.O. Box 41037, Indianapolis, Ind.
Electron–Radar Products, P.O. Box 50, Rte. 30, North Aurora, Ill.
G.M. Mfg. Co., 134 W. 26 St., New York, N.Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
Gordos Corp., 250 Glenwood Ave., Bloomfield, N.J. – Pg. 1091
Guenther, K.G. Willy, 1138 Massachusetts Ave., Arlington, Mass.
Hamlin, Inc., 1316 Sherman Ave., Evanston, Ill.
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Mercury Contacts, Inc., P.O. Box 615E, Far Hills Sta., Dayton, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N.J.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Photo Crystals, Inc., 15 S. 1st. St., Geneva, Ill.
Radar Relay, Inc., 2120 Pontius Ave., Los Angeles, Calif.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Scientific Electronic Laboratories, Inc., 866 Bergen St., Newark, N.J.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N.Y.

SWITCHES, MICROPHONE ..... Pg. 458
Audiosears Corp., Shepard Hill Rd., Roxbury, N.Y. – Pg. 458
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Roanwell Corp., 180 Varick St., New York, N.Y.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill.
Universal Microphone Co., Box 55, Inglewood, Calif.
Vemaline Prods., Co., P.O. Box 222, Hawthorne, N.J.

SWITCHES, MICROWAVE ..... Pgs. 659, 798–800, 834
ARRA Corporation, Antenna & Radome Research Assoc., 1 Bond St., Westbury, N.Y.
Admittance–Namco Corp., 5 Marine St., Farmingdale, L.I., N.Y.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Bird Electronic Corp., 1800 E. 38th St., Cleveland, Ohio – Pg. 659
Bogart Manufacturing Corp., 315 Seigel St., Brooklyn, N.Y.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y.
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y. – Pg. 800
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, 39, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
FXR, Inc., 26–12 Borough Pl., Woodside, N.Y.
Ferrotec, Inc., 217 California St., Newton, Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N.Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif.
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, N.Y. – Pg. 834
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N.Y.
Strand Engrg. Co., 1354 N. Main St., Ann Harbor, Mich.
Sylvania Electric Products, Special Tube Opns, 500 Evelyn, Mountain View, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Uniwave, Inc., 109 Marine Street, Farmingdale, N.Y.
Victor, R.F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Waveline, Inc., Box 718, W. Caldwell, N.J.

SWITCHES, MINIATURE ..... Pgs. 578, 1080, 1081, 1089, 1092, 1099, 1100
Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Avion Div., A.C.F. Industries, Inc., 7 Park Pl., Paramus, N.J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Centralab Distributor, Div. Globe Union, Inc., 984 E.Keefe, Milwaukee, Wisc.–Pg. 1080
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.

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Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Cutler-Hammer Inc., 321 N. 12th St., Milwaukee, Wisc. – Pg. 1081
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Don-Lan Electronics, Inc., 1101 Olympic Blvd., Santa Monica, Calif.
Electro-Miniatures Corp., 1060 Elm Ave., Ridgefield, N.J.
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill. – Pg. 578
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. – Pg. 1089
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
Fenwal Incorp., Ashland, Mass.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hamlin, Inc., 1316 Sherman Ave., Evanston, Ill.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Inertia Switch, 527 Lexington Ave, New York, 1, N. Y.
International Instruments, P. O. Box 2954, New Haven, Conn.
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Marco Industries Co., 207 S. Helena St., P. O. Box 110, Anaheim, Calif.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div, Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Poly-Scientific Corp., P. O. Box 723, Blacksburg, Va.
R. F. Electronics, Inc., Div. Electro Switch Co., Weymouth, Mass.
Recora Co., The, Box 68, Powis Rd., St. Charles, Ill.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Shallcross Mfg. Co., Preston St., Selma, N. C.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Tech. Laboratories, Palisades Park, N.J. – Pg. 1100
Technology Instrument Corp., 523 Main St., Acton, Mass.
Torsion Balance Co., 35 Monhegan St., Clifton, N. J.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Unimax Switch Div., The W. L. Maxson Corp., Ives Road, Wallingford, Conn.
Unison Products, Inc., Rt. 46 & Sixth St., Saddle Brook, N. J.

SWITCHES, MOMENTARY CONTACT ..... Pgs. 458, 880, 1081, 1089, 1091–1093, 1099

Acro Div., Robertshaw-Fulton Controls, 2040 East Main St., Columbus, Ohio
Alden Products Co., 146 N. Main Street, Brockton, Massachusetts
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
American Designed Components, Inc., Jericho, N. Y.
Arrow-Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Conn.
Audiosears Corp., Shepard Hill Rd., Roxbury, N. Y. – Pg. 458
Automatic Electric Sales Corp., Northlake, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Capitol Machine Co., Switch Div., 36 Balmforth St., P. O. Box 1095, Danbury, Conn.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Circle Mfg. Co., 720 Monmouth St., P. O. Box 591, Trenton 4, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Products, Inc., 306 Sussex St., Harrison, N. J.
Culver-Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc., – Pg. 1081
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill., – Pg. 1089
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J., – Pg. 1091
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill., – Pg. 1092
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 1093
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Marco Industries Co., 207 S. Helena St., P. O. Box 110, Anaheim, Calif.
McGill Mfg. Co., Electrical Div., 909 N. Lafayette St., Valparaiso, Ind.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Sargent Electric Corp., 630 Merrick Rd., Lynbrook, N. Y.
Specialties Mfg. Co., 12830 Linwood, Detroit, Mich.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn. – Pg. 880
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Unimax Switch Div., The W. L. Maxson Corp., Ives Road, Wallingford, Conn.

SWITCHES, OIL IMMERSED

Automatic Electric Sales Corp., Northlake, Ill.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N.Y.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.

SWITCHES, PLUNGER ..... Pgs. 1083, 1089

Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Circle Mfg. Co., 720 Monmouth St., P. O. Box 591, Trenton 4, N. J.
Controls Company of America, Schiller Park, Ill. – Pg. 1083
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village, N. Y.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. – Pg. 1089
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Korry Mfg., Inc., 223 8th Ave., N. Seattle, Wash.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Unimax Switch Div., The W. L. Maxson Corp., Ives Road, Wallingford, Conn.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.

SWITCHES, POWER ..... Pgs. 501, 1081, 1094

Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Cutler-Hammer Inc., 321 N. 12th St., Milwaukee, Wisc., – Pg. 1081
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N. Y.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village, N. Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 1094
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif. – Pg. 501
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rowan Controller Co., The, 2313 Homewood Ave., Baltimore, Md.
Specialties Mfg. Co., 12830 Linwood, Detroit, Mich.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.

SWITCHES, PRESSURE ..... Pgs. 1080, 1119

Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Burton Mfg. Co., 2520 Colorado Ave., Santa Monica, Calif.
Century Electronics & Instr., Inc., 1335 N. Utica St., Tulsa, Okla. – Pg. 1080
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Connecticut
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dietz, Henry G. Co., 12-16 Astoria Blvd., Long Island City, N. Y.
Dwyer Mfg., Co., P. O. Box 373, Michigan City, Ind.
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Ellison Draft Gage Co., Inc., 548 W. Monroe St., Chicago, Ill.
Fasco Industries, Inc., P. O. Box 509, Rochester, N. Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Goodrich, B. F., Co., Aviation Products Div., Akron, Ohio
Gorn Electronics Co., Div. Gorn Electric Co., 845 Main St., Stamford, Conn.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Inter-Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Kidde, Walter & Co., Inc., 675 Main St., Belleville, N. J.
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
McQuay-Norris Mfg. Co., 2320 Marconi St., St. Louis, Mo.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif.
Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Penn Controls, Inc., Goshen, Ind.
Photocon Research Products, Box 5485, 421 N. Altadena Dr., Pasadena, Calif.
Rahm Instruments, Div. American Mach. & Metal Co., 65 Rushmore St., Westbury, N. Y.
Recora Co., The, Box 68, Powis Rd., St. Charles, Ill.
Scaico Controls, Box 41, Cooper St., Delanco, N.J.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif. – Pg. 1119
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Technology Instrument Corp., 523 Main St., Acton, Mass.
Thorson Co., 7361 Melrose Ave., Los Angeles, Calif.
United Electric Controls Co., 85 School St., Watertown, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

SWITCHES, PRINTED CIRCUIT ..... Pgs. 514, 1092

Automatic Electric Sales Corp., Northlake, Ill.
Becks, Inc., 298-300 E. 5th St., St. Paul, Minn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Croname, Inc., 6279 Howard St., Chicago, 48, Ill.
Digitran Co., 45 W. Union St., Pasadena, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove., N. Y. – Pg. 514
Precision Circuits, Inc., 705 So. Fulton Ave., Mt. Vernon, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Technology Instrument Corp., 523 Main St., Acton, Mass.

SWITCHES, PRINTED CIRCUIT (continued)
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.

SWITCHES, PULL
Arrow-Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Conn.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Circle Mfg. Co., 720 Monmouth St., P. O. Box 591, Trenton 4, N. J.
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Culver-Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Korry Mfg., Inc., 223 8th Ave., N. Seattle, Wash.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mossman, Donald P. Inc., P. O. Box 265, Brewster, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.

SWITCHES, PUSHBUTTON ..... **Pgs. 578, 765, 880, 1089, 1090, 1092, 1099**
Acro Div., Robertshaw-Fulton Controls, 2040 East Main St., Columbus, Ohio
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
Arrow-Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Conn.
Bennett Laboratories, Inc., 4224 Holden, Emeryville 8, Calif.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cable Electric Products, 234 Dabell St., Providence, R.I.
Capitol Machine Co., Switch Div., 36 Balmforth St., P.O. Box 1095, Danbury, Conn.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Carter Parts Co., 3401 Madison St., Skokie, Ill.
Century Electronics Instruments Inc., 1335 N. Utica, Pine Station, Tulsa, Okla. – Pa. 765
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Circle Mfg. Co., 720 Monmouth St., P.O. Box 591, Trenton 4, N.J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Products, Inc., 306 Sussex St., Harrison, N.J.
Controls Co. of America, Schiller Park, Ill.
Culver-Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Cunningham, James, Son & Co., 33 Litchfield St., Rochester, N.Y.
Cutler-Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N.Y.
Eldema Corp., 1805 Belcroft Ave., El Monte, Calif.
Electrocraft, Inc., 4434 N. Kedzie Ave., Chicago, Ill. – Pg. 578
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. – Pg. 1089
Fisher-Berkeley Corp., 4224 Holden St., Emeryville, Calif.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R.I.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Haydon Switch, Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kirkland, H.R. Co., 8 King St., Morristown, N.J.
Korry Mfg., Inc., 223 8th Ave., N. Seattle, Wash.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Marco Industries Co., 207 S. Helena St., P.O. Box 110, Anaheim, Calif.
McGill Mfg. Co., Electrical Div., 909 N. Lafayette St., Valparaiso, Ind.
Milli-Switch Corp., Sub. P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Monitor Controller Co., 99 Grove St., Rockland, Mass.
Mossman, Donald P., Inc., P.O. Box 265, Brewster, N.Y.
Murdock, William, 158 Carter Street, Chelsea, Mass.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pollak, Joseph, Corp., 85 Freeport St., Boston, Mass.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Roanwell Corp., 180 Varick St., New York, N.Y.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R.I.
Sargent Electric Corp., 630 Merrick Rd., Lynbrook, N.Y.
Schrack Electrical Sales, 45 W. 81st St., New York, N.Y.
Shallcross Mfg. Co., Preston St., Selma, N.C.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Smith, Herman H., Inc., 2326 Nostrand Ave., Brooklyn, N.Y.
Specialties Mfg. Co., 12830 Linwood, Detroit, Mich.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Sperti-Faraday, Inc., Adrian, Mich.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn. – Pg. 880
Ucinite Co., Div., United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Unimax Switch Div., The W. L. Maxson Corp., Ives Road, Wallingford, Conn.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J.

SWITCHES, REMOTE CONTROL ..... **Pgs. 813, 1084-1086, 1090, 1177**
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Arrow-Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Connecticut
Automatic Electric Sales Corp., Northlake, Ill.
Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cunningham, James Son & Co., 33 Litchfield St., Rochester, N. Y. – Pgs. 1084, 1085, 1086
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
E-T-A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Haydon, A.W. Co., 247 North Elm St., Waterbury, Conn.
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 813
Jennings Radio Mfg. Corp., 970 McLaughlin Ave., P. O. Box 1278, San Jose, Calif.
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
Land-Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Inc.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Ave., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
North Electric Co., 553 S. Market St., Galion, Ohio
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Illinois
Pacific Solenoids, Inc., 500 E. Franklin Ave., El Segundo, Calif.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telonic Industries, Inc., 75 N. 2nd St., Beech Grove, Ind.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
United Electric Controls Co., 85 School St., Watertown, Mass.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.
Zenith Electric Co., 152 W. Walton St., Chicago, Ill.

SWITCHES, ROTARY ..... **Pgs. 843, 1080, 1083, 1088, 1092, 1096, 1099**
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wis.
Arrow-Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Connecticut
Automatic Electric Sales Corp., Northlake, Ill.
Automation, Inc., 212 Worcester St., Wellesley Hills, Mass.
Becks, Inc., 298-300 E. 5th St., St. Paul, Minn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Centralab Distributors, Div. Globe Union, Inc., 984 E. Keefe, Milwaukee, Wisc.-Pg. 1080
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton 4, N. J.
Clarostat Mfg. Co., Inc., Washington St., Dover, N. H.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L. I., N. Y.
Continental Electronics, 302 Oakland St., Brooklyn 32, N. Y.
Controls Company of America, Schiller Park, Ill. – Pg. 1083
Couch Ordnance, Inc., 3 Arlington St., North Quincy, Mass.
Culver-Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J. – Pg. 1088
Digitran Co., 45 W. Union St., Pasadena, Calif.
Eagle Electric Mfg. Co., 23-10 Bridge Plaza So., Long Island City, N. Y.
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Electro-Miniatures Corp., 1060 Elm Ave., Ridgefield, N. J.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill.
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
Electro Tec Corp., 10 Romanelli Ave., S. Hackensack, N. J.
General Communication Co., 677 Beacon St., Boston, Mass.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Hardy Assocs., 414 Cribbel Rd., Wyncote, Pa.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Hughes Products – Hughes Aircraft, Semiconductor Div., Intl. Apt., Los Angeles, Calif.
Instrument Development Labs, Inc., 67 Mechanic St., Attleboro, Mass.
International Instruments, P. O. Box 2954, New Haven, Conn.
J-B-L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn. – Pg. 1096
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Javex, P. O. Box 646, Redlands, Calif.
Land-Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N. Y.
Miller Industries, 1525 Marion, Grand Haven, Mich.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Micro-Switch Div., 7 W. Spring St., Freeport, Ill.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Illinois
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Pacific Solenoids, Inc., 500 E. Franklin Ave., El Segundo, Calif.
Parkway Specialties Co., 9861 Appleton, Detroit, Mich.
Pollak, Joseph Corp., 85 Freeport St., Boston, Mass.
R. F. Electronics, Inc., Div. Electro Switch Co., Weymouth, Mass.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.

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Shallcross Mfg. Co., Preston St., Selma, N. C.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Slip Ring Corp. of America, 5456 W. Washington Blvd., Los Angeles, Calif.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Switchcraft, Inc., 5553 Elston Ave., Chicago, Ill. – Pg. 1099
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.
Tech Laboratories, Inc., Palisades Park, N. J.
Technology Instrument Corp., 523 Main St., Acton, Mass.
U.S. Instrument Corp., P.O. Box 1191, Charlottesville, Va.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Unison Products, Inc., Rt. 46, & Sixth St., Saddle Brook, N. J.
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

SWITCHES. ROTARY CHOPPER

Automatic Timing & Controls, Inc., King of Prussia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N. J.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Graphite Metallizing Corp., 1036 Nepperhan Ave., Yonkers, N. Y.
Milli–Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Poly–Scientific Corp., P. O. Box 723, Blacksburg, Va.

SWITCHES. SAFETY

Arrow–Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Connecticut
Automatic Switch Co., 50–56 Hanover Rd., Florham Park, N. J.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Cherry Electrical Products, 1650 Derfield Rd., Highland Park, Ill.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric Co., Circuit Protective Dept., 41 Woodford Ave., Plainville, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Milli–Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Penn Controls, Inc., Goshen, Ind.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Recora Co., The, P. O. Box 68 – Powis Rd., St. Charles, Ill.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P. O. Box 1314, Gardena, Calif.
United Electric Controls Co., 85 School St., Watertown, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Winterburn Mfg. Co., P. O. Box 386, Putnam, Conn.

SWITCHES. SENSORS ..... Pgs. 698, 1098, 1114

Acoustica Associates, Inc., 26 Windsor Ave., Mineola, N.Y.
Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
Electro Products Labs., 4501 Ravenswood, Chicago, Ill. – Pg. 1114
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio – Pg. 698
Kollsman Instrument, Sub. Standard Coil Products, 80–08 45th Ave., Elmhurst, N.Y.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif. – Pg. 1098
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Robertshaw–Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Shannon Luminous Materials Co., 7356 Santa Monica Blvd., Hollywood, Calif.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.

SWITCHES. SLIDE ..... Pg. 1017

Arrow–Hart & Hegeman Elec., 103 Hawthorne Street, Hartford, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Continental Carbon, Div. Wirt Co., 5219 Greene St., Philadelphia, Pa. – Pg. 1017
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Eby Sales Co., 130 Lafayette St., New York, N.Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Milli–Switch Corp., Sub. P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Wildrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Smith, Herman, &, Inc., 2326 Nostrand Ave., Brooklyn, N.Y.
Specialties Mfg. Co., 12830 Linwood, Detroit, Mich.
Stackpole Carbon Co., St. Marys, Pa.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

SWITCHES. SNAP ACTION ..... Pgs. 1083, 1089, 1092, 1098

Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Atlas E–E Corp., 47 Prospect St., Woburn, Mass.
Atlas Electric Products Co., P.O. Box 1591, Erie, Pa.
Audiosears Corp., Shepard Hill Rd., Roxbury, N.Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cable Electric Products, 234 Dabell St., Providence, R.I.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Circle Mfg. Co., 720 Monmouth St., P.O. Box 591, Trenton 4, N.J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Control Products, Inc., 306 Sussex St., Harrison, N.J.
Controls Company of America, Schiller Park, Ill. – Pg. 1083
Culver–Stearns Mfg. Co., 181 Greenwood St., Worcester, Mass.
Cutler–Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N.Y.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N.Y.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. – Pg. 1089
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R.I.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092
Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
J–B–L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.
Jaidinger Mfg. Co., Inc., 1921 W. Hubbard St., Chicago, Ill.
Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis, Mo.
Kay Electric Co., 14 Maple Ave., Pine Brook, N.J.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Marco Industries Co., 207 S. Helena St., P.O. Box 110, Anaheim, Calif.
Massey, A.H., Inc., 111 3rd St., Derby, Conn.
Meletron Corp., 950 N. Highland Ave., Los Angeles, Calif. – Pg. 1098
Milli–Switch Corp., Sub. P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Network Industries, Inc., Box 397, Bayonne, N.J.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Pollak, Joseph, Corp., 85 Freeport St., Boston, Mass.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Roflan Co., Route 1 & Camp Meeting Rd., Topsfield, Mass.
Sargent Electric Corp., 630 Merrick Rd., Lynbrook, N.Y.
Schrack Electrical Sales, 45 W. 81 St., New York, N.Y.
Sealectric Switch & Relay Co., 6025 N. Keystone, Chicago, Ill.
Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N.Y.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Stackpole Carbon Co., St. Marys, Pa.
Ucinite Co., Div. United Carr Fastener, 459 Watertown St., Newtonville, Mass.
Unimax Switch Div., The W.L. Maxson Corp., Ives Road, Wallingford, Conn.
United Electric Controls Co., 85 School St., Watertown, Mass.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh, 30, Pa.

SWITCHES. SOLID STATE ..... Pgs. 981, 1004

Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N.J. – Pg. 1004
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. – Pg. 981

SWITCHES. STEP TYPE ..... Pgs. 986, 987, 1100

Acro Div., Robertshaw–Fulton Controls, 2040 East Main St., Columbus, Ohio
Automatic Electric Sales Corp., Northlake, Ill. – Pgs. 986, 987
Automatic Timing & Controls, Inc., King of Prussia, Pa.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N.Y.
Cole Electric Co., 8439 Steller Dr., Culver City, Calif.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Electro–Mechanical Specialties, 1016 North Highland Ave., Los Angeles, Calif.
Engineered Electronics Co., 506 E. First St., Santa Ana, Calif.
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Imtra Corp., 11 University Rd., Cambridge, Mass.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Intelex Systems Inc., 22 Thames St., New York, N.Y.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Leland, G.H., Inc., 123 Webster St., Dayton, Ohio
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Palmer, M.V., Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Recora Co., The, Box 68, Powis Rd., St. Charles, Ill.
Tech Laboratories, Inc., Palisades Park, N.J. – Pa. 1100
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Tabet Mfg. Co., 1336 Ballentine Blvd., Norfolk, Va.

SWITCHES. SUBMINIATURE ..... Pgs. 745, 1080, 1089, 1092

Acro Div., Robertshaw–Fulton Controls, 2040 E. Main St., Columbus, Ohio
Allied Control Co., Inc., 2 East End Ave., New York, N.Y.
Atlas Electric Products Co., P.O. Box 1591, Erie, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Centralab Distributors, Div. of Globe Union Inc., 984 E. Keefe Ave., Milwaukee, Wisc. – Pg. 1080
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L.I., N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Electro Contacts Inc., Main St., Osterville, Mass.
Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N.J.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill – Pg. 1089
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092
Grigsby Co., Inc., 450 Salem Ave., Arlington Hgts., Ill.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Licon Switch & Control Div., Illinois Tool Works, 6606 W. Dakin St., Chicago, Ill.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Marco Industries Co., 207 S. Helena St., P.O. Box 110, Anaheim, Calif.
Milli–Switch Corp., Sub. P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Newark Controls Co., 15 Ward St., Bloomfield, N.J.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
R.F. Electronics, Inc., Div. Electro Switch Co., Weymouth, Mass.
Recora Co., The, Box 68, Powis Rd., St. Charles, Ill.
Rye Sound Corp., 145 Elm St., Mamaroneck, N.Y.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N.J. – Pg. 745
Shallcross Mfg. Co., Preston St., Selma, N.C.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Unimax Switch Div., The W.L. Maxson Corp., Ives Road, Wallingford, Conn.
Unison Products, Inc., Rt. 46 & Sixth St., Saddle Brook, N.J.

SWITCHES. TAP ..... Pgs. 745, 1014, 1080, 1088, 1092, 1100

Arrow–Hart & Hegeman Elec., 103 Hawthorne St., Hartford, Conn.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Cinema Engineering, Div. Aerovox, 1100 Chestnut, Burbank, Calif. – Pgs. 1014, 1080
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J. – Pg. 1088
Eastern Specialty Co., 3619 N. Eight St., Philadelphia, Pa.
Electro Switch Corp., 167 King Ave., Weymouth, Mass.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill. – Pg. 1092

SWITCHES, TAP (continued)
J–B–L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa.
Micro Lectric Div., 19 Debevoise Ave., Roosevelt, N.Y.
Milli–Switch Corp., Sub. P.R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
R.F. Electronics, Inc., Div. Electro Switch Co., Weymouth, Mass.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Servo–Tek Products Co., 1086 Goffle Rd., Hawthorne, N.J. – Pg. 745
Tech Laboratories, Inc., Palisades Pk., N.J. – Pg. 1100
Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill.

SWITCHES, TELEMETERING ..... Pg. 1177
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L.I., N.Y.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Cunningham, James, Son & Co., 33 Litchfield St., Rochester, N.Y.
Electro Contacts Inc., Main St., Osterville, Mass.
Electro–Miniatures Corp., 1060 Elm Ave., Ridgefield, N. J.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Hardy Assocs., 414 Cribbel Rd., Wyncote, Pa.
Haydon, A.W., Co., 247 North Elm St., Waterbury, Conn.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Md.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Instrument Development Labs., Inc., 67 Mechanic St., Attleboro, Mass.
Inter–Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Phila., Pa.
Mycalex Corp. of America, 125 Clifton Blvd., Clifton, N.J.
North Electric Co., 553 S. Market St., Galion, Ohio
Poly–Scientific Corp., P.O. Box 723, Blacksburg, Va.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Solid State Electronics Co., Dept. E, 8158 Orion Ave., Van Nuys, Calif. – Pg. 1177
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Unison Products, Inc., Rt. 46 & Sixth St., Saddle Brook, N.J.

SWITCHES, THERMAL ..... Pgs. 990, 996, 1107
Atlas Electric Products Co., P.O. Box 1591, Erie, Pa.
Blonder–Tongue Labs., Inc., 9–25 Alling St., Newark, N.J.
Cable Electric Products, 234 Dabell St., Providence, R.I.
Cherry Electrical Products, 1650 Deerfield Rd., Highland Park, Ill.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
Control Products, Inc., 306 Sussex St., Harrison, N.J.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Cutler–Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Dales, Franklin Co., 180 E. Mill St., Akron, Ohio
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Fenwal Incorporated, Ashland, Mass.
G–V Controls, Inc., 83 Okner Pkway., Livingston, N. J. – Pg. 990
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
Hamlin, Inc., 1316 Sherman Ave., Evanston, Ill.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Hughes Products – Hughes Aircraft, Semiconductor Div., Intl. Apt., Los Angeles, Calif. – Pg. 996
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N.J.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
Penn Controls, Inc., Goshen, Ind.
Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Scaico Controls, Box 41, Cooper St., Delanco, N.J.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Stevens Mfg. Co., Inc., P.O. Annex 1007, Mansfield, Ohio – Pg. 1107
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Ulanet, George Co., 413 Market Street, Newark, N.J.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
United Electric Controls Co., 85 School St., Watertown, Mass.
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Ill.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

SWITCHES, THERMOSTATIC, BIMETAL ..... Pgs. 458, 990, 1107
Atlas Electric Products Co., P.O. Box 1591, Erie, Pa.
Audiosears Corp., Shepherd Hill Rd., Roxbury, N.Y. – Pg. 458
Burling Instrument Co., 16 River Road, Chatham, N.J.
Chatham Controls Corp., 33 River Rd., Chatham, N.J.
Control Products, Inc., 306 Sussex St., Harrison, N.J.
Dales, Franklin, Co., 180 E. Mill St., Akron, Ohio
E–T–A Products Co. of America, 6284 N. Cicero Ave., Chicago, Ill.
Edison, Thomas Ind., Instr. Div., McGraw Edison, 81 Lakeside Ave., W. Orange, N.J.
Fasco Industries, Inc., P.O. Box 509, Rochester, N.Y.
G–V Controls, Inc., 83 Pkner Parkway, Livingston, N.J. – Pg. 990
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Gleason Avery Co., Auburn, N.Y.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Mears Electric Controls, Inc., Swan Island, Portland, Ore.
Mechanical Industries Prod. Co., 217 Ash St., Akron, Ohio
Metals & Controls Corp., Versailles Products Div., 300 N. Main, Versailles, Ky.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Micro–Switch Div., 7 W. Spring St., Freeport, Ill.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Norwalk Thermostat Co., Norwalk, Ohio
Penn Controls, Inc., Goshen, Ind.
Scaico Controls, Box 41, Cooper St., Delanco, N.J.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Stevens Mfg. Co., Inc., P.O. Annex 1007, Mansfield, Ohio – Pg. 1107
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Therm–O–Disc, Inc., Mansfield, Ohio
Thompson Research & Mfg., Co., P. O. Box 116, Davenport, Fla.
Ulanet, George Co., 413 Market St., Newark, N. J.
United Control Corp., 4540 Union Bay Place, Seattle, Wash.
Valverde Labs., 252 Lafayette Street, New York, N.Y.

SWITCHES, THERMOSTATIC, ELECTRONIC
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Electronic Processes Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Fenwal, Inc., Ashland, Mass.
G. M. Mfg., Co., 134 W. 26th St., New York, N. Y.
General Electric Co., Wiring Device Dept., 95 Hathaway St., Providence, R.I.
Goode, J.J. Assoc., 65 Eliot St., Ashland, Mass.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Philad. Scientific Glass Co., Rte. 1, Box 46C, Quakertown, Pa.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

SWITCHES, TIME ..... Pg. 1090
Advanced Products Co., 59 Broadway, No. Haven, Conn.
American Designed Components, Inc., Jericho, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury, Conn.
Consolidated Avionics Corp., 800 Shames La., Westbury, N. Y.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Dimco–Gray Co., 207 E. 6th St., Dayton, Ohio
Eagle Signal Corp., 202–20th St., Moline, Ill.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N.Y.
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wis.
Hagen Mfg., Co., Inc., 202 20th St., Moline, Ill.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Kahl Scientific Inst. Corp., 334 S. Highland, El Cajon, Calif.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Landis & Gyr, Inc., 45 W. 45th St., New York, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Miller–Harris Instrument Co., 601 E. Ogden Ave., Milwaukee, Wisc.
Milli–Switch Corp., Sub P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.
Paragon Electric Co., 1600 12th St., Two Rivers, Wisc.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Reliance Automatic Lighting Co., 1919 Mead St., Racine, Wisc.
Rhodes, M. H. Inc., 30 Bartholomew Ave., Hartford, Conn.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y.
Tork Time Controls, Inc., 32 Grove St., Mt. Vernon, N. Y.
Ulanet, George, Co., 413 Market Street, Newark, New Jersey
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Zenith Electric Co., 152 W. Walton St., Chicago, Ill.

SWITCHES, TIME DELAY ..... Pgs. 843, 1002, 1003, 1083
A. G. A. Div. Elastic, Stop Nut Corp. of America, 1027 Newark Ave., Elizabeth, N. J.
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
American Designed Components, Inc., Jericho, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Controls Co. of America, Schiller Park, Ill. – Pg. 1083
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Corbett Science Labs., 3117 Venice Blvd., Los Angeles, Calif.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Dimco–Gray Co., 207 E. 6th St., Dayton, Ohio
Eagle Signal Corp., 202–20th St., Moline, Ill.
Ebert Electronics Corp., 212–26 Jamaica Ave., Queens Village, N. Y.
Edison, Thomas Ind., Instr. Div., McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles, California
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Circuit Protective Dept., 41 Woodford Ave., Plainville, Conn.
Globe Industries, Inc., 1900 Stanley Ave., Dayton, Ohio – Pg. 843
Guenther, K. G. Willy, 1138 Massachusetts Ave., Arlington, Mass.
Hagen Mfg., Co., Inc., 202 20th St., Moline, Ill.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Inertia Switch, 527 Lexington Ave., New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Minneapolis–Honeywell, Industrial Div., Wayne & Wimdrim Aves., Phila., Pa.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Pendar, Inc., 14742 Arminta St., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Schrack Electrical Sales, 45 W. 81 St., New York, N. Y.
Sequoia Wire & Cable Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tempo Instrument, Inc., Commercial St., Box 338, Hicksville, N.Y. – Pgs. 1002, 1003
Textran Corp., Box 9207, Austin, Texas
Tork Time Controls, Inc., 32 Grove St., Mt. Vernon, N. Y.
Tung–Sol Electric, Inc., Newark, N. J.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.

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Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Zenith Electric Co., 152 W. Walton St., Chicago, Ill.

SWITCHES. TOGGLE ..... **Pgs. 1081, 1089, 1093-1095**
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Control Co., Inc., 2 East End Ave., New York, N. Y.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Carling Electric, Inc., 505 New Park Ave., W. Hartford, Conn.
Circle Mfg. Co., 720 Monmouth St. - P. O. Box 591, Trenton, N. J.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Control Products, Inc., 306 Sussex St., Harrison, N. J.
Culver-Stearns Mfg., Co., 181 Greenwood St., Worcester, Mass.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc. - Pg. 1081
Eagle Electric Mfg., Co., 23-10 Bridge Plaza So., L. I. City, N. Y.
Electrosnap Corp., 4258 W. Lake St., Chicago, Ill. - Pg. 1089
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Electric Co., Circuit Protective Dept., 41 Woodford Ave., Plainville, Conn.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Hart Manufacturing Co., The, 232 Bartholomew Ave., Hartford, Conn.
Haydon Switch Inc., 536 S. Leonard St., Waterbury, Conn.
Hetherington, Inc., 1420 Delmar Dr., Folcroft, Pa.
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Massey, A. H., Inc., 111 3rd St., Derby, Conn.
McGill Mfg. Co., Electrical Div., 909 N. Lafayette St., Valparaiso, Ind.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
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Rodale Mfg. Co., Inc., Emmaus, Pa.
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Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

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Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
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Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Rimka, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rohden Mfg., Co., Inc., 4739 Montrose Ave., Chicago, Ill.
Rosan, Inc., 2901 West Coast Hway, Newport Beach, Calif.
Saxon Electronics, 1409B W. Alameda, Burbank, Calif.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Sphere Co., Inc., The, 25 Amity St., Little Falls, N. J. – Pg. 642
Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago, Ill.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Thompson Bremer & Co., 228 N. La Salle, Chicago, Ill.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Tri-Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
U. S. Engrg. Co., Components Div Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Vitroseal Corp., Vine & Race Sts., Ridway, Pa.
Waterbury Companies, Inc., Waterbury, Conn.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
Zell Products Corp., 276–280 Main St., P. O. Box 590, Norwalk, Conn.
Zierick Mfg. Corp., Beechwood & Rockdale Aves., New Rochelle, N. Y.

TERMINALS. HERMETICALLY SEALED ..... **Pgs. 642, 771, 779**
Alite Div., U. S. Stoneware Co., P. O. Box 119, Orville, Ohio
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, Ohio
Auto-Swage Products, Inc., 250 Canal St., Shelton, Conn.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Frenchtown Porcelain Co., Frenchtown, N. J.
Fusite Corp., 6000 Fernview Ave., Cincinnati, Ohio
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Ceramics Corp., Keasbey, N. J. – Pg. 779
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Heldor Mfg. Corp., 238 Lewis St., Paterson, N. J.
Hermaseal Co., Inc., 1101 Lafayette St., Elkhart, Ind.
Hermetic Pacific Corp., 4232 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif.
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Lundey Associates, Inc., 694 Main St., Waltham, Mass.
McCormick Selph Associates, Hollister, Calif.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Neosil Products Co., 10 E. 39th St., New York, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Philips Electronics, Inc., Electrical Industries Div., Murray Hill, N. J.
Rosan, Inc., 2901 West Coast H'way, Newport Beach, Calif.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Sheffco Mfg. Corp., Div. Townsend, 323 Bergen Blvd., Fairview, N. J.
Silicone Seals, Inc., 3125 Milwaukee Ave., Chicago, Ill.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Sphere Co., Inc., The, 25 Amity St., Little Falls, N. J. – Pg. 642
Strat-O-Seal Mfg. Co., 3039 W. Fullerton Ave., Chicago, Ill.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Vitroseal Corp., Vine & Race Sts., Ridgway, Pa.
Waterbury Companies, Inc., Waterbury, Conn.
Zell Products Corp., 276–280 Main St. – Box 590, Norwalk, Conn.

TERMINALS. QUICK DISCONNECT ..... **Pgs. 636, 637, 771**
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Dossert Mfg. Corp., 249 Huron St., Brooklyn, N. Y.
Electrix Terminals & Conn., 990 E. 67 St., Cleveland, Ohio
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn, N. Y. – Pg. 636
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Javex, P. O. Box 646, Redlands, Calif.
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 637
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Marshall, John Assoc., Box 2463, Bridgeport, Conn.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Production Apparatus Prod., Dept. 6120MC, Waltham, Mass.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rosan, Inc., 2901 West Coast H'way, Newport Beach, Calif.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Waterbury Companies, Inc., Waterbury, Conn.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

TERMINALS. SOLDERLESS ..... **Pgs. 633, 636, 638, 639, 642, 643, 644, 771, 879**
AMP, Inc., Eisenhower Blvd., Harrisburg, Pa.
Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Auto-Swage Products, Inc., 250 Canal St., Shelton, Conn.
Blaco Mfg. Co., 6541 Euclid Ave., Cleveland, Ohio
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Buchanan Electrical Products Corp., 260 U. S. 22, Hillside, N. J.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Continental Connector Corp., Div. Dejur Amsco, 34–63 56th St., Woodside, N. Y.
Dalmore Corp., Div. of Atlas E-E Corp., 47 Prospect St., Woburn, Mass.
Dante Electric Mfg. Co., Bantam, Conn.
Dossert Mfg. Corp., 249 Huron St., Brooklyn, N. Y.
Electrix Terminals & Conn., 990 E. 67 St., Cleveland, Ohio
Elso Tool & Screw Corp., Rockford, Ill.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn, N. Y. – Pg. 636
Eyelet Tool Co., Inc., 236 A Broadway, Cambridge, Mass.
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Garlock Packing Co., The, Palmyra, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Hollingsworth Co., Solderless Terminal Div., P.O. Box 430, Phoenixville, Pa.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Javex, P. O. Box 646, Redlands, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Kolton Electric Mfg. Co., 123 New Jersey R. R. Ave., Newark, N. J.
Leecraft Mfg. Co., Inc., 58–60 Greene St, Dept. E, N. Y. – Pg. 879
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pgs. 638, 639
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.

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Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Manger Electric Co., Miller St., Stamford, Conn.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Omaton Div., Burndy Corporation, Norwalk, Conn.
Panduit Co., 14461 Waverly St., Midlothian, Ill.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rosan, Inc., 2901 West Coast H'way, Newport Beach, Calif.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Sherman, H. B. Mfg. Co., 22 Barney St., Battle Creek, Mich.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Thomas & Betts Co., 36 Butler St., Elizabeth, N. J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vaco Products Co., 317 E. Ontario St., Chicago, Ill. – Pg. 643
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.

TERMINALS, STANDOFF ..... Pgs. 519, 634, 635, 636, 638, 639, 642, 771, 779

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Alac, Inc., 375 West Arden – P. O. Box 471, Glendale, Calif.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Alpine Electronic Components Corp., Wolcott Rd., Wolcott, Conn.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
American Mica Insulation Co., Manasquan, N. J.
Armel Electronics, Inc., 840 Fifth Ave., Brooklyn, N. Y.
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, Ohio
Auto–Swage Products, Inc., 250 Canal St., Shelton, Conn.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N. J.
Bead Chain Mfg. Co., The, 110 Mountain Grove St., Bridgeport, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass. – Pg. 519
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Ceramaseal, Inc., P. O. Box 25, New Lebanon Center, N. Y.
Continental Connector Corp., Div. Dejur Amsco, 34–63 56th St., Woodside, N. Y.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn, N. Y. – Pg. 636
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Frenchtown Porcelain Co., Frenchtown, N. J.
Fusite Corp., 6000 Fernview Ave., Cincinnati, Ohio
Garde Mfg. Co., 588 Eddy St., Providence, R. I.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
General Ceramics Corp., Keasbey, N. J. – Pg. 779
General Components, Inc., 225 E. 144th St., New York, N. Y. – Pgs. 634, 635
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Globe Electrical Mfg., Co., 1729 W. 134th St., Gardena, Calif.
Goe Engineering Co., 219 S. Mednik Ave., P. O. Box 22004, Los Angeles, Calif.
Grayhill, Inc., 569 Hillgrove Ave., La Grange, Ill.
Hermetic Seal Corp., 29 So. 6th St., Newark, N. J.
Hermetite Corp., 702 Beacon St., Boston, Mass.
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pgs. 638, 639
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
National Tel–Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Pilgrim Prods., Inc., 271 Central St., W. Acton, Mass.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Rosan, Inc., 2901 West Coast H'way, Newport Beach, Calif.
Saxon Electronics, 1409B W. Alameda, Burbank, Calif.
Scientific Electronic Laboratories, Inc., 866 Gergen St., Newark, N. J.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Shamban, W. S. & Co., 11617 W. Jeffeson Blvd., Box 1037, Culver City, Calif.
Smith, Herman H. Inc., 2326 Nostrand Avenue, Brooklyn, New York
Sphere Co., Inc., 25 Amity St., Little Falls, N. J. – Pg. 642
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, L. I., N. Y.
Tubular Rivet & Stud Co., Weston Ave., Wollaston, Mass.
U. S. Engrg. Co., Components Div. Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Whitso, Inc., 9334 Byron St., Schiller Park, Ill.
Winchester Electronics, Inc., Willard Rd., Norwalk, Conn.
Zell Products Corp., 276–280 Main St. – P. O. Box 590, Norwalk, Conn.

TERMINALS, TERMINAL STRIPS ..... Pgs. 569, 633–6, 637–639, 644

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio
Aeronautical Electric Co., 5656 Northwest H'way., Chicago, Ill.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N. J.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Amatom Electronic Hardware Co., 88 Drake Ave., New Rochelle, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Armel Electronics, Inc., 840 Fifth Ave., Brooklyn, N. Y.
Atmo Seal Co., 3475 Cardiff Ave., Cincinnati, Ohio.
Audio Accessories, 279 Broadway, Amityville, N. Y.
Automatic Electric Sales Corp., Northlake, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Camblock Corp., Div. Willor Mfg. Corp., 825 Bronx River Ave., New York, N. Y.
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Curtis Develop. & Mfg. Co., 3278 N. 33rd St., Milwaukee, Wisc.
Duralith Corporation, 1025 Race St., Philadelphia, Pa.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Plastics Corp., 16 New Salem St., Wakefield, Mass.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Excellex Electronics, Inc., 335 Van Siclen Ave., Brooklyn 7, N. Y. – Pg. 636
Federal Screw Products, 3917 N. Kedzie Ave., Chicago, Ill.
Garde Mfg., Co., 588 Eddy St., Providence, R. I.
General Cement Mfg., Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 633
General Components, Inc., 225 E. 144th St., New York, N. Y. – Pgs. 634, 635
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Hampden Mfg. Co., Inc., 3 Rivers, P. O. Box 89, Palmer, Mass.
International Electro Exchange, 2307 Foshay Tower, Minneapolis, Minn.
Jones, Hiram Electronics, 2313 W. Olive St., Burbank, Calif.
Jones Howard B. Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill. – Pg. 569
Jones & Roy Co., 620 Commercial St., Covina, Calif.
Keystone Electronics Corp., 49 Bleeker St., New York, N. Y.
Kulka Electric Corp., 633 S. Fulton Ave., Mt. Vernon, N. Y. – Pg. 637
Lerco Electronics, Inc., 501 S. Varney St., Burbank, Calif. – Pgs. 638, 639
Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles, Calif.
Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill.
Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill.
Maryland Lava Co., Ceramic Dept., Box 205, Bel Air, Md.
Mechanical Engraving Co., Inc., 10 Van Cortlandt Ave., E., New York 68, N. Y.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
National Tel-Tronics Corp., 52 St. Casmirs Ave., Yonkers, N. Y.
North Electric Co., 553 S. Market St., Galion, Ohio
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Precision Metal Products Co., 41 Elm St., Stoneham, Mass.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Rimak, Inc., 10929 Vanowen St., N. Hollywood, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sealectro Corp., 610 Fayette Ave., Mamaroneck, N. Y.
Sierra Electric Corp., 15100 S. Figueroa St., Box 85, Gardena, Calif.
Smith, Herman H., Inc., 2326 Nostrand Avenue, Brooklyn, New York
Stewart Stamping Co., 630 Central Park Ave., Yonkers, N. Y.
Taurus Corp., 8 Coryell St., Lambertville, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J.
Tri-Dex Co., 126 E. Apia St., P. O. Box 1207, Lindsay, Calif.
U. S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
Vector Electronic Co., 1100 Flower St., Glendale, Calif.
Wade Electric Products, 400 Jacob St., Sturgis, Mich.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Waterbury Companies, Inc., Waterbury, Conn.

TERMINATIONS – SEE COUPLINGS

TEST EQUIPMENT – SEE ANALYZERS, BRIDGES, COMPARATORS, METERS

TEST EQUIPMENT, AUTOMATIC ..... Pgs. 649, 650, 654, 658, 687, 702, 704, 716, 738, 742, 747, 755, 763, 775, 814, 825, 828, 1084–1086, 1102

Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Airborne Instruments Lab., 160 Old Country Rd., Mineola, N. Y.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Anaheim Electronics Co., Inc., 2259 W. Falmouth, Anaheim, Calif.
Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N. Y.
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill. – Pg. 649
Automation Dynamics Corp., 255 Country Rd., Tenafly, N. J.
Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Avien, Inc., 58-15 Northern Blvd., Woodside, N. Y.
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
Baird-Atomic, Inc., 33 University Rd., Cambridge, Mass. – Pg. 650
Barnes Development Co., 213 W. Baltimore Pike, Lansdowne, Pa. – Pg. 654
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Aviation Corp., York Div., York, Pa.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa. – Pg. 658
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N. J. – Pg. 775
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Communication Measurements Labs., Inc., 350 Leland Ave., Plainfield, N. J.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Consolidated Diesel Electric Corp., Ludlow & Canal St., Stamford, Conn.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Control Electronics Co., Inc., Ten Stepar Place, Huntington Station, N. Y.
Cunningham, James Son & Co., 33 Litchfield St., Rochester, N. Y. – Pgs. 1084, 1085, 1086
Curtiss-Wright Corp., Princeton Div., Princeton, N. J.
Datascan, Inc., 48 Notch Road, Little Falls, N. J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Davidson Electrn. Development, 1221 Peach St., Erie, Pa.
Designers for Industry, 4241 Fulton Pkway., Cleveland, Ohio
Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City, Mo.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Dynamic Electronics N. Y., Inc., 87-46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eder Engrg. Co., 1568 S. First St., Milwaukee, Wisc.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electromation Co., 1646 18th St., Santa Monica, Calif.
Electronet, Div. of Rue Products, 1628 Venice Blvd., Venice, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Test Instrument Corp., 29166 Wixon Rd., Wixon, Mich.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N. Y.
Fenske, Fedrick & Miller, Inc., 12820 Panama St., Los Angeles, Calif.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Cal. – Pgs. 687, 1102
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hoover Electronics Co., 110 West Timonium Road, Timonium, Maryland
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P. O. Bin N, Pasadena, Calif.
I-L-S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio–Pg. 702
Industrial Instruments, 89 Commerce Rd., Cedar Grove, N. J. – Pg. 704
Jackson Electronic & Mfg. Co., 695 Johnston St., Akron, Ohio
Kahle Engineering Co., 3326 Hudson Ave., Union City, N. J.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kearfott Company, Inc., Little Falls, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Kinevox, Div. Electromation Co., 1646 18th St., Santa Monica, Calif.

TEST EQUIPMENT. AUTOMATIC (continued)

Knopp, Inc., 1307 66th Street, Oakland, Calif.
Land-Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Lattin Radio Laboratories, 1431 Sweeney, P. O. Box 44, Owensboro, Ky.
Lavoie Laboratories, Inc., Morganville, N. J. – Pg. 716
Lehigh Engrg. Assocs., 295 Plane St., Newark, N. J.
Lehigh Valley Electronics, 215 S. Third St., Allentown, Pa.
Leitch-Huard Corp., Stark & Commercial Sts., Box 1024, Manchester, N. H.
Lewyt Mfg. Corp., 43-22 Queens St., Long Island City, N. Y.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Link Aviation, Inc., Binghamton, N. Y.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago, Ill.
Magnetic Instrument Co., 546 Commerce St., Thornwood, N. Y.
Magtrol, Inc., 240 Seneca St., Buffalo, N. Y.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Mechaneers, Inc., Westport, Conn.
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Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Millitest Corp., Sub. Computer Instr. Corp., 88 Madison Ave., Hempstead, N. Y.
Miltronics Co., 3733 N. 7th St., Milwaukee, Wisc.
Minco Products, Inc., 740 Washington Ave., No. Minneapolis, Minn.
Minneapolis-Honeywell, Aeronautical Div., 2600 Ridway Rd., Minneapolis, Minn.
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Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Nuclear Products-Erco, Div. ACF Industries, Inc., Box 5, Riverdale, Md.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Otis Elevator Co., Electronic Div., 35 Ryerson St., Brooklyn, N. Y.
Packard-Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Pennsylvania Testing Lab., Inc., Doylestown, Pa. – Pg. 738
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Quality Control Corp., 401 Broadway, New York, N. Y.
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Radiation, Inc., P. O. Box 37, Melbourne, Fla.
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Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Research Indl. Lab. of Elctrn., Roslyn, Pennsylvania
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robertshaw-Fulton Controls, Aero. & Instr. Div., Anaheim, Calif.
Rockwell Engineering Co., 2143 East 45th St., Indianapolis, Ind.
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Stanley Aviation Corp., 2501 Dallas St., Denver, Col.
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Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Teller Co., Box 989, Butler, Pa.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
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Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Wiancko Engrg. Co., 255 N. Halstead, Box 5020, Pasadena, Calif.
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Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif.
Avien, Inc., 58-15 Northern Blvd., Woodside, N. Y.
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
BJ Electronics, Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Canadian Curtiss-Wright, Ltd., 1980 Sherbrooke St. W., Montreal, Canada
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Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
Consolidated Diesel Electric Corp., Ludlow & Canal St., Stamford, Conn.
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Dare, Inc., Route 25, Troy, Ohio
Datran Electr., Div. Mid-Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Decker Corporation, The, 45 Monument Road, Bala Cynwyd, Pa.
Designers for Industry, 4241 Fulton Pkway., Cleveland, Ohio
Devco Engineering, Inc., Control Systems Div., Pier Lane West, Caldwell, N. J.
Digitac, Inc., 143 So. Cedros, Solana Beach, Calif.
Dirigo Compass & Instrument Co., Boeing Field, Box 37, Seattle, Wash.
Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City, Mo.
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Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
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Aireco, Inc., 2323 Second Ave., Schenectady, N. Y.
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Associated Testing Labs., Inc., 127 Clinton Rd., Caldwell, N. J.
Atlas Engineering Corp., 26 Custer St., West Hartford, Conn.
Avtron Mfg., Inc., 10409 Meech Ave., Cleveland, Ohio
Beach-Russ Co., 420 Lexington Ave., New York, N. Y.
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Chadwick-Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif.
Cincinnati Sub Zero Products, 3932 Reading Rd., Cincinnati, Ohio
Conrad, Inc., 141 Jefferson St., Holland, Mich.
Consolidated Avionics Corp., 800 Shames La., Westbury, New York
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Controlled Atmosphere Enclosures, 128-35 226th Ave., Springfield Gardens, N. Y.
Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
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Environmental Equipment Co., 371 Linden St., Brooklyn, N. Y.
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Guardite Co., Div. American Marietta Co., P. O. Box 188, Wheeling, Ill.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Hicks Corp., The, 1671 Hyde Park Ave., Hyde Park, Mass.
Hiett Engineering Co., 2228 N. Hollywood Way, P. O. Box 349, Burbank, Calif.
Hill, E. V. & Co., P. O. Box 189, Lake Geneva, Wisc.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hudson Bay Co., Div. of Labline, Inc., 3070 W. Grand Ave., Chicago, Ill.
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Kelk, George, Limited, 130 Willowdale Ave., Willowdale, Canada
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Donmar Products, Inc., Box 8396, Denver, Colo.
Electronic Cable Corp., 615 Somerville Ave., Somerville, Mass.
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Miller Electric Co., 120 Main St., Pawtucket, R. I.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
National Multi-Prods. Co., 5049 N. Clark St., Chicago, Ill.
Paco Electronics Co., Inc., 70-31 84th St., Glendale, N. Y.
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Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Service Instruments Corp., 171 Official Rd., Addison, Ill.
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Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Digitac, Inc., 143 So. Cedros, Solana Beach, Calif.
Dit-Mco, Inc., Electronics Div., 911 Broadway, Kansas City, Mo.
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Radar Engineers, 4719 Brooklyn, Seattle, Wash.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N. J.
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Electronic Test Instrument Corp., 29166 Wixon Rd., Wixon, Mich.
Heath Co., Benton Harbor, Mich.
Hi-Lo Mfg. Corp., 1122-26 W. Newport Ave., Chicago, Ill.
Paco Electronics Co., Inc., 70-31 84th St., Glendale, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Apparatus Co., Inc., 70-31 84th St., Glendale, N. Y.
Research Indl. Lab. of Elctrn., Roslyn, Pennsylvania
Superior Instruments Co., 2435 White Plains Rd., Bronx, N. Y.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
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Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill. – Pg. 649
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Cal-Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
California Technical Industries, 1421 Old Country Rd., Belmont, Calif.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Chicago Industrial Instrument Co., 865 North Sangamon, Chicago, Ill.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
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Flexonics Corp., 1315 S. 3rd Ave., Maywood, Ill.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
General Testing Labs., 227 W. Chestnut, P. O. Box 519, Monrovia, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Impact–O–Graph Corp., 1900 Euclid Ave., Cleveland, Ohio
International Radiant Corp., 111 New York Ave., Westbury, N. Y.
Jan Hardware Mfg. Co., 38–01 Queens Blvd., Long Island City, N. Y.
Labline, Inc., 3070–82 W. Grand Ave., Chicago, Ill.
Librascope, Inc., 808 Western Ave., Glendale, Calif.
Mechaneers, Inc., Westport, Conn.
New York Testing Labs., Inc., 47 West St., New York, N. Y.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N. H.
Parameters, Inc., 195 Herricks Road, New Hyde Park, N. Y.
Penn Keystone Corp., Box 350, Haurkus St., Derby, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiation, Inc., P. O. Box 37, Melbourne, Fla.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rototest Labs., Inc., 2803 Los Flores Blvd., Lynwood, Calif.
Schaevitz Engineering, Box 505, Camden, N. J.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Cabinet Co., 60 Washington Ave., Carlstadt, N. J.
Technology Instrument Corp., 523 Main St., Acton, Mass. – Pg. 1039
Temperature Engrg. Corp., U. S. Highway 130, Riverton, N. J.
Theta Instrument Corp., 48 Pine St., E. Paterson, N. J. – Pg. 755
Triplett & Barton, Inc., 831 N. Lake St., Burbank, Calif.
U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
Western Electro–Acoustic Lab., 11789 San Vicente Blvd., Los Angeles, Calif.

THERMAL DEVICES ..... Pgs. 990, 1047, 1107

Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Ajax Electrothermic Corp., Lower Perry Rd., Trenton, N. J.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Chatham Controls Corp., 33 River Rd., Chatham, N. J.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Ercona Corp., Electro. Div., 16 W 46th St., New York, N. Y.
G–V Controls, Inc., 83 Okner Parkway, Livingston, N. J. – Pg. 990
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Geotechnical, Corp., The, 3401 Shiloh Rd., Garland, Texas
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Gow–Mac Instrument Co., 100 Kings Rd., Madison, N. J.
Metals & Controls Corp., Versailles Products Div., 300 N. Main, Versailles, Ky.
Minco Products, Inc., 740 Washington Ave., No. Minneapolis, Minn.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Molex Products Co., 9515 Southview Ave., Brookfield, Ill.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pyrometer Co. of America, Penndel, Pa.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Spencer Thermostat Div., Metals & Control Corp., 31 Forest St., Attleboro, Mass.
Stevens Mfg. Co., Inc., P. O. 1007, Mansfield, Ohio – Pg. 1107
Technique Assocs., Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
United Aircraft Products, 1116 Bolander Ave., Dayton, Ohio
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago, Illinois
Victory Engineering Corp., P. O. Box 373, Union, N. J. – Pg. 1047
Vulcan Electric Co., 88 Holten St., Danvers, Mass.
Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore, Md.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.
Wilcolator Co., 1001 Newark Ave., Elizabeth, N. J.
Yellow Springs Instrument Co., Inc., Box 106, Yellow Springs, Ohio

THERMISTORS ..... Pgs. 821, 1026, 1044–1051

Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Colorado Research Corp., Broomfield Heights, Colo.
Fenwal Electronics, Inc., 51 Mellen St., Framington, Mass.
Fenwal Incorporated, Ashland, Mass.
Ferroxcube Corp. of America, 125 E. Bridge St., Saugerties, N. Y.
General Electric Co., Magnetic Materials Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
Globar Plant Refractories Div., Carborundum Co., Box 339, Niagara Falls, N.Y.
Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Keystone Carbon Co., Inc., 1935 State St., St. Mary's, Pa.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pg. 821
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Rosemount Engrg. Co., 9424 Lyndale Ave., S., Minneapolis, Minn.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y.
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
Victory Engrg. Corp., P.O. Box 373, Union, N.J. – Pgs. 1044–1051
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa.
Workman Tv., Inc., 309 Queen Anne Rd., Teaneck, N. J.

THERMOCOUPLES, ELEMENTS, ACCESSORIES ..... Pgs. 764, 802

Advanced Electronics, Inc., 94 Silas Deane Hway., Rocky Hill, Conn.
Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
American Thermo Electric Co., 1023 N. Fuller Ave., Los Angeles, Calif.
Autoscrew Co., 216–222 W. 18th St., New York, N.Y.
B. G. Corporation, The, 321 Broad Ave., Ridgefield, N.J.
Bach–Simpson, Ltd., 1255 Brydges St., London, Canada
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Baso, Inc., 730 N. Jackson, P.O. Box 461, Milwaukee, Wis.
Bernco Engineering Corp., P.O. Box 41037, Indianapolis, Ind.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
British Radio Electronics, 1833 Jefferson Place N. W., Washington, D. C.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Consolidated Controls Corp., 12 Durant Avenue, Bethel, Conn.
Electro Impulse Labs., 208 River St., Red Bank, N.J. – Pg. 802
Electronic Research Labs., 85 Surrey St., Brighton, Mass.

THERMOCOUPLES. ELEMENTS. ACCESSORIES (continued)
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Epic, Inc., 154 Nassau St., New York, N.Y.
Fenwal, Incorporated, Ashland, Mass.
General Controls Co., Production Instr. Div., 8080 McCormick Blvd., Skokie, Ill.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Huppert Co., K. H., 6830–40 S. Cottage Grove Ave., Chicago 37, Ill.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N.J.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Pace Engineering Co., 13035 Saticoy St., N. Hollywood, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Philco Corp., Govt. & Ind., 4700 Wissahickon Ave., Philadelphia, Pa.
Precision Tube Co., Inc., N. Wales, Pa.
Pyro Electric, Inc., 228 E. James St., Barrington, Ill.
Pyrometer Co. of America, Penndel, Pa.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N. J.
Revere Corp. of America, Wallingford, Conn.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Smith, E. C. Mfg. Co., Conshohocken, Pa.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Technique Assocs., Inc., 1413 N. Cornell Ave., Indianapolis, Ind.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
Vacuum Tube Prods. Co., 2020 Short Street, P.O. Box 810, Oceanside, California
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764

THERMOMETERS. RESISTANCE ..... **Pgs. 764, 1026**
Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Arnoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Consolidated Controls Corp., 12 Durant Ave., Bethel, Conn.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., Magnetic Material Sec., 7794 N. Neff, Edmore, Mich. – Pg. 1026
Hallikainen Insts., 1341 Seventh St., Berkeley, Calif.
Illinois Testing Labs., Inc., 420 N. La Salle St., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Meditronics Associates, 1443 Northlake Way, Seattle, Wash.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nacimco Products, Box 248, San Diego, Calif.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Thermo Electric Co., Inc., Saddle Brook, N. J.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
Trans-Sonics, Inc., P. O. Box 328, Lexington, Mass.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
Vapor Heating Corporation, 80 E. Jackson Blvd., Chicago 4, Illinois
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Westronics, Inc., 3605 McCart St., Fort Worth, Texas
Winslow Co., Inc., 707 Lehigh Avenue, Union, N. J. – Pg. 764

THERMOPILES ..... **Pgs. 748, 802**
Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Biddle, James G. Co., 1316 Arch St., Philadelphia, Pa.
Electro Impulse Labs., 208 River St., Red Bank, N. J. – Pg. 802
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 748
Westronics, Inc., 3605 McCart St., Fort Worth, Texas

THERMOSTATS – SEE SWITCHES. THERMOSTATIC

THORIUM – SEE METALS

TIMERS. AUTOMATIC RESET ..... **Pgs. 851, 992, 993, 1002, 1003**
Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing, Mich.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Aemco, Inc., 62 State St., Mankato, Minn.
Allen-Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Avien, Inc., 58-15 Northern Blvd., Woodside, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Designers For Industry, 4241 Fulton Pkway., Cleveland, Ohio
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Eagle Signal Corp., 202-20th St., Moline, Ill.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y. – Pg. 851
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pgs. 992, 993
Hub-Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
International Register Co., 2620 Washington Blvd., Chicago, Ill.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Liebel-Flarsheim Co., 111 E. Amity Rd., Cincinnati 15, Ohio
Melland Gear Co., 88-06 Van Wyck Expy., Jamaica, N. Y.
Milli-Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Pantek Co., Box 212, El Segundo, Calif.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E. Rockaway, N. Y.
Ratelco, Inc., 820 Minor Ave., N., Seattle 9, Wash.
Seely Inst. Co., Inc., 377 Fourth St., Niagara Falls, N. Y.
Simpson, Mark Mfg. Co., Inc., 32-28 49th St., L. I. City, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Technic, Inc., 39 Snow St., P. O. Box 965, Providence, R. I.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y. – Pgs. 1002, 1003
Tork Time Controls, Inc., 32 Grove St., Mt. Vernon, N. Y.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N. Y.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Wilson, G. C. & Co., 1915 8th Ave., Box 5525, Huntington, W. Va.

TIMERS. CLOCK RADIO
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
International Register Co., 2620 Washington Blvd., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Simpson, Mark Mfg. Co., Inc., 32-28 49th St., L. I. City, N. Y.

TIMERS. COUNTING ..... **Pgs. 655, 702, 992, 993**
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Automation Management, Inc., Adams St., Westboro, Mass.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Branson Corp., P. O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Chrono-Log Corp., Box 4587, Philadelphia, Pa.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Di-An Controls, Inc., 40 Leon St., Boston, Mass.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eagle Signal Corp., 202-20th St., Moline, Ill.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Eng. Co., of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Controls Co., 801 Allen Ave., Glendale, Calif.
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N.J.
Haydon, A.W., Co., 247 North Elm St., Waterbury, Conn. – Pgs. 992, 993
Hunter Mfg. Co., 108 N. Linn St., Iowa City, Ia.
I–L–S Instrument. Div. Meriam Instrument Co.. 4525 W. 160th St.. Cleveland. Ohio – Pa. 702
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N.J.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
J.B.T. Instruments, Inc., 133 Hamilton St., New Haven, Conn.
Pantek Co., Box 212, El Segundo, Calif.
Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich.
Ransom Research, Box 269, 323 W. 7th St., San Pedro, Calif.
Standard Electric Time Co., The, 89 Logan St., Springfield, Mass.
Synchrosolve, Inc., 269 Green St., Brooklyn, N.Y.
Systron Corp., 950 Galindo St., Concord, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P.O. Box 1314, Gardena, Calif.
Teller Co., Box 989, Butler, Pa.
Universal Winding Co., 1655 Elmwood Avenue, P.O. Box 1605, Cranston, R.I.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Zernickow, O., Co., 15 Park Row, New York, N.Y.

TIMERS. CYCLIC ..... **Pgs. 992, 993, 1002, 1003, 1090**
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Biophysical Insts. Inc., 20 Herman St., Philadelphia, Pa.
Branson Corp., P.O. Box 234 – 41 S. Jefferson Rd., Whippany, N.J.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Compact Controls Co., 1635 No. Halsted St., Chicago, Ill.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
Fidelity Amplifier Co., 1633 N. Halsted Std., Chicago, Ill.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N.J.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon, A.W., Co., 247 North Elm St., Waterbury, Conn. – Pgs. 992, 993
Hub–Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N.J.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Lektra Lab., 154 11th Ave., New York, N.Y.
Mallory, P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Miller–Harris Instrument Co., 601 E. Ogden Ave., Milwaukee, Wisc.
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N.Y.
Pantek Co., Box 212, El Segundo, Calif.
Pennwood Numechron Co., 7249 Frankstown Ave., Pittsburgh, Pa.
Seely Inst. Co., Inc., 377 Fourth St., Niagara Falls, N.Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Teller Co., Box 989, Butler, Pa.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y. – Pgs. 1002, 1003
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
Vemaline Prods. Co., P.O. Box 222, Hawthorne, N. J.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio

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TIMERS, ELECTRONIC ..... Pgs. 540, 650, 655, 702, 724, 754, 756, 824, 993, 1002, 1003, 1090, 1104

Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Allegany Instrument Co., 1091 Wills Mountain, Cumberland, Md.
Allen–Bradley Co., 136 West Greenfield Ave., Milwaukee, Wisc.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Autotron, Inc., 3629 N. Vermilion, P.O. Box 722, Danville, Ill.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass. – Pg. 650
Basic Controls Corp., 11830 W. Pico Blvd., Los Angeles, Calif.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Bendix Aviation Corp., Pacific Div., 11600 Shermay Way, N. Hollywood, Calif.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Cal–Tronics Corp., 11307 Hindry Ave., Los Angeles, Calif.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computer Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 540
Continental Electronics, 302 Oakland St., Brooklyn 32, N.Y.
Controls Company of America, Schiller Park, Ill.
Craig Electronics, 3455 Meier St., Los Angeles, Calif.
Cutler Hammer, Inc., 321 N. 12th St., Milwaukee, Wisc.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Designers For Industry, 4241 Fulton Pkway., Cleveland, Ohio
Destron Co., 1321 Florwood Ave., Torrance, Calif.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynapar Corp., 5150 Church St., Skokie, Ill.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Electronic Processes, Corp. of Calif., 2190 Folsom St., San Francisco, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, Calif.
Epic, Inc., 154 Nassau St., New York, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
Heath Co., Benton Harbor, Mich.
Hoover Electronics Co., 1110 West Timonium Road, Timonium, Md.
Hunter Mfg. Co., 108 N. Linn St., Iowa City, Ia.
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Jordan Electronics, Div. Victoreen Inst., 3025 W. Mission Rd., Alhambra, Calif.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Land–Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Lektra Lab., 154 11th Ave., New York, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Melland Gear Co., 88–06 Van Wyck Expy., Jamaica, N. Y.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Milli–Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Norrman Laboratories, Williams Bay, Wisc. – Pg. 724
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Pantek Co., Box 212, El Segundo, Calif.
Parsons, R.M., Co., Electronics Div., 151 S. De Lacey, Pasadena, Calif.–Pgs. 824, 1104
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peschel Electronics, Inc., Towners, RFD 1, Patterson, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago 36, Ill.
Ransom Research, Box 269, 323 W. 7th St., San Pedro, Calif.
Reltron Corp., 26 Mosman St., Newton, Mass.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robotron Corp., 21300 W. 8 Mile Rd., Box 4885, Detroit, Mich.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Security Controls, Inc., 503 Franklin St., Buffalo, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Standard Electric Time Co., The, 89 Logan St., Springfield 2, Mass.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Technical Electronics Corp., 4060 Ince Blvd., Culver City, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Teletronic Lab., Inc., 1835 W. Rosecrans Ave., P. O. Box 1314, Gardena, Calif.
Telectronis Lab., Inc., 54 Kinkel St., Westbury, N. Y. – Pg. 754
Teller Co., Box 989, Butler, Pa.
Tempo Instrument, Inc., Commercial St., P.O. Box 338, Hicksville, N.Y. – Pgs. 1002, 1003
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Textran Corp., Box 9207, Austin, Texas
Times Facsimile Corp., 540 W. 58th St., New York, N. Y. – Pg. 756
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tripl–T Co. Electronics, P. O. Box 5352, Pasadena, Calif.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N. Y.
Tullamore Electronics Lab., 6055 S. Ashland Ave., Chicago, Ill.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Universal Winding Co., 1655 Elmwood Ave., P.O. Box 1605, Cranston, R.I.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Voi–Shan Electronics, 13259, Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.
Wilson, G. C. & Co., 1915 8th Ave., Box 5525, Huntington, W. Va.

TIMERS, IMPULSE ..... Pgs. 702, 756, 993, 1090

Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Branson Corp., P. O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Canadian Applied Research Ltd., 1500 O'Connor Dr., Toronto, Canada
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.Y.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N. J.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Janco Corp., 3111 Winona Ave., Burbank, Calif.
Life Instrument Co., Inc., 200 Brook St., Franklin, Mass.
Miller–Harris Instrument Co., 601 E. Ogden Ave., Milwaukee, Wisc.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stepper Motors Corp., 1732 W. Slauson, Los Angeles, Calif.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Teller Co., Box 989, Butler, Pa.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Times Facsimile Corp., 540 W. 58th St., New York, N. Y. – Pg. 756
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.

TIMERS, INERTIA

Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
Melland Gear Co., 88–06 Van Wyck Expy., Jamaica, N. Y.
Par Products Corp., 602 Colorado Ave., Santa Monica, Calif.
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.

TIMERS, INTERVAL ..... Pgs. 540, 655, 702, 724, 992, 993, 1002, 1003, 1083, 1090

Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Ameco, Inc., 62 State St., Mankato, Minn.
Aero Instrument Co., 11423 Vanowen St., No. Hollywood, Calif.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Compact Controls Co., 1635 No. Halsted St., Chicago, Ill.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Computer Measurements Corp., 5528 Vineland Ave., No. Hollywood, Calif. – Pg. 540
Controls Company of America, Schiller Park, Ill. – Pg. 1083
Cramer Controls Corp., Box 13, Centerbrook, Conn.
De Jur–Amsco Corp., Electr. Sls. Div., 45–01 Northern Blvd., L.I.C., N. Y.
Designers for Industry, 4241 Fulton Pkway., Cleveland, Ohio
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Dimco–Gray Co., 207 E. 6th St., Dayton, Ohio
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Eldorado Electronics Co., 2821–10th St., Berkeley, Calif.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fidelity Amplifier Co., 1633 N. Halsted St., Chicago, Ill.
Fisher–Pierce Co., 170 Pearl St., South Braintree, Mass.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L. I. C., N. Y.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wisc.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N. J.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pgs. 992, 993
Hudson Bay Co., Div. of Labline, Inc., 3070 W. Grand Ave., Chicago, Ill.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Labline, Inc., 3070–82 W. Grand Ave., Chicago, Ill.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lektra Lab., 154 11th Ave., New York, N. Y.
Liebel–Flarsheim Co., 111 E. Amity Rd., Cincinnati 15, Ohio
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Miller–Harris Instrument Co., 601 E. Ogden Ave., Milwaukee, Wisc.
Milli–Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.
Norrman, Ernst Labs., Williams Bay, Wisc. – Pg. 724
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
Oxford Engrg Co., 47A River St., Wellesley Hills, Mass.
Pennwood Numechron Co., 7249 Frankstown Ave., Pittsburgh, Pa.

TIMERS. INTERVAL (continued)
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago 36, Ill.
Ransom Research, Box 269, 323 W. 7th St., San Pedro, Calif.
Reliance Automatic Lighting Co., 1919 Mead St., Racine, Wisc.
Rhodes, M. H., Inc., 30 Bartholomew Ave., Hartford, Conn.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Seely Inst. Co., Inc., 377 Fourth St., Niagara Falls, N. Y.
Standard Electric Time Co., The, 89 Logan St., Springfield 2, Mass.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Streeter–Amet Co., Grayslake, Ill.
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Systron Corp., 950 Galindo St., Concord, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tempo Instrument, Inc., Commercial St., P. O. Box 338, Hicksville, N. Y. – Pgs. 1002, 1003
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Tork Time Controls, Inc., 32 Grove St., Mt. Vernon, N. Y.
Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo.
Vemaline Prods. Co., P. O. Box 222, Hawthorne, N. J.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel Street, Inglewood, Calif.
Walser Automatic Timer Corp., Graybar Bldg., New York, N. Y.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Westgate Lab., Inc., 506 S. High St., Yellow Springs, Ohio
Wheaton Engineering Corp., 920 Manchester Rd., Wheaton, Ill.
Wilson, G. C. & Co., 1915 8th Ave., Box 5525, Huntington, W. Va.

TIMERS. PHOTOELECTRIC ..... **Pgs. 655, 702, 851**
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Autotron, Inc., 3629 N. Vermilion, P. O. Box 722, Danville, Ill.
Basic Controls Corp., 11830 W. Pico Blvd., Los Angeles, Calif.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
De–Tec–Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Electrical Service Co., 1271 Mission St., San Francisco, Calif.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Control Corp., 1573 E. Forest St., Detroit, Mich.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y. – Pg. 851
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Lektra Lab., 154 11th Ave., New York, N. Y.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Pantek Co., Box 212, El Segundo, Calif.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Ransom Research, Box 269, 323 W. 7th St., San Pedro, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd St., Mt. Vernon, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Tri–Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Trott Electronics, Inc., 412 Smith St., Rochester 6, N. Y.
Worner Electronic Devices, Rankin, Ill.

TIMERS. SEQUENCE ..... **Pgs. 702, 851, 993, 1002, 1003, 1090**
Abrams Instrument Corp., 600–620 E. Shiawassee St., Lansing, Mich.
Advanced Products Co., 59 Broadway, No. Haven, Conn.
Aemco, Inc., 62 State St., Mankato, Minn.
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Automation Management, Inc., Adams St., Westboro, Mass.
Bayside Timers, 45–25 162nd St., Flushing, N. Y.
Beattie–Coleman, Inc., 1000 N. Olive St., Anaheim, Calif.
Belock Instrument Corp., 112–03 14th Ave., College Point 56, N. Y.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Biophysical Insts., Inc., 20 Herman St., Philadelphia, Pa.
Branson Corp., P.O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.
Bristol Company, The, P.O. Box 1790, Waterbury 20, Conn.
Bristol Motor Div., Vocaline Co. of America, Inc., Old Saybrook, Conn.
Canadian Applied Research, Ltd., 1500 O'Connor Dr., Toronto, Canada
Chrono–Log Corp., Box 4587, Philadelphia, Pa.
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Compact Controls Co., 1635 No. Halsted St., Chicago, Ill.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
Cramer Controls Corp., Box 13, Centerbrook, Conn.
Designers for Industry, 4241 Fulton Pkway., Cleveland, Ohio
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Eagle Signal Corp., 202–20th St., Moline, Ill.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Exact Engineering & Mfg., Inc., P. O. Box 668, Oceanside, Calif.
General Control Co., 1196 Soldiers Field Rd., Boston, Mass. – Pg. 1090
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y. – Pg. 851
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gorrell & Gorrell, 336 Old Hook Rd., Westwood, N. J.
Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif.
Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill.
Haydon, A. W. Co., 247 North Elm St., Waterbury, Conn. – Pg. 993
Hub–Pot, Inc., 13827 Saticoy, Van Nuys, Calif.
I–L–S Instrument, Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio – Pg. 702
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N.J.
Inertia Switch, 527 Lexington Ave., New York 1, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Miller–Harris Instrument Co., 601 E. Ogden Ave., Milwaukee, Wisc.
Milli–Switch Corp., Sub. P. R. Mallory & Co., Inc., 555 Hoke Ave., Frankfort, Ind.
Molon Motors & Coil Corp., 2432 W. George St., Chicago, Ill.
Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind.
Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pomona Electronics Co., Inc., 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif.
Ransom Research, Box 269, 323 W. 7th St., San Pedro, Calif.
Research Indl. Lab. of Elctrn., Roslyn, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Robotron Corp., 21300 W. 8 Mile Rd., Box 4885, Detroit, Mich.
Seely Inst. Co., Inc., 377 Fourth St., Niagara Falls, N. Y.
Synchrosolve, Inc., 269 Green St., Brooklyn, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tempo Instrument, Inc., Commercial St., P.O. Box 338, Hicksville, N. Y. – Pgs. 1002, 1003
Tesla Electric Co., 2605 W. Armitage Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Universal Winding Co., 1655 Elmwood Ave., P. O. Box 1605, Cranston, R. I.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walkirt Co., The, 141 W. Hazel St., Inglewood, Calif.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Wilson, G. C. & Co., 1915 8th Ave., Box 5525, Huntington, W. Va.

TIMERS. THERMAL ..... **Pgs. 990, 1047**
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Branson Corp., P. O. Box 234, 41 S. Jefferson Rd., Whippany, N. J.
Edison, Thomas Ind., Instr. Div. Mc Graw Edison, 81 Lakeside Ave., W. Orange, N. J.
G–V Controls, Inc., 83 Okner Parkway, Livingston, N. J. – Pg. 990
Industrial Timer Corp., 1407 McCarter Hwy., Newark, N. J.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Scaico Controls, Box 41, Cooper St., Delanco, N. J.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Ulanet, George Co., 413 Market St., Newark, N. J.
Victory Engg. Corp., P. O. Box 373, Union, N. J. – Pg. 1047

TIMERS. WAVE
Allied Products Div., Hamilton Watch Co., Lancaster, Pa.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Rolab Studios, Walnut Tree Hill, Sandy Hook, Conn.

TIMERS. WELDING. ELECTRONIC – ALSO SEE CONTROLS. WELDING. WELDING EQUIP. & ACCESS.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Control Devices, Inc., 8299 E. Nine Mile Rd., Warren, Mich.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Ewald Instruments, Route 7–R, Kent, Conn.
Farmer Elect. Products Co., 2300 Washington St., Newton Lower Falls, Mass.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
Lektra Lab., 154 11th Ave., New York, N. Y.
Litton Engineering Labs., P.O. Box 949, Grass Valley, Calif.
Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass.
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
Oxford Engrg. Co., 47A River St., Wellesley Hills, Mass.
Peer, Inc., P. O. Box 697, Benton Harbor, Mich.
Photoswitch, Div. Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass.
Robotron Corp., 21300 W. 8 Mile Rd., Box 4885, Detroit, Mich.
Sciaky Bros., Inc., 4915 W. 67th St., Chicago, Ill.
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.
Wilson, G. C. & Co., 1915 8th Ave., Box 5525, Huntington, W. Va.

TINS & ALLOYS – SEE METALS

TITANIUM – SEE METALS

TITRATION APPARATUS
Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.

TOOL POUCHES. HOLSTERS ..... **Pg. 1111**
Erikson Specialized Tool Co., Box 424, Pico, Calif. – Pg. 1111
Industrial Safety Belt Corp., 568 S. Aiken Ave., Pittsburgh, Pa.

TOOLS. ALIGNMENT ..... **Pgs. 1110, 1111**
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Erikson Specialized Tool Co., Box 424, Pico, Calif. – Pg. 1111
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill. – Pg. 1110
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.
Keystone Electronics Corp., 49 Bleeker St., New York, N.Y.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N. J.
Neuses, P. K., Inc., W. Euclid & Snyder Sts., Arlington Hts., Ill.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Saxton Products, Inc., 4320 Park Ave., New York, N.Y.
Vaco Products Co., 317 E. Ontario St., Chicago, Ill.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

TOOLS. HAND OR MECHANICAL ALSO SEE CUTTERS, SCREW DRIVERS, WRENCHES, ETC. ..... **Pgs. 643, 644, 1110, 1113**
Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago, Ill.
Biggs, Carl H. Co., 2255 Barry Ave., W. Los Angeles, Calif.
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Buchanan Electrical Products Corp., 260 U.S. 22, Hillside, N.J.
By–Buk Co., 4314 West Pico Blvd., Los Angeles, Calif.
Dimick Mfg. Co., Jefferson, Ore.
Dremel Mfg. Co., 2300 18th St., Racine, Wisc.
Ercona Corp., Electro. Div., 16 W. 46th St., New York, N.Y.
Erikson Specialized Tool Co., Box 424, Pico, Calif.
Eyelet Tool Co. Inc., 236 A Broadway, Cambridge, Mass.
Flotron Industries, 301 E. Regent St., Inglewood, Calif.
Forsberg Mfg. Co., 125 Seaview Ave., Bridgeport, Conn.
Futuramic Co., 915 S. Broadway, Park Ridge, Ill.
General Cement Mfg. Co., Div. Text Run Inc., 400 S. Wyman St., Rockford, Ill. – Pg. 1110
General Hardware Co., 80 White St., New York, N.Y.
Handicraft Tools, Inc., Div. of X–Acto, 48–41 Van Dam St., L.I. City, N.Y.
Heath Co., Benton Harbor, Mich.
Huck Mfg. Co., 2480 Bellevue Ave., Detroit, Mich.
Hunter, R.N. Sales Co. Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.
In–Dus–Tronic Div., H. Boker & Co., Inc., 101 Duane St., New York, N.Y.
Kedman Co., 233 S. 5th W., Salt Lake City, Utah
Kraeuter & Co. Inc., 583–585 18th Ave., Newark, N.J.
Lenk Mfg. Co., The, Franklin, Ky.
Levin & Son, Inc., 3610 S. Broadway, Los Angeles, Calif.
Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Millers Falls Co., Greenfield, Mass.
Owatonna Tool Co., The, Owatonna, Minn.
Peck Stow & Wilcox Co., 217–274 Center St., Southington, Conn.
Perkins Machine & Gear Co., Circuit Ave., W. Springfield, Mass.
Pic Design Corp., Div. Benrus Watch Co., 477 Atlantic Ave., E.Rockaway, N.Y.
Proto Tool Co., 2209 Santa Fe Ave., Los Angeles, Calif.

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Radial Cutter Corp., 831 Bond St., Elizabeth, N.J.
Rotex Punch Co., 2350 Alvarado St., Lan Leandro, Calif.
S.F. Metal Products Corp., 827 Bond St., Elizabeth,N.J.
Schauer Mfg. Corp., 4524 Alpine Ave., Cincinnati, Ohio
Schmit Engineering Co., 862 Fabian Way, Palo Alto, Calif.
Sheffield Corp., The, Box 893, Dayton, Ohio
Snap–on Tools Corp., Kenosha, Wisc.
Stanley Tools, New Britain, Conn.
Sturtevant, P.A. Co., Addison, Ill.
Union Broach Co., Inc., 80–02 51st Ave., Elmhurst, N.Y.
Vaco Products Co., 317 E. Ontario St., Chicago, Ill. – Pg. 643
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill. – Pg. 644
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif. – Pg. 1113
Weller Electric Corp., 601 Stone S. Crossing Rd., Easton, Pa.
Wen Products, Inc., 5806 Northwest Hwy., Chicago, Ill.
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.
Western Electronic Prods., 655 Colman St., Altadena, Calif.
White, S.S. Mfg. Co., 10 East 40th St., New York, N.Y.
Wilder Mfg. Co., Inc., Mechanic St. & Erie R.R., Port Jervis, N.Y., – Pg. 1113
Worthington Products Co., 2383 Linden Ave., Columbus, Ohio
Xcelite Inc., 19–42 Bank St., Orchard Park, N.Y.
Zagar Inc., 24000 Lakeland Blvd., Cleveland, Ohio

TOOLS, PNEUMATIC ASSEMBLY
Automation Management Inc., Adams St., Westboro, Mass.
Design Tool Corp., 80 Washington St., New York, N.Y.
Gardner–Denver Co., Front St., Quincy, Ill.
Lehigh Engrg. Assocs., 295 Plane St., Newark, N.J.

TOOLS, RESISTANCE SOLDERING ..... Pg. 1111
Cole Radio Works, 86 Westville Ave., Caldwell, N.J.
Erikson Specialized Tool Co., Box 424, Pico, Calif. – Pg. 1111
Ideal Industries, Inc., 4450 Park Ave., Sycamore, Ill.
Mechaneers Inc., Westport, Conn.
Vemaline Prods. Co., P.O. Box 222, Hawthorne, N.J.
Wassco Electric Prods. Corp., 1213 W. Acres, Joliet, Ill.

TOOLS, ULTRASONIC SOLDERING – SEE SOLDERING EQUIP., ULTRASONIC
TOROIDS – SEE COILS, TOROIDAL
TOWERS, ANTENNA – SEE ANTENNAS, TOWERS

TRACERS, CURVE, TUBE & TRANSISTOR ..... Pg. 650
American Electronic Labs. Inc., 121 N. 7th St., Philadelphia, Pa.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass. – Pg. 650
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
The Geotechnical Corp., 3401 Shiloh Rd., Garland, Texas
Inter–Mountain Instruments, Inc., 219 Stanford S.E., Albuquerque, N.M.
Textronix, Inc., P.O. Box 831, Portland, Oreg.

TRACERS, SIGNAL
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Instrument Co. Inc., 33–00 Northern Blvd., L.I. City, N.Y.
Heath Co., Benton Harbor, Mich.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio
Precise Development Corp., 2 Neil Ct., Oceanside, N.Y.
Seco Mfg Co., 5015 Penn Ave., Minneapolis, Minn.
Superior Instruments Co., 2435 White Plains Rd., Bronx, N.Y.

TRACERS, VOLTAGE CURVE ..... Pgs. 730, 769
Alabama Automation, Times Bldg., Huntsville, Ala.
B & K Instruments Inc., 511 Oalmoor, Bay Village, Ohio
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Moseley, F.L. Co., 409 N. Fairoaks Ave., Pasadena, Calif. – Pg. 769
Panoramic Radio Products, Inc., 520 S. Fulton Ave., Mt. Vernon, N.Y. – Pg. 730

TRACKING SYSTEMS ..... Pgs. 687, 1102, 1114
Aerojet–General Corp., 6352 N. Irwindale Ave., Azusa, Calif.
Aeronica Mfg. Corp., Indus. Res. Labs. Div., Hilltop & Frederick, Baltimore, Md.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Prods. Labs., 4501 N. Ravenswood Ave., Chicago, Ill. – Pg. 1114
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Fecker, J.W., Inc., 6592 Hamilton Ave., Pittsburgh, Pa.
Ford Instrument Co., Div. Sperry Rand Corp., 31–10 Thomson Ave., L.I. City, N.Y.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Hallamore Electronics Co., 8352 Brookhurst Ave., Anaheim, Calif. – Pgs. 687, 1102
Instrument Corp. of Fla., P.O. Box 1226, Melbourne, Fla.
Maxson, W.L. Corp., 475 Tenth Ave., New York, N.Y.
Missileonics, Inc., Melbourne Airport, Melbourne, Fla.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N.Y.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt.Vernon, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.

TRAINING AIDS – SEE SERVICES, TRAINING AIDS

TRANSCEIVERS, AVIATION
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Bendix Radio Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburgh, Fla.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Hycon Mfg. Co., 1030 So. Arroyo Pkway, P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intelex Systems Inc., 22 Thames St., New York, N.Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., L.I. City, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Production Research Corp., Thornwood, N.Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telephonics Corp., Park Ave., Huntington, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

TRANSCEIVERS, FACSIMILE
Allied Engineering Corp., 230 Park Ave., New York
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburgh, Fla.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stewart–Warner Elctrns, Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Technitrol Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
Times Facsimile Corp., 540 W. 58th St., New York, N.Y.

TRANSCEIVERS, INFRARED
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N.J.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Communications, Inc., 1501 72nd St.N., St. Petersburgh, Fla.
Flam Research, Inc., P.O. Box 10502, Pittsburgh, Pa.
Haller, Raymond & Brown, Inc., Science Park, State College, Pa.
Lewyt Mfg. Corp., 43–22 Queens St., L.I. City, N.Y.
Palmer, M.V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pyroferric Co. Inc., 621 E. 216th St., New York, N.Y.
Q.O.S. Corp., 621 E. 216th St., New York, N.Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N.Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.

TRANSCEIVERS, LIFEBOAT
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Leitch–Huard Corp., Stark & Commercial Sts. – Box 1024, Manchester, N.H.
Lewyt Mfg. Corp., 43–22 Queens St., L.I. City, N.Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N.J.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Munston Mfg. & Service, Inc., Beech St., Islip, N.Y.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Production Research Corp., Thornwood, N.Y.
Radio Corp. of America, Indl. Elctrn Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.

TRANSCEIVERS, PORTABLE
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Gyro Electronics Co., 36 Walker St., New York, N.Y.
Hycon Mfg. Co., 1030 So. Arroyo P way – P.O. Bin n, Pasadena, Calif.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., L.I. City, N.Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N.J.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Multi–Products Co., 21470 Collidge Hway, Oak Park, Mich.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43 St., New York, N.Y.
Production Research Corp., Thornwood, N.Y.
Pye Corp. of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N.J.
Radio Corp. of America, Indl. Elctrn Prods. Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Specialty Mfg. Co., 2023 S.E. 6th Ave., Portland, Ore.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Telephonics Corp., Park Ave., Huntington, N.Y.
Vacaline Co. of America, Old Saybrook, Conn.

TRANSCEIVERS, PORTABLE MILITARY
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
American Dev. Electronics Co., 210 Central Ave., Newark, N.J.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.J.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Emerson Radio Corp., Govt. Electr Div., 1140 East West Hway, Silver Spring, Md.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Lel, Inc., 380 Oak St., Copiague, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., L.I. City, N.Y.
Philco Corp., Govt & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43rd St., New York, N.Y.
Production Research Corp., Thornwood, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telephonics Corp., Park Ave., Huntington, N.Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.

TRANSCEIVERS, UHF
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.

TRANSCEIVERS. UHF (continued)

Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Harvey–Wells Electronics, North St ., Southbridge, Mass.
Hoffman Labs Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Hycon Mfg. Co., 1030 So. Arroyo Pkway, P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lel, Inc., 380 Oak St., Copiague, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Production Research Corp., Thornwood, N.Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Telephonics Corp., Park Ave., Huntington, N.Y.
Vocaline Co. of America, Old Saybrook, Conn.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSCEIVERS. VHF

Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway, Silver Spring, Md.
General Metal Products Co., Centre & Glendale Sts., P.O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway, P.O. & Bin N., Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Knight, Ewan Corp., 206 A. St., Needham, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Leitch–Huard Corp., Stark & Commercial Sts., Box 1024, Manchester, N.H.
Lel, Inc., 380 Oak St., Copiague, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43 St., New York, N.Y.
Production Research Corp., Thornwood, N.Y.
Pye Corp. of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N.J.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Telephonics Corp., Park Ave., Huntington, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSDUCERS. ELECTROMECHANICAL Pgs. 655, 1015, 1030, 1036, 1039, 1115–1117, 1119, 1120, 1170–1174, 1177

Acoustica Associates, Inc., 26 Windsor Ave., Mineola, N. Y., – Pg. 1170
Aero Mechanisms, Inc., 13918 Saticoy St., Van Nuys, Calif.
American Electronics, Inc., 1023 W. Seventh St., Los Angeles, Calif.
American Measurement & Control Co., 240 Calvery St., Watertown, Mass.
Atcheley, Inc., Raymond, 2340 Sawtelle Boulevard, Los Angeles 64 Calif.
Atlantic Research Corp., 901 N. Columbus, Alexandria, Va.
Automation Instruments, Inc., 401 East Green Street, Pasadena, Calif.
B & F Instruments, Inc., 3644 N. Lawrence St., Philadelphia, Pa.
Baldwin-Lima-Hamilton Corp., Elctrns & Instrtn. Div., 42 4th Ave., Waltham, Mass.
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif. – Pg. 655
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bentley Scientific Co., 2811 Seventh St., Berkeley, Calif.
Bill Jack Scientific Instr. Co., P. O. Box C-3, Solano Beach, Calif.
Blackstone Corp. Ultrasonics, 1111 Allen St., Jamestown, N. Y.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N. Y.
Bourns Laboratories, Inc., Box 2112X, Riverside, Calif.
Branson Ultrasonic Corp., 1115 Brown House Rd., Stamford, Conn., – Pg. 1171
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Chesapeake Instrument Corp., Shadyside, Md.
Circo Ultrasonic Corp., 51 Terminal Ave., Clark, N. J., – Pg. 1174
Clark Electronic Labs., Box 165, Palm Springs, Calif.
Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio
Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio
Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas
Collins Corp., 2820 E. Hullet St., Long Beach, Calif.
Colorado Research Corp., Broomfield Heights, Colo.
Colvin Laboratories, Inc., 364 Glenwood Ave., East Orange, N. J.
Computer Instruments Corp., 90 Madison Ave., Hempstead, L. I., N. Y. – Pg. 1015
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Curtiss-Wright Corp., Princeton Div., Princeton, N. J.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Datran Electr., Div. Mid-Continent, 1836 Rosecrans Ave., Manhattan Beach, Calif.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
Daytime, Inc., 608 Fayette Ave., Mamaroneck, N. Y.
Devol Research Co., Brookside Dr., Greenwich, Conn.
Dillon, W. C. & Co., Inc., 14620 Keswick St., Van Nuys, Calif.
Dyna-Empire, Inc., 1075 Stewart Ave., Garden City, N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N. Y.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Edison, Thomas Ind., Instr. Div. McGraw Edison, 81 Lakeside Ave., W. Orange, N. J.
Electro-Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Electro Products Labs., 4501 N. Ravenswood Ave., Chicago, Ill., – Pg. 1115
Endevco Corp., 161 E. California St., Pasadena, Calif.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Fairchild Controls Corp, Comp. Div., 225 Park Ave., Hicksville, N. Y. – Pg. 1116
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N.Y.
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
General Electronics, 4200 Mobile Rd., Montgomery, Ala.
Genisco, Inc., 2233 Federal Ave., Los Angeles, Calif. – Pg. 1117
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Harris Transducer Corp., Woodbury, Conn.
Hidyne Instrument & Engrg. Co , 305 Edgewood Dr., Tullahoma, Tenn.
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Inter-Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa., – Pg. 1030
Kahn & Co., Inc., 541 Windsor St., Hartford, Conn.
Kin Tel Div. Cohu Electronics, 5725 Kearney Villa Rd., San Diego, Calif.
Kistler Instrument Co., 15 Webster St., N. Tonawanda, N. Y.
Kollsman Instrument, Sub. Standard Coil Prodts., 80-08 45th Ave., Elmhurst, N. Y.
L & R Mfg. Co., 580 Elm St., Arlington, N. J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Massa Labs. Inc., 5 Fottler Rd., Hingham, Mass.
Milro Controls Co., Park Ridge, N. J.
Minatron Corp., 58 Cliveden Place, Belle Mead, N. J.
Minneapolis-Honeywell, Ceramic Lab., 500 Washington Ave., S., Hopkins, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis-Honeywell, Transistor Div., 2753 4th Avenue, S., Minneapolis, Minn.
Nacimco Prods., Box 248, San Diego, Calif.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y., Pgs., 1172, 1173
Newark Controls Co., 15 Ward St., Bloomfield, N. J.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Pace Engineering Co., 13035 Saticoy St., N. Hollywood, Calif.
Photocon Research Products, Box 5485, 421 N. Altadena Dr., Pasadena, Calif.
Pickering & Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Potter Aeronautical Corp., Route 22, Union, N. J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Radionics, Inc., 76 Cambridge St., Burlington, Mass.
Rahm Instruments, Div. American Mach. & Metal Co., 65 Rushmore St., Westbury, N. Y.
Revere Corp. of America, Wallingford, Conn.
Roanwell Corp., 180 Varick St., New York, N. Y.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Servomechanisms, Inc., 12500 Aviation Blvd., Hawthorne, Calif.
Servomechanisms, Canada Limited, Rexdale Blvd., & Kipling Ave., Toronto, Can.
Servonic Instruments, Inc., 640 Terminal Way, Costa Mesa, Calif., – Pg. 1119
Solid State Electronics Co., Dept. E, 8158 Orion St., Van Nuys, Calif. – Pg. 1177
Spectrol Electronics, Dept. E 59, 1704 S. Del Mar Ave., San Gabriel, Calif., – Pg. 1036
Standard Controls, Inc., 1130 Poplar Pl., Seattle, Wash.
Statham Instruments, Inc., 12401 W. Olympic Blvd., Los Angeles, Calif., – Pg. 1120
Taber Instrument Corp., Electronics Div., 107 Goundry St., No. Tonawanda, N. Y.
Taylor Instrument Co., 95 Ames St., Rochester, N. Y.
Technology Instrument Corp., 523 Main St., Acton, Mass., – Pg. 1039
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosch, M. Inc., Application & Sales Dept., Pleasantville, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Trans-Sonics, Inc., P. O. Box 328, Lexington, Mass.
Ultradyne, Inc., Post Office Box 3308, Albuquerque, N. M.
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.
Wang Laboratories, Inc., 37 Hurley Street, Cambridge, Mass.
Waugh Engineering Co., 7842 Burnet Ave., Van Nuys, Calif.
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.
Western Electro-Acoustic Lab., 11789 San Vicente Blvd., Los Angeles 49, Calif.
Wiancko Engrg. Co., 255 N. Halstead, Box 5020, Pasadena, Calif.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

TRANSDUCERS. CELLS. PHOTOELECTRIC – ALSO SEE TUBES, PHOTOTUBES Pgs. 655, 813, 849, 1053, 1118

Basic Controls, 4023 Irving Pl., Culver City, Calif., – Pg. 849
Beckman/Berkeley Div., 2200 Wright Ave., Richmond, Calif., – Pg. 655
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cole Instrument Co., 1000 N. Olive St., Anaheim, Calif.
Dayton Electronic Products Co. Depco, 320 Vermont Ave., Dayton, Ohio
De-Tec-Tronic Corp., 2512 N. Halsted St., Chicago, Ill.
Dynapar Corp., 5150 Church St., Skokie, Ill.
Exact Weight Scale Co., 944 W. 5 Ave., Columbus, Ohio
Hewlett-Packard Co., 4801R Page Mill Rd., Palo Alto, Calif., – Pg. 813
Hoffman H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.
Keuffel & Esser Co., Hoboken, N. J., – Pg. 1118
Optron Corp., 335 So. Salinas, Santa Barbara, Calif.
Photomation, Inc., 96 So. Washington Ave., Bergenfield, N. J.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, N. Y.
Steelting Co., 424 N. Homan Ave., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Tri-Tronics Co., 2607 St. Charles Rd., Bellwood, Ill.
Vickers, Inc. Electric Div., 1825 Locust St., St. Louis, Mo.
Victory Engineering Corp., P. O. 393, Union, N. J., – Pg. 1053
Waldorf Instr. Co., Div. F. C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N. Y.

TRANSDUCERS. THERMOELECTRIC

Aero Research Instrument Co., 315 N. Aberdeen St., Chicago
Amoux Corp., 11924 W. Washington Blvd., Los Angeles, Calif.
BJ Electronics, Borg-Warner Corp., 3300 Newport Ave., Santa Ana, Calif.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Bristol Company, The, P. O. Box 1790, Waterbury 20, Conn.
Cardinal Instrumentation Corp., 4201 Redwood Ave., Los Angeles, Calif.
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Kahn & Co., Inc., 541 Windsor St, Hartford, Conn.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Minco Products, Inc., 740 Washington Ave., No., Minneapolis, Minn.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Nacimco Prods., Box 248, San Diego, Calif.
Narda Ultrasonics Corp., The, 625 Main St., Westbury, N. Y.
Pace Engineering Co., 13035 Saticoy St., N. Hollywood, Calif.
Rosemount Engrg. Co., 9424 Lyndale Ave., S., Minneapolis, Minn.
Ruge, Arthur Associates, Inc., 733 Concord Ave., Cambridge, Mass.
Thompson Research & Mfg. Co., P. O. Box 116, Davenport, Fla.
United Control Corp., 4540 Union Bay Place, Seattle, Washington
West Coast Research Corp., 2371 1/2 Westwood Blvd., Los Angeles, Calif.

TRANSFORMERS. ANTENNA MATCHING ..... Pg. 529

AC Electronics, Inc., 11725 Mississippi, Los Angeles, Calif.

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All Products Co., Electronic Div., Box 110, Mineral Wells, Texas
Ameco, 2949 W. Osborn Rd., Phoeniz, Ariz.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Blonder-Tongue Labs., Inc., 9-25 Alling St., Newark, N. J.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Community Engrg. Corp., State College, Pa., – Pg. 529
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dorne & Margolin, Inc., 29 New York Ave., Westbury, N. Y.
Dynamic Electronics N. Y. Inc., 87-46 123rd St., Richmond Hill, N.Y.
Essex Electronics, Berkeley Heights, N. J.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hi-Lo Mfg. Corp., 1122-26 W. Newport Ave., Chicago, Ill.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Hycon Eastern, Inc., 75 Cambridge Prkway, Cambridge, Mass.
Industrial Transformer Co., Gouldsboro, Pa.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
NYT Electronics, Inc., 2979 N .Ontario St., Burbank, Calif.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Standard Winding Co., 44 Johns St., Newburgh, N.Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telectro Industries Corp., 35-16 37th St., L. I. City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Tricraft Products Corp., 1124 W. Newport, Chicago, Ill.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

TRANSFORMERS, AUDIO Pgs. 466, 512, 1009, 1121, 1123–1126, 1129, 1131–1135, 1140–1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif., – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn., – Pg. 1121
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electronic Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, N.J.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill., – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co. Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N.J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1126
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Fairchild Recording Equip. Co., 10–40 45th Ave., Long Island City, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pg. 1131
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg. 512
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio

Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y. – Pg. 1129
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jensen Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Keystone Products Co., 904–23 St., Union City, N. J.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133, 1134, 1135
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Quam–Nichols Co., Marquette Rd. at Prairie Ave., Chicago, Ill.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rogers Electronic Corp., 43–49 Bleeker St., New York, N. Y.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Univox Corp., 102 Warren Street, New York, New York
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas
Waber Mfg. Co., 105 Heatherwood Rd., Havertown, Pa.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, AUDIO, VERY LOW FREQUENCY ..... Pgs. 1132–1135, 1140–1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Arco Products Co., 369 Shurs Lane, Philadelphia, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.

See YELLOW SECTION for local sales offices, telephones, etc.

TRANSFORMERS, AUDIO, VERY LOW FREQUENCY (continued)

C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Cinaudagraph, Inc., 7334 N. Clark St., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N.J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essee Electronics, Berkeley Heights, N. J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Keystone Products Co., 904–23 St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P.O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnatran, Inc., 248 Schuyler Ave., Kearney, N.J.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N.Y. – Pgs. 1133, 1134, 1135
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Otis Radio & Electric Corp., 700 Central Ave., Howarden, Iowa
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N.J.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rogers Electronic Corp., 43–49 Bleeker St., New York, N.Y.
SNC Manufacturing Co., Inc., Box 277, Oshkosk, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N.Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J. – Pg. 1142
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick St., New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.

TRANSFORMERS, AUTOTRANSFORMER ... Pgs. 702, 847, 952, 1106, 1123, 1125, 1126, 1133–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A.C. Transformer Corp., 89 Madison St., Newark, N.J.
Acme Electric Corp., 20 Water St., Cuba, N.Y.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisc.
American Rectifier Corp., 95 Lafayette St., New York, N.Y.
Amplifier Corp. of America, 398 Broadway, New York, N.Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N.J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Dinion Coil Co., Inc., Caledonia, N.Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N.J. – Pg. 1125
Edko Electronics Engrg., Co., 202 Grand St., Brooklyn, N.Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N.J.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N.Y.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Essex Electronics, Berkeley Heights, N.J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N.Y.
Gates Electronic Co., 1705 Taylor Ave., Bronx, N.Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N.J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N.Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N.J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
I–L–S Instrument Div., Merian Instrument Co., 4525 W. 160 St., Cleveland, Ohio – Pg. 702
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Langevin Div., Maxson, W.L., Corp., 47–31 Austell Pl., L.I. City, N.Y.
Lynch Carrier Systems, Inc., 695 Bryant St., San Francisco, Calif.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N.J.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N.Y. – Pgs. 1133, 1134, 1135
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N.J.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer, Co., 47 McGrath Hway,, Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N.J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx 57, N.Y.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N.J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N.J.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N.J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rogers Electronic Corp., 43–49 Bleeker St., New York, N.Y.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Servo–Tek Prod. Co., 1086 Goffle Rd., Hawthorne, N.J. – Pg. 847
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Spellman High Voltage Co., 3029 Webster Ave., Bronx, N.Y. – Pgs. 952, 1106

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Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio – Pg. 1137
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N.Y.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N.J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Vernistat Div., Perkin–Elmer Corp., 841 Main Ave., Norwalk, Conn.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Wight Engineering Co., 180 E. California St., Pasadena, Calif.

TRANSFORMERS, BIAS ..... Pgs. 1109, 1123, 1126, 1131, 1133–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N.J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hway., Lees Summit, Mo.
Dinion Coil Co., Inc., Caledonia, N.Y.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W, 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y. – Pg. 1131
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W.L., Corp., 47–31 Austell Pl., Long Island City, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N.J.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N.J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Transformer Design, Inc. , of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.

TRANSFORMERS, CHOPPER ..... Pgs. 1133–1135, 1140, 1141

Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141

TRANSFORMERS, CONVERTER, DC–DC Pgs. 1009, 1124, 1126, 1132–1135, 1140–1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington St., Northvale, N.J.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Deeco Instruments, 14737 Aminta St., Van Nuys, Calif. – Pg. 1124
Dinion Coil Co., Inc., Caledonia, N.Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N.J.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Fairfield Engineering Corp., 934 Hope St., Springdale, Conn.
Ferrotran Electronics Co., 693 Broadway, New York, N.Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N.Y.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Langvin Div., Maxson, W.L., Corp., 47–31 Austell Pl., Long Island City, N.Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P.O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N.Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N.Y.
Opad Electric Co., 69–12 Murray St., New York, N.Y.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Sickles, F.W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J. – Pg. 1142
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Vibration Research Labs., Inc., 58 Marbledale Rd., Tuckahoe, N.Y.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

TRANSFORMERS, CURRENT ..... Pgs. 694–698, 1126, 1133–1135, 1137, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
Annis R.B. Co., 1101 N. Delaware St., Indianapolis, Ind.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Bach–Simpson Ltd., 1255 Brydges St., London, Canada
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin, Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg., Labs., Island Ave., Mahwah, N.J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hway., Lees Summit, Mo.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Davenport Mfg. Co., 1713 N. Ashland Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N.J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N.Y.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1126
Electronic Coils, Inc., P.O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.

TRANSFORMERS. CURRENT (continued)
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Hickok Electrical Instr. Co., 10500 Dupont Ave., Cleveland, Ohio – Pgs. 694, 698
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N.Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Knopp, Inc., 1307 66th Street, Oakland, Calif.
Langevin Div., Maxson, W.L., Corp., 47–31 Austell Pl., Long Island City, N.Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Milro Controls Co., Park Ridge, N.J.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Scientific Instruments Co., Box 408, Cambridge, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Northelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pearson Electronics, Inc., 707 Urban Lane, Palo Alto, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engr. Corp., 345 Kansas St., El Segundo, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio – Pg. 1137
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N. Y.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transformer Design, Inc., of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.

TRANSFORMERS. CURRENT LIMITING ..... Pgs. 1125, 1126, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Cable Electric Products, 234 Dabell St., Providence, R. I.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg., Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Edko Electronics Engrg., Co., 202 Grand St., Brooklyn, N. Y.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East., P.O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Controls Co., 801 Allen Ave., Glendale, Calif.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lee Electric, Inc., 566 52nd St., W. New York, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer, Co., 1661 McDonald Ave., Brooklyn, N. Y.
Skysweeper, Inc., McHenry, Ill.
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. Of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16th St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N. Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, DIFFERENTIAL ..... Pgs. 522, 1133–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Collins Corp., 2820 E. Hullet St., Long Beach, Calif.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Daytronic Corp., 216 S. Main St., Dayton, Ohio
Edcliff Instruments, 1711 S. Mountain Ave., Monrovia, Calif.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas Texas
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Minatron Corp., 58 Cliveden Place, Belle Mead, N. J.
NYT Electronics, Inc.,2979 N. Ontario St., Burbank, Calif.
New York Transformer Co., Third Ave., Alpha, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Sanborn Co., 175 Wyman St., Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Schaevitz Engineering, Box 505, Camden, N. J.
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N. Y.
Telectro Industries Corp., 35–16 37th St., Long Island City, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N. J.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J. – Pg. 522
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N. Y.

TRANSFORMERS, DISCRIMINATOR ..... Pgs. 1124, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Sotheastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
El–Rad Mfg. Co., 2800 Cullom St., Chicago, Ill.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Essex Electronics, Berkeley Heights, N. J.

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Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Inductor Engg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New York Transformer Co., Third Ave., Alpha, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Smallwood, Ltd., 391–397 King St., Kitchener, Canada
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transformer Design, Inc. Of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
United Transformer Corp., 150 Varick Street, New York, N. Y. – Pgs. 1140, 1141
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.

TRANSFORMERS, FILAMENT .. Pgs. 494, 495, 683, 850, 851, 895, 901, 929, 1121, 1123, 1125, 1126, 1129, 1130, 1131, 1133–1135, 1140–1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. C. Transformer Corp., 89 Madison St., Newark, N. J.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co, Of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va. – Pg. 895
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pgs. 1130, 1131
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y. Pgs. 494, 495, 683, 850, 851, 901, 1129
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Keystone Products Co., 904–23 St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 24, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Perma Power Co., 3102 N. Elston, Chicago, Ill.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Phoenix Tramsformer Co., 1818 E. Madison, Phoenix, Ariz.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 929
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Trenton Transformer Corp., P. O. Box 568B, Trenton, N. J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, FLYBACK ..... Pgs. 778, 1123

Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Industrial Transformer Co., Gouldsboro, Pa.
Jet Electronics Corp., 4426 San Fernando Rd., Glendale, Calif.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Penn–Tran Corp., Bellefonte, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Rogers Electronic Corp., 43–49 Bleeker St., New York, N. Y.
Ross Mfg. Co., 2538 W. Peterson Ave., Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Smallwood, Ltd., 391–397 King St., Kitchener, Canada
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
Wright–Zimmerman, New Brighton, Minnesota

TRANSFORMERS, FOIL WOUND ..... Pgs. 1125, 1131

Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.

TRANSFORMERS. FOIL WOUND (continued)

Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Dinion Coil Co., Inc., Caledonia, N. Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pg. 1131
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P.O. Box 455, Trenton , N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., Long Island City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric, Specialty Transformer Dept.,Box 231, Greenville, Pa.

TRANSFORMERS. 400 CPS. .... Pgs. 629, 1009, 1123, 1125, 1126, 1130–1135, 1140–1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N. Y.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington St., Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pgs. 1130, 1131
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformer, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 4–10 30th St., Fairlawn, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jack & Heints, Inc., 17600 Broadway, Cleveland, Ohio
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Keystone Products Co., 904 23rd St., Union City, N. J.
Knopp, Inc., 1307 66th St., Oakland, Calif.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., L. I. City, N. Y.
Leland Airborne Prod., Div. A. M. & F. Co., P. O. Box 128, Vandalia, Ohio
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P.O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnatran, Inc., 248 Schuyler Ave., Kearney, N.J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N.Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Milro Controls Co., Park Ridge, N.J.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
New England Transformers Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Nothelfer Winding Labs., Inc., P.O. Box 455, Trenton, N.J.
Opad Electric Co., 69–12 Murray St., New York, N.Y.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N.J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N.J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Belmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J. – Pg. 1142
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N.J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N.Y.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS. GEOPHYSICAL

Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.

TRANSFORMERS. HV ..... Pgs. 949, 952, 1106, 1125–1127, 1132–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A.C. Transformer Corp., 89 Madison St,, Newark, N.J.
AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
American Electronics Co., 81 Lowry Ave., N.E., Minneapolis, Minn.
American Rectifier Corp., 95 Lafayette St., New York, N.Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N.J.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Dinion Coil Co., Inc., Caledonia, N.Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N.Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif.– Pgs. 1126, 1127
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.

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Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N.Y.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Essex Electronics, Berkeley Heights, N.J.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Hindle Transformer Co., Woods Church Rd., Flemington, N.J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Industron Corp., 55 Needham St., Newton Highlands, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jet Electronics Corp., 4426 San Fernando Rd., Glendale, Calif.
K-V Transformer Corp., 20 E Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr., Ext., Lynchburg, Va.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla., – Pg. 1132
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Milro Controls Co., Park Ridge, N. J.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hwy., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N .J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx 57, N. Y.
Opad Electric Co., 69-12 Murray St., New York, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pearson Electronics, Inc., 707 Urban Lane, Palo Alto, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Peschel Electronics, Inc., Towners, Rfd. 1, Patterson, N. Y.
Philco Corp., Accessory Div., P. O. Box 3635, Phila., Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Picker X–Ray Corp., 25 S. Broadway, White Plains, N. Y.
Precise Measurements Co., Millbrook Place, Rd. 1, Flemington, N. J., – Pg. 949
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Spellman High Voltage Co., 3029 Webster Ave., New York 67, N. Y. – Pgs. 952, 1106
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick Street, New York, N. Y., – Pgs., 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N. Y.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive., Westbury, New York
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, I–F ..... **Pgs. 518, 778**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Ace Coil & Electronics Co., 917 Lincoln Hway., Metuchen, N. J.
Aladdin Industries, Electronics Div., 726 Murfreesboro Road, Nashville, Tenn.
Argonne Electronics Mfg. Corp., 165-11 South Rd., Jamaica, N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Caddell-Burns Mfg., Inc., 40 E. 2nd St., Mineola, N. Y., – Pg. 518
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Delta Radio Co., 115 Worth St., New York, N. Y.
Dunwell Mfg. Corp., 257 Queen Anne Rd., Bogota, N. J.
Dwyer Engineering Co., Inc., P. O. Box 452, Nashua, N. H.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Essex Electronics, Berkeley Heights, N. J.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle-Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237 Sheridan, Wyo.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Peerless Electr. Prod., Div., Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Sage-Craft, Inc., Norwich, N. Y.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smallwood Ltd., 391-397 King St., Kitchener, Canada
Smith, Paul Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Stanwyck Winding Co., 137 Walsh Ave., Newburgh, N. Y.
Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, INPUT ..... **Pgs. 1009, 1123, 1125, 1126, 1131, 1133–1135, 1140–1142**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif., – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill., – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co. Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental X-Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1126
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Electran Mfg., Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif., – Pg. 1126
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y., – Pg. 1131
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
Galbraith-Pilot Marine Corp., 600-4th Ave., Brooklyn, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi-Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.

TRANSFORMERS, INPUT (continued)

Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Mosley Electronics, Inc., 8622 St. Charles Rock Rd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Quam-Nichols Co., Marquette Rd. At Prairie Ave., Chicago, Ill.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper Bl. 15–1, Camden, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torwico Electronics, inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U. S. Electronics Corp., 276 Warren St., Lyndhurst, N. J.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, INSTRUMENT ..... Pgs. 1009, 1126, 1132–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allis–Chalmers Mfg., Co., 935 S. 70th St., Milwaukee, Wisconsin
Annis, R. B. Co., 1101 N. Delaware St., Indianapolis, Ind.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Associated Research, Inc., 3773 W. Belmont Ave., Chicago, Ill.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Crest Transformer Corp., 1834–36 W.North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg., Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Knopp, Inc., 1307 66th Street, Oakland, Calif.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Milro Controls Co., Park Ridge, N. J.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237 Sheridan, Wyo.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sun Electric Co., 6323 Avondale Ave., Chicago, Ill.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., P. O. Box 568B, Trenton, N. J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Weston Instruments, Div. Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, ISOLATION Pgs. 629, 895, 1009, 1123, 1125, 1126, 1133–1135, 1140–1142

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. C. Transformer Corp., 89 Madison St., Newark, N. J.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
American Electronics Co., 81 Lowry Ave. N. E., Minneapolis, Minn.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., P. O. Box 269, Rte. 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co. Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co. Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Communication Eqpt. & Engrg., 5646 W. Race Ave., Chicago, Ill.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va. – Pg. 895
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.

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Geotronic Labs Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion St., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hammond Mfg. Co., Ltd., Guelph, Canada
Heath Co., Benton Harbor, Mich.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
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Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
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Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Kolton Electric Mfg. Co., 123 New Jersey R R Ave., Newark, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lee Electric, Inc., 566 52nd St., W. New York, N. J.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath H'way., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx 57, N. Y.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skyweeper, Inc., McHenry, Ill.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
T.T. Electronics, Inc., P.O. Box 180, Culver City, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N.Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J. – Pg. 1142
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N.Y.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N.J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Vernistat Div., Perkin–Elmer Corp., 841 Main Ave., Norwalk, Conn.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS. LINEAR ..... Pgs. 844, 845, 1133–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Automatic Timing & Controls, Inc., King of Prussia, Pa.
Avion, Div. A.C.F. Industries, Inc., 7 Park Pl., Paramus, N.J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Clifton Precision Prod., Inc., Clifton Heights, Pa. – Pgs. 844, 845
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N.Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N.Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W.L. Corp., 47–31 Austell Pl., Long Island City, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N.J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Saratoga Industries, Ballstron Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.

TRANSFORMERS. MATCHED. PRECISION .. Pgs. 629, 748, 1009, 1121, 1124, 1133–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Texas
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Langevin Div., Maxson, W.L. Corp., 47–31 Austell Pl., Long Island City, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
Navigation Electronics Corp., 11616 Hart St., No. Hollywood, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N.J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Sierra Electronic Corp., 5442 Bohannon Dr., Menlo Park, Calif. – Pg. 748
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Southwestern Industrial Elctrns. Co., 2831 Post Oak Rd., Box 13058, Houston, Tex.
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141

TRANSFORMERS, MATCHED, PRECISION (continued)
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Dr., Westbury, N.Y.

TRANSFORMERS, MATRIX ..... Pgs. 1009, 1133–1135
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garlanc, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Magnetics Research Co., 255 Grove St., White Plains, N.Y.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

TRANSFORMERS, MICROPHONE ..... Pgs. 1123, 1133–1135, 1140, 1141
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Better Coil & Transformer , Goodland, Ind.
Bogen–Presto, Div. Siegler Corp., P.O. Box 500, Paramus, N.J.
Campbell, Colin, Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Dinion Coil Co., Inc., Caledonia, N.Y.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N.Y.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro–Sonic Labs., Inc., 35–54 36th St., Long Island City, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N.Y.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Langevin Div., Maxson, W.L., Corp., 47–31 Austell Pl., Long Island City, N.Y.
Leonard Electric Products, 67 34th St., Brooklyn, N.Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y.– Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N.Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N.J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
Raytheon, Indl. App., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Telex, Telex Park, St. Paul, Minn.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N.Y.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U.S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, MICROWAVE ..... Pgs. 1133–1135, 1140, 1141
Aircom, Inc., 354 Main St., Winthrop, Mass.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Ferrotec, Inc., 217 California St., Newton, Mass.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N.Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner Pkway., Livingston, N.J.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Radar Design Corp., Box 38, Syracuse, N.Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon, Indl. App. Div., Magnetic Camp. Prod. Dept., Dept.6120MP, Waltham, Mass.
Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N.Y.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
United Transformer Corp., 150 Varick Street, New York, N.Y. – Pgs. 1140, 1141
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Waveline, Inc., P. O. Box 718, W. Caldwell, N. J.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

TRANSFORMERS, MINIATURE AND SUBMINIATURE .. Pgs. 466, 512, 629, 1009, 1122–1126, 1133–1135, 1140–1142
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N.Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N.Y.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Avion, Div. A.C.F. Industries, Inc., 7 Park Pl., Paramus, N.J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Better Coil & Transformer, Goodland, Ind.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1122
Campbell, Colin, Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crescent Engineering & Research Co., 5440 N. Peck Rd., El Monte, Calif.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N.Y.
Developmental Electronics Corp., 4213 S. Broadway, Los Angeles, Calif.
Dinion Coil Co., Inc., Caledonia, N.Y.
Dwyer Engineering Co., Inc., P.O. Box 452, Nashua, N.H.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N.J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N.Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N.J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N.Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Espey Mfg. Co., 200 W. 57th St., New York, N.Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y.
Ferotran Electronics Co., 693 Broadway, New York, N.Y. – Pg. 512
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N.J.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Texas
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N.Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N.J.
Keystone Products Co., 904–23 St., Union City, N.J.
Langevin Div., Maxson, W.L. Corp., 47–31 Austell Pl., Long Island City, N.Y.
Leonard Electric Products, 67 34th St., Brooklyn, N.Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.

See YELLOW SECTION for local sales offices, telephones, etc.

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Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Miller, J.W., Co., 5917 S. Main St., Los Angeles, Calif.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N. J.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
PCA Electronics, Inc., 16799 Schoenborn St., Sepulveda, Calif.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Permoflux Products Co., Div. Linlar., Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N.J.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rye Sound Corp., 145 Elm St., Mamaroneck, N.Y.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Skysweeper, Inc., McHenry, Ill.
Sonotone Corp., Electronic Applications Div., Elmsford, N.Y.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N.Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N.Y.
Toroidal Components Co., 1372–74 E. Walnut St., Pasadena, Calif.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N.J. – Pg. 1142
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick St., New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Vibration Research Labs., Inc., 58 Marbledale Rd., Tuckahoe, N. Y.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D.C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, MODULATION ....Pgs. 1009, 1123, 1125–1128, 1133–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N.Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin, Co., Inc., Westville Ave. Ext., P.O. Box 529, Danbury, Conn.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Dinion Coil Co., Inc., Caledonia, N.Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Electro Engineering Wks., Inc., 401 Preda St., So., San Leandro, Calif. – Pgs. 1126–1128
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N.Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Keystone Products Co., 904–23 St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N.Y. – Pgs. 1133–1135
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath H'way., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angles, Calif.
Penn–East Engrg. Corp., Box 240, Kutztown, Pa.
Philco Corp., Accessory Div., P. O. Box 3635, Phila., Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
SNC Manufacturing Co., Inc., P. O. Box 277, Oshkosh, Wisc.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Phila., Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, OUTPUT .. Pgs. 527, 1009, 1076, 1123, 1125, 1126, 1133–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Acro Products Co., 369 Shurs Lane, Phila., Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Applied Research, Inc., 76 S. Bayles, Port Washington, N. Y. – Pg. 527
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
Cable Electric Products, 234 Dabell St., Providence, R. I.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600 4th Ave., Brooklyn, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James **Vibrapowr** Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.

See YELLOW SECTION for local sales offices, telephones, etc.

TRANSFORMERS, OUTPUT (continued)
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Keystone Products Co., 904 –23 St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237 Sheridan, Wyo.
New England Transformer Co., 47 McGrath H'way., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago, Ill.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif.
Philco Corp., Accessory Div., P. O. Box 3635, Phila., Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Quam–Nichols Co., Marquette Rd. at Prairie Ave., Chicago, Ill.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N. Y.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Telex, Telex Park, St. Paul, Minn.
Ten Bosh, M., 80 Wheeler Ave., Pleasantville, N. Y. – Pg. 1076
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N. J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, PHASE CONVERSION ..... Pgs. 1133–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Dinion Coil Co., Inc., Caledonia, N. Y.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath H'way., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., P. O. Box 568B, Trenton, N. J.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York

TRANSFORMERS, PLATE .. Pgs. 1121, 1123, 1125–1127, 1129, 1130, 1133–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. C. Transformer Corp., 89 Madison St., Newark, N. J.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Ecco High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pgs. 1126, 1127
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pg. 1130
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Galbraith–Pilot Marine Corp., 600–4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 1129
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs, Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath H'way., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pax Electronics Co., 66–28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn–East Engrg. Corp., P. O. Box 240, Kutztown, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Randall, Douglas, Inc., 6 Pawcatuck Ave., Westerly, R. I.

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Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
SNC Manufacturing Co., Inc., P. O. Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Specialty Co., Bala-Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N. J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, PLUG–IN ..... **Pgs. 518, 1009, 1122, 1133–1135, 1140, 1141**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
C.B.C. Electronics Co., Ind., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1122
Caddell-Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y. – Pg. 518
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
Galbraith-Pilot Marine Corp., 600-4th Ave., Brooklyn, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi-Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Keystone Products Co., 904-23 St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pax Electronics Co., 66-28 Myrtle Ave., Glendale, N. Y.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn-East Engrg. Corp., Box 240, Kutztown, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S, Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, POWER ..... **Pgs. 629, 895, 1009, 1121, 1123. 1125–1127, 1129, 1130, 1132–1135, 1137, 1140–1142**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. C. Transformer Corp., 89 Madison St., Newark, N. J.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
Amplifier Corp. Of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn. – Pg. 1121
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Better Coil & Transformer, Goodland, Ind.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa.
Cable Electric Products, 234 Dabell St., Providence, R. I.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Continental X-Ray, 1536 Clybourne Ave., Chicago, Ill.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va. – Pg. 895
Electran Mfg., Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pgs. 1126, 1127
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y. – Pg. 1130
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
Galbraith-Pilot Marine Corp., 600-4th Ave., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 1129
Gates Electronic Co., 1705 Taylor Ave., Bronx, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi-Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Industron Corp., 55 Needham St., Newton Highlands, Mass.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Keystone Products Co., 904-23 St., Union City, N. J.
Land-Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
Land-Air, Inc., Instr. & Electronic Div., 2133 Adams Ave., San Leandro, Calif.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.

TRANSFORMERS, POWER (continued)

Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Miller Sanford Co., 691 Bedford Ave., Brooklyn, N. Y.
Milro Controls Co., Park Ridge, N. J.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
Mystic Transformers, Inc., 114 West St., Wilmington, Mass.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx 57, N. Y.
Opad Electric Co., 69-12 Murray St., New York, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Penn-East Engrg. Corp., Box 240, Kutztown, Pa.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Permoflux Products Co., Div. Linlar, Inc., 4101 San Fernando Rd., Glendale, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Pittsburgh Coil Co., 37 McMichael Rd., Carnegie, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Ratelco, Inc., 820 Minor Ave., N., Seattle 9, Wash.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio – Pg. 1137
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Strong Electric Corp., 87 City Park Ave., Toledo, Ohio
T. T. Electronics, Inc., P. O. Box 180, Culver City, Calif.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Trenton Transformer Corp., P. O. Box 568B, Trenton, N. J.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Univox Corp., 102 Warren Street, New York, New York
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, PRINTED CIRCUIT ..... Pgs. 1009, 1124, 1133–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Developmental Electronics Corp., 4213 S. Broadway, Los Angeles, Calif.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Dynaco, Inc., 617 N. 41st St., Philadelphia, Pa.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Electran Mfg., Co., 1901 N. Clybourn, Chicago, Ill.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Stromberg-Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Valandy Electronics Corp., 15 W. 44 St., New York, N. Y.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, PULSE .... Pgs. 466, 549, 629, 778, 1122, 1123, 1133–1135, 1138–1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Amp, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Aladdin Industries, Electronics Div., 726 Murfreesboro Road, Nashville, Tenn.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N. Y.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Bell Aircraft Corp., Avionics Div., P. O. Box 1, Buffalo, N. Y.
Berkshire Labs., 3 Pleasant St., Hanover, N. H.
Better Coil & Transformer, Goodland, Ind.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
C.B.C. Electronics Co., Inc., 2601 N. Howard St., Philadelphia, Pa. – Pg. 1122
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Canadian Aviation Electronics, 6214 Cote De Liesse Rd., St. Laurent, Canada
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Developmental Electronics Corp., 4213 S. Broadway, Los Angeles, Calif.
Digitronics Corp., Albertson Ave., Albertson, L. I., N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Eastern Precision Resistor Corp., 675 Barbey St., Brooklyn, N. Y.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Gudeman Co., The, 340 W. Huron St., Chicago, Ill.

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Hevi-Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnet Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Keystone Products Co., 904-23 St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnatran, Inc., 248 Schuyler Ave., Kearney, N. J.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Orbitran Co., Inc., 11487 Woodside Ave., Lakeside, Calif. – Pg. 549
Ortho Filter Corp., 198 Albion Ave., Paterson 2, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
PCA Electronics, Inc., 16799 Schoenborn St., Sepulveda, Calif.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif.
Pearson Electronics, Inc., 707 Urban Lane, Palo Alto, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Prototype Transformer, 1 Henry St., Bloomfield, N. J.
Pulse Engrg., Inc., 2657 Spring St., Redwood City, Calif.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Spivey, James S., Inc., 4908 Hampden Lane, Washington, D. C.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. – Pgs. 1138, 1139
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Toroidal Components Co., 1372-74 E. Walnut St., Pasadena, Calif.
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transformers, Inc., 200 Stage Rd., Vestal, N. Y.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Ultrad., Inc., 305 Briant, N., Huntington, Ind.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.
Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N. Y.

TRANSFORMERS, REFERENCE ..... Pgs. 1009, 1124–1126, 1133–1135, 1140, 1141

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Electro Engrg. Works, Inc., 401 Preda St., So., San Leandro, Calif. – Pg. 1126
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl. L. I. City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer, Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transonic, Inc., P.O. Box 59 – 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, R–F ..... Pgs. 518, 778, 952, 1106, 1124, 1133–1135

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Ace Coil & Electronics Co., 917 Lincoln Hway, Metuchen, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y. – Pg. 518
Cambridge Thermionic Corp., 460 Concord Ave., Cambridge, Mass.
Camden Electronics, Inc., 30 Irwin Ave., Collingswood, N. J.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Clippard Instrument Lab., Inc., 7350 –90 Colerain Rd., Cincinnati, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Coils–Electronics Co., 2939–49 N. 2nd St., Philadelphia, Pa.
Cold Cathode Corp., 48–14, 48–18 33rd St., Long Island City, N. Y.
Deeco Instruments, Inc., 14737 Arminta St., Van Nuys, Calif. – Pa. 1124
Delta Coils, Inc., 1128 Madison Ave., Paterson, N. J.
Delta Radio Co., 115 Worth St., New York, N. Y.
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
El–Rad Mfg., Co., 2800 Cullom Ave., Chicago, Ill.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Fugle–Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P.O. Box 1675, Casselberry, Fla.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N. Y. –Pg. 1133 –1135
Millen, James Mfg. Co., Inc., 150 Exchange St., Malden, Mass.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Morey Corp., The, 2014 N. Major Ave., Chicago, Ill.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New York Coil Co., Phoenixville, Pa.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl.15–1, Camden, N. J.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept., 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Sage–Craft, Inc., Norwich, N. Y.
Sickles, F.W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Spellman High Voltage Co., 3029 Webster Ave., New York, N. Y. – Pgs. 952, 1106
Standard Winding Co., 44 Johns St., Newburgh, N. Y.
Superex Electronics Corp., 4–6 Radford Place, Yonkers, N. Y.
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Teleradio Engrg., 99 Wall St., New York, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U.S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
Vanguard Electronics Co., 3384 Motor Ave., Los Angeles, Calif.
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Warsaw Coil Co., Box 389, Warsaw, Ind.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

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AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Airpax Products Co., Central Engrg. Div., P.O. Box 8488, Ft. Lauderdale, Fla.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S Hanna St., Fort Wayne, Ind.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Avion, Div. ACF Industries, Inc., 7 Park Pl., Paramus, N. J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., P. O. Box 269, Rte. 143, Highland, Ill.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Campbell, Colin Co., Inc., Westville Ave. Ext., P. O. Box 529, Danbury, Conn.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Carson Mfg., Co., Inc., 2624 E. 55th St., Indianapolis, Ind.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington St., Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.

TRANSFORMERS, SATURABLE (continued)

DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Electro Engineering Works, Inc., 401 Preda St., So., San Leandro, Calif.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 237, Huntington, Ind.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Feed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg., Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., P. O. Box 277, Garland, Tex.
Hevi-Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Kepco Laboratories, Inc., 131-38 Sanford Ave., Flushing, N. Y.
Keystone Products Co., 904 23rd St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., L. I. City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133-1135
Milro Controls Co., Park Ridge, N. J.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx, N. Y.
Opad Electric Co., 69-12 Murray St., New York, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Penn-East Engrg. Corp., P. O. Box 240, Kutztown, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Ratelco, Inc., 820 Minor Ave., N., Seattle, Wash.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Toroidal Components Co., 1372-74 E. Walnut St., Pasadena, Calif.
Torotel, Inc., 5512 E. 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Trenton Transformer Corp., P. O. Box 568B, Trenton, N. J.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y.
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, SERVO ..... **Pgs. 1133-1135, 1140, 1141**
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133-1135
United Transformer Corp., 150 Varick St., New York, N. Y. – Pgs. 1140, 1141

TRANSFORMERS, TOROIDAL ..... **Pgs. 522, 629, 778, 958, 1009, 1077, 1123, 1125, 1132-1135, 1140-1142**

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
American Research & Mfg., Co., 920 Halpine Ave., Rockville, Maryland
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes St., Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Bach-Simpson Ltd., 1255 Brydges St., London, Canada
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Basler Electric Co., P. O. Box 269, Rte. 143, Highland, Ill.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Bundy Electronics Corp., 171 Fabyan Pl., Newark, N. J.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carad Corp., 2850 Bay Rd., Redwood City, Calif.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Co. of America, Inc., 221 Washington St., Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
ESC Corp., 534 Bergen Blvd., Palisades Park, N. J.
Electran Mfg., Co., 1901 N. Clybourn, Chicago, Ill.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Coils, Inc., P. O. Box 1665, 33 Lyman St., Springfield, Mass.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N. Y. – Pg. 778
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
Fugle-Miller Labs., Inc., Central Ave., Clark, N. J.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Goode, J. J. Assoc., 65 Eliot St., Ashland, Mass.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg., Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Inductor Engrg., Inc., 117 Schley Ave., Lewes, Del.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K-V Transformer Corp., 20 E. Franklin St., Dansbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Keystone Products Co., 904-23rd St., Union City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Magnetico, Inc., 6 Richter Court, E. Northport, N. Y.
Magnetics Research Co., 255 Grove St., White Plains, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133-1135
Midwest Electric Products, 1515 N. Front St., Mankato, Minn.
Milro Controls Co., Park Ridge, N. J.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
Networks Electronic Corp., 14806 Oxnard St., Van Nuys, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Ortho Filter Corp., 198 Albion Ave., Paterson, N. J.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
PCA Electronics, Inc., 16799 Schoenborn St., Sepulveda, Calif.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif.
Penn-East Engrg. Corp., Box 240, Kutztown, Pa.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Conn.
Precision, Inc., 4748 France Ave., No., Minneapolis, Minn.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Railway Communications, 9351 E. 59th St., Raytown, Mo.
Raypar, Inc., 7800 W. Addison St., Chicago, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Redman Electronics Corp., P. O. Box 72, Thompsonville, Conn.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Springs, Md.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sickles, F. W., Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. C., N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson- Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Torocoil Co., 2615 Bristol Rd., Columbus, Ohio
Toroidal Components Co., 1372-74 E. Walnut St., Pasadena, Calif.
Torotel, Inc., 5512 East 110th St., Kansas City, Mo.
Torwico Electronics, Inc., 1090 Morris Ave., Union, N. J. – Pg. 1142
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick St., New York, N. Y. – Pg. 1140, 1141
Universal Toroid Coil Winding, Inc., 171 Coit St., Irvington, N. J. – Pg. 522
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Varo Mfg. Co., Inc., 2201 Walnut St., Garland, Texas – Pg. 958
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N. Y. – Pg. 1077
Westinghouse Electric, Director Systems Dept., 356 Collins Ave., Pittsburgh, Pa.

See YELLOW SECTION for local sales offices, telephones, etc.

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Westinghouse Electric, Specialty Transformer Dept., Box 231, Greenville, Pa.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, TRANSISTOR ..... Pgs. 512, 1009, 1121, 1123, 1132–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
A. P. W. Co., 72 W. Main St., Rockaway, N. J.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Aladdin Industries, Electronics Div., 726 Murfreesboro Road, Nashville, Tenn.
American Speedlight Corp., 63–01 Metropolitan Ave., Middle Village, N. Y.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Argonne Electronics Mfg. Corp., 165–11 South Rd., Jamaica, N. Y.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn. – Pg. 1121
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Barwood Electronics, Inc., 921 E. Broadway, Glendale, Calif.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
Caddell–Burns Mfg. Co., Inc., 40 E. 2nd St., Mineola, N. Y.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco–Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Coil Co., 1720 N. Luett St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Developmental Electronics Corp., 4213 S. Broadway, Los Angeles, Calif.
Dinion Coil Co., Inc., Caledonia, N. Y.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Elcor, Inc., 1225 W. Broad St., Falls Church, Va.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electro Development Corp., 3939 University Way, Seattle, Wash.
Electro–Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y. – Pg. 512
Fisher Engrg., Inc., 2060 U. S. 24 East, P. O. Box 327, Huntington, Ind.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Gramer–Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill.
Jobbins Electronics, 771 Hamilton Ave., Menlo Park, Calif.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W. L. Corp., 47–31 Austell Pl., Long Island City, N. Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Magnalectric Corp., P. O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnetic Circuit Elements, Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Oaktron Electric Co., 17368 S. 68 Court, Tinley Park, Ill.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Otis Radio & Electric Corp., 700 Central Ave., Hawarden, Iowa
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
PCA Electronics, Inc., 16799 Schoenborn St., Sepulveda, Calif.
Pacific Instrument Co., 4926 E. 12th St., Oakland, Calif.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Quam–Nichols Co., Marquette Rd. At Prairie Ave., Chicago, Ill.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
RS Electronics Corp., 435 Portage Ave., Palo Alto, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N. J.
Radio Industries, Inc., 666 Garland Pl., Des Plaines, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Skysweeper, Inc., McHenry, Ill.
Smith, Paul, Inc., 4538 Camberwell Rd., Cincinnati, Ohio
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Toroidal Components Co., 1372-74 E. Walnut St., Pasadena, Calif.
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Valandy Electronics Corp., 15 W. 44th St., New York, N. Y.
Varo Mfg., Co., Inc., 2201 Walnut St., Garland, Texas
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS, ULTRASONIC ..... Pgs. 466, 1133–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave., So., Minneapolis, Minn.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N. J.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Circo Ultrasonics Corp., 51 Terminal Ave., Clark, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
El-Rad Mfg. Co., 2800 Cullom Ave., Chicago, Ill.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kenyon Transformer Co., Inc., 1057 Summit Ave., Jersey City, N. J.
Langevin Div., Maxson, W. L. Corp., 47-31 Austell Pl., Long Island City, N. Y.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
NewYork Transformer Co., Third Ave., Alpha, N. J.
North Hills Elect. Co., Inc., 402 Sagamore Ave., Mineola, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Osborne Transformer Corp., 948 E. Lafayette Ave., Detroit, Mich.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg., Co., Inc., 19 Concord St., S. Norwalk, Conn.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, New York
Stanley Transformer Co., 31-23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Telex, Telex Park, St. Paul, Minn. – Pg. 466
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. Y.
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N. Y.
Transformer Design, Inc., of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Transonic, Inc., P. O. Box 59, 808 16 St., Bakersfield, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.
Wells Electronics Co., 1701 So. Main St., So. Bend, Ind.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York

TRANSFORMERS, VARIABLE ..... Pgs. 1123, 1137, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N. Y.
Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Electro-Winders Co., Inc., 854 W. Front St., Covina, Calif.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg. Co., 200 W. 57th St., New York, N. Y.
Essex Electronics, Berkeley Heights, N. J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Radio Company, 22 Baker Ave., W. Concord, Mass.
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Green Rectifier Co., 1-10 30th St., Fairlawn, N. J.
Grinnell-Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Instrol, Inc., 135 E. Dela Guerra St., Santa Barbara, Calif.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Mattson Electronics Corp., 11645-47 McBean Dr., El Monte, Calif.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx 57, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio – Pg. 1137

TRANSFORMERS. VARIABLE (continued)
Superior Electric Co., The, 83 Laurel St., Bristol, Conn.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thordarson-Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Tocco Div., Ohio Crankshaft Co., 3800 Harvard Ave., Cleveland, Ohio
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Vernistat Div., Perkin-Elmer Corp., 841 Main Ave., Norwalk, Conn.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

TRANSFORMERS. VIBRATOR ..... Pgs. 1123, 1125, 1133–1135, 1140, 1141, 1175
Acro Products Co., 369 Shurs Lane, Philadelphia, Pa.
Airpax Products Co., Central Engrg. Div., P. O. Box 8488, Ft. Lauderdale, Fla.
American Speedlight Corp., 63-01 Metropolitan Ave., Middle Village, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269, Route 143, Highland, Ill.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Engrg. & Mfg. Co., Inc., 200 Main St., Roanoke, Ind.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Columbus Process Co., Inc., 2851 Southeastern Ave., Columbus, Ind.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834-36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Dinion Coil Co., Inc., Caledonia, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N.J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Electran Mfg. Co., 1901 N. Clybourn, Chicago, Ill.
Electrical Windings, Inc., 2015 N. Kolmar Ave., Chicago, Ill.
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformers Div., 30 Main St., Brooklyn, N. Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P. O. Box 327, Huntington, Ind.
Forest Electric Co., 7216 Circle Ave., Forest Park, Ill.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718-36 Weirfield St., Brooklyn, N. Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs., Inc., 1314 Cedar Hill Ave., Dallas, Texas
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Gramer-Halldorson Trans., 2734 N. Pulaski Rd., Chicago, Ill.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Green Rectifier Co., 1–10 30th St., Fairlawn, N.J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg. Co., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
James Vibrapowr Co., 4050 N. Rockwell St., Chicago, Ill. – Pg. 1175
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Langevin Div., Maxson, W.L., Corp., 47–31 Austell Pl. Long Island City, N.Y.
Lynchburg Transformer Co., Inc., Edgewood Dr. Ext., Lynchburg, Va.
Merit Coil & Transformer Corp., 2027 Sherman St., Hollywood, Fla.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Mystic Transformers, Inc., 114 West St., Wilmington, Mass
NYT Electronics, Inc., 2979 N. Ontario St., Burbank, Calif.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Precise Measurements Co., Millbrook Place, RD.1, Flemington, N.J.
Qutronic Transformer Corp., 525 Broadway, New York, N.Y.
R.K. Manufacturing Co., The, P.O. Box 98, Carterville, Ill.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N. Y.
Skysweeper, Inc., McHenry, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N.Y.
Transformer Design, Inc. of Milwaukee. 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P.O. Box 59, 808 16 St., Bakersfield, Calif.
Tresco, Inc., 3824 Terrace St., Philadelphia, Pa.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
U.S. Electronics Corp., 276 Warren St., Lyndhurst, N.J.
United Transformer Corp., 150 Varick St., New York, N.Y. – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, N.Y.
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, N.Y.
Wheeler Electronic Corp., Div. Sperry Rand, 150 E. Aurora St., Waterbury, Conn.

TRANSFORMERS. VOLTAGE DIVIDING Pgs. 629, 1009, 1124–1126, 1132–1135, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N.Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Arnold Magnetics Corp., 4613 W. Jefferson Blvd., Los Angeles, Calif. – Pg. 1009
Atlantic Transformer Corp., 30 Hynes Street, Groton, Conn.
Audio Development Co., 2841 13th Ave. So., Minneapolis, Minn.
Better Coil & Transformer, Goodland, Ind.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N.J.
Coil Winders, Inc., New York Ave., Westbury, L.I., N.Y.
Collins Corp., 2820 E. Hullet St., Long Beach, Calif.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N.J.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N.Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N.J.
Electro Engineering Works, Inc., 401 Preda St. So., San Leandro, Calif. – Pg. 1126
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N.Y.
Ensign Coil Co., 2520 S. Pulaski Rd., Chicago, Ill.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Fisher Engrg., Inc., 2060 U.S. 24 East, P.O. Box 327, Huntington, Ind.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati, Ohio
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
General Transformer Corp., 18240 Harwood Ave., Homewood, Ill.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Gertsch Products, Inc., 3211 S. La Cienega Blvd., Los Angeles, Calif.
Goslin Elec. & Mfg. Co., 2921 W. Olive St., Burbank, Calif.
Grand Transformers, Inc., Beechtree & Marion Sts., Grand Haven, Mich.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hammond Mfg., Ltd., Guelph, Canada
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Texas
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Interelectronics Corp., 2432 Grand Concourse, New York, N.Y.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Langevin Div., Maxson, W.L., Corp., 47–31 Austell Pl., Long Island City, N.Y.
Magnalectric Corp., P.O. Box 6008, 2635 No. Iroquois, Tulsa, Okla. – Pg. 1132
Magnetic Circuit Elements Inc., 3722 Park Pl., Montrose, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N.Y. – Pgs. 1133–1135
National Coil Co., P.O. Box 1237, Sheridan, Wyo.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
New York Transformer Co., Third Ave., Alpha, N.J.
Omega Mfg., Inc., 2243 Washington Ave., Bronx 57, N.Y.
Osborne Electric Co., 712 S.E. Hawthorne Blvd., Portland, Ore.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N.Y.
Signal Transformer Co., 1661 McDonald Ave., Brooklyn, N.Y.
Stanley Transformer Co., 31–23 Vernon Blvd., L.I. City, N.Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N.Y.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Thermador Electronics, Div. Norris Thermador, 715 S. Raymond, Alhambra, Calif.
Thordarson–Meissner, Div. MaGuire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Todd Electric Co., 6 Brook St., Yonkers, N. J.
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Warren Transformer Co., Inc., 103 Warren Street, Tunkhannock, Pa.

TRANSFORMERS. VOLTAGE REGULATING .... Pgs. 629, 1123–1125, 1129, 1133–1135, 1137, 1140, 1141
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Acme Electric Corp., 20 Water St., Cuba, N.Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Allis–Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin
American Rectifier Corp., 95 Lafayette St., New York, N. Y.
Amplifier Corp. of America, 398 Broadway, New York, N. Y.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Ballastran Corp., 1701 N. Calhoun St., Fort Wayne, Ind.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
C. B. C. Electronics Co., Inc., 2601 N. Howard St., Phila., Pa.
Cable Electric Products, 234 Dabell St., Providence, R. I.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Carson Mfg. Co., Inc., 2624 E. 55 St., Indianapolis, Ind.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Standard Transformer Corp., 3501 Addison St., Chicago, Ill. – Pg. 1123
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Cold Cathode Corp., 48–14, 48–18 33rd St., Long Island City, N. Y.
Communication Accessories Co., Bypass 71 & 50 Hwy., Lees Summit, Mo.
Crest Transformer Corp., 1834–36 W. North Ave., Chicago, Ill.
Cycle Transformer Corp., 354 Glenwood Ave., East Orange, N. J.
Deeco Instruments, 14737 Arminta St., Van Nuys, Calif. – Pg. 1124
Deluxe Coils, Inc., Wabash, Ind.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
EMP Electronics, Res. Labs., Inc., 1940 E. Buchanan St., Phoenix, Ariz.
ERA Electric Corp., 67 E. Centre St., Nutley, N. J. – Pg. 1125
Electronic Components Corp., 2655 W. 19th St., Chicago, Ill.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Espey Mfg., Co., 200 W. 57th St., New York, N. Y.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N. Y.
Freed Transformer Co., Inc., 1718–36 Weirfield St., Brooklyn, N.Y.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y. – Pg. 1129
Goslin Elec. & Mfg., Co., 2921 W. Olive St., Burbank, Calif.
Green Rectifier Co., 1–10 30th St., Fairlawn, N. J.
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Highland Engrg. Co., 91 Magnolia Ave., Westbury, N. Y.

See YELLOW SECTION for local sales offices, telephones, etc.

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Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Interelectronics Corp., 2432 Grand Concourse, New York, N. Y.
K–V Transformer Corp., 20 E. Franklin St., Danbury, Conn.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Kepco Laboratories, Inc., 131–38 Sanford Ave., Flushing, N. Y.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Microtran, 145 E. Mineola Ave., Valley Stream, N. Y. – Pgs. 1133–1135
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
Milro Controls Co., Park Ridge, N. J.
Moloney Electric Co., 5390 Bircher Blvd., St. Louis, Mo.
New York Coil Co., Phoenixville, Pa.
New York Transformer Co., Third Ave., Alpha, N. J.
Omega Mfg., Inc., 2243 Washington Ave., Bronx, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Peerless Electr. Prod., Div. Altec Lansing, 6920 S. McKinley, Los Angeles, Calif.
Perkin Engrg. Corp., 345 Kansas St., El Segundo, Calif.
Power Sources, Inc., Northwest Industrial Park, Burlington, Mass.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
Rytron Co., Inc., 7305 Lankershim Blvd., No. Hollywood, Calif. – Pg. 629
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sola Electric Co., 4633 W. 16th St., Chicago, Ill.
Standard Electrical Products Co., 2240 E. 3rd St., Dayton, Ohio – Pg. 1137
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. City, N. Y.
Sterling Transformer Co., 297 N. 7th St., Brooklyn, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Transonic, Inc., P. O. Box 59 – 808 16 St., Bakersfield, Calif.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.
United Transformer Corp., 150 Varick Street, New York, New York – Pgs. 1140, 1141
Utrad, Inc., 305 N. Briant, Huntington, Ind.
Vibration Research Labs., Inc., 58 Marbledale Road, Tuckahoe, New York
Virginia Electronics Co., River Rd. & B & D Railroad, Washington, D. C.
Wacline, Inc., 35 S. St. Claire St., Dayton, Ohio
Warren Transformer Co., Inc., 103 Warren St., Tunkhannock, Pa.
Westbury Electronics, Inc., 300 Shames Drive, Westbury, New York

TRANSFORMERS. WELDING

Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
Arco Transformer & Electric Corp., 1602 S. Hanna St., Fort Wayne, Ind.
Basler Electric Co., Box 269 – Route 143, Highland, Ill.
California Magnetic Control Co., 11922 Valerio St., North Hollywood, Calif.
Carol Electronics Corp., 315 W. Stephen St., Martinsburg, W. Va.
Central Transformer Co., 900 W. Jackson Blvd., Chicago, Ill.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington St., Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Edko Electronics Engrg. Co., 202 Grand St., Brooklyn, N. Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N. J.
Electran Mfg., Co., 1901 N. Clybourn, Chicago, Ill.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Epco Products, Inc., 2500 Atlantic Ave., Brooklyn, N. Y.
Ewald Instruments, Route 7–R, Kent, Conn.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady, N. Y.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hevi–Duty Electric Co., 2040 W. Wisconsin Ave., Milwaukee, Wisc.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Hobart Bros., Hobart Square, E. Troy, Ohio
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
New England Transformer Co., 47 McGrath H'way., Somerville, Mass.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago, Ill.
Omega Mfg., Inc., 2243 Washington Ave., Bronx, N. Y.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Ore.
Qutronic Transformer Corp., 525 Broadway, New York, N. Y.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Sorgel Electric Co., 838 W. National Ave., Milwaukee, Wisc.
Stanley Transformer Co., 31–23 Vernon Blvd., L. I. C., N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Transformer Design Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transformer Technicians, Inc., 2608 N. Cicero Ave., Chicago, Ill.
Trenton Transformer Corp., Box 568B, Trenton, N.J.

TRANSFORMERS. X–RAY ..... Pgs. 650, 880, 1061, 1140, 1141, 1144

Acme Electric Corp., 20 Water St., Cuba, N. Y.
Airdesign Corp., 241 Fairfield Ave., Upper Darby, Pa.
Bracke–Seib, X–Ray Co., Inc., 16 Pelham Bay Pk. W., Pelham Manor, N. Y.
Chicago Electronic Engrg., 3223 W. Armitage, Chicago, Ill.
Chicago Magnetic Control, 1616 N. Damen Ave., Chicago, Ill.
Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N. Y.
Continental X–Ray, 1536 Clybourne Ave., Chicago, Ill.
Del Electronics Corp., 521 Homestead Ave., Mt. Vernon, N. Y.
Dormeyer Industries, 3418 N. Milwaukee Ave., Chicago, Ill.
Edko Electronics Engrg Co., 202 Grand St., Brooklyn, N. Y.
Electronic Transformer Co., 70 Washington St., Brooklyn, N. Y.
Fisher Engrg., Inc., 2060 U. S. 24 East., P. O. Box 327, Huntington, Ind.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., X–Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Hermetic Seal Transformer Co., 555 N. 5th St., Box 277, Garland, Tex.
Hindle Transformer Co., Woods Church Rd., Flemington, N. J.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Transformer Co., Gouldsboro, Pa.
Kapitol Magnetic Corp., 3322 W. Lawrence Ave., Chicago, Ill.
Land–Air, Inc., 7444 W. Wilson Ave., Chicago, Ill.
New England Transformer Co., 47 McGrath Hway., Somerville, Mass.
Nothelfer Winding Labs., Inc., P. O. Box 455, Trenton, N. J.
Ogden Coil & Transformer, 3319 W. Cermak Rd., Chicago 23, Ill.
Osborne Electric Co., 712 S. E. Hawthorne Blvd., Portland, Oreg.
Oxford Components, Inc., 556 W. Monroe St., Chicago, Ill.
Oxford Electric Corp., 3911 S. Michigan Ave., Chicago, Ill.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Phoenix Transformer Co., 1818 E. Madison, Phoenix, Ariz.
Picker X–Ray Corp., 25 S. Broadway, White Plains, N. Y.
R. K. Manufacturing Co., The, P. O. Box 98, Carterville, Ill.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Raytheon, Indl. App. Div., Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass.
Richmond Engrg. Co., Inc., 19 Concord St., S. Norwalk, Conn.
SNC Manufacturing Co., Inc., Box 277, Oshkosh, Wisc.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Saratoga Industries, Ballston Ave., Saratoga Springs, N. Y.
Thordarson–Meissner, Div. Maguire Industries, 7th & Bellmont, Mt. Carmel, Ill.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Transformer Design Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Transformer Specialty Co., Bala–Cynwyd, Pa.
Transonic, Inc., P. O. Box 59, 808 16th St., Bakersfield, Calif.
Trenton Transformer Corp., Box 568B, Trenton, N. J.
Triplett & Barton, Inc., 831 N. Lake St., Burbank, Calif.
United Transformer Corp., 150 Varick Street, New York, N. Y. – Pgs. 1140, 1141

TRANSISTOR. ANALYZERS ..... Pgs. 650, 880

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Armour Electronics, Inc., 15002 Oxnard Blvd., Van Nuys, Calif.
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Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Doss Electronic Research, Inc., 820 Baltimore, Kansas City, Mo.
Eder Engrg. Co., 1568 S. First St., Milwaukee, Wisc.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Research Assoc., Inc., 67 Factory Pl., Cedar Grove, N. J.
Hoover Electric Co., 2100 S. Stoner Ave., Los Angeles, Calif.
Inter–Mountain Instruments, Inc., 219 Stanford S. E., Albuquerque, N. M.
Kay Electric Co., 14 Maple Ave., Pine Brook, N. J.
Magnetic Amplifiers, Inc., 632 Tinton Ave., New York, N. Y.
Measurements Research, Div. Prudential Ind., Castor & Kensington, Philadelphia, Pa.
Metronix, Inc., Chesterland, Ohio
Mid–Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J.
North America Electronics, 5 S. Summit St., Fairhope, Ala.
Owen Laboratories, Inc., 55 Beacon Place, Pasadena, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sonex, Inc., 73 South State Rd., Upper Darby, Pa.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tektronix, Inc., P. O. Box 831, Portland, Oreg.
Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif.
Transistor Electronics Co., 3357 Republic Ave., Minneapolis, Minn. – Pg. 880
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif.
Zeus Engrg. Co., Inc., 635 S. Kenmore Ave., Los Angeles, Calif.

TRANSISTOR AND DIODE HEAT DISSIPATORS ..... Pgs. 1061, 1144

Bertcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif. – Pg. 1144
International Electronic Research Corp., 145 W. Magnolia Blvd., Burbank, Calif. – Pg. 1061
Modine Mfg. Co., 1500 De Kovan Ave., Racine, Wisc.

TRANSISTORS. GERMANIUM ..... Pgs. 981, 1056, 1059, 1060, 1062–1064, 1067, 1071, 1154, 1155, 1162

Advanced Research Associates, Inc., 4130 Howard Ave., Kensington, Md.
Amperex Electronic Corp., 230 Duffy Ave., Hicksville, N. Y.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
CBS–Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Clevite Transistor Prod., Clevite Corp., 241–257 Crescent St., Waltham, Mass.
Delco Radio Division, General Motors Corp., 700 East Firmin St., Kokomo, Ind.
General Electric Co., Semi–Conductor Dept., Sec. EEM 59, Electrns. Pk., Syracuse, N. Y. – Pg. 1056
General Transistor Corp., 91–27 138th Place, Jamaica, N. Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif.
Hughes Products, Hughes Aircraft, Semiconductor Div., Intl Apt., Los Angeles, Calif. – Pg. 1059
Industro Transistor Corp., 35–10 36th Ave., Long Island City, N. Y. – Pg. 1060
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
International Electronics Corp., 81 Spring St., New York, N. Y. – Pg. 1154, 1155
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Semiconductor Div., 2753 4th Ave., S. Minneapolis, Minn.
Motorola, Inc., Semiconductor Prods. Div., 5005 E. McDowell Rd., Phoenix, Ariz. – Pg. 1063
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa. – Pg. 1064
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Texas Instruments, Semiconductor Components Div., P. O. Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1067
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass.
Tung–Sol Electric, Inc., 95–8th Ave., Newark, N. J. – Pg. 1071
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. – Pg. 981
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

TRANSISTORS. PHOTO ..... Pgs. 1067, 1162

General Transistor Corp., 91–27 138th Place, Jamaica, N. Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Intimex Corp., 8416 Georgia Ave., Silver Spring, Md.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas Texas, – Pg. 1067

TRANSISTORS. POWER ..... Pgs. 981, 1055, 1056, 1064–1067, 1070, 1071, 1162

Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
CBS–Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Clevite Transistor Prod., Clevite Corp., 241–257 Crescent St., Waltham, Mass.
Delco Radio Division, General Motors Corp., 700 East Firmin St., Kokomo, Ind.
Fairchild Semiconductor Corp., 844 Charleston Rd., Palo Alto, Calif. – Pg. 1055
General Electric Co., Semi–Conductor Dept., Sec. EEM 59, Elctrns. Pk., Syracuse, N. Y. – Pg. 1056
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Minneapolis–Honeywell, Semiconductor Div., 2753 4th Ave., S. Minneapolis, Minn.
Motorola, Inc., Semiconductor Prods. Div., 5005 E. McDowell Rd., Phoenix, Ariz.
Pacific Semiconductors, Inc., 10451 W. Jefferson Blvd., Culver City, Calif.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa. – Pg. 1064

TRANSISTORS. POWER (continued)
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, L. I., N. Y. – Pg. 1065
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Technical Apparatus Builders, 109 Liberty St., New York, N.Y.
Texas Instruments, Inc., Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas Texas – Pgs. 1066, 1067
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
Tung–Sol Electric, Inc., 95–8th Ave., Newark, N. J. – Pg. 1071
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Nass.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. – Pg. 981
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N. J.

TRANSISTORS. SILICON ..... **Pgs. 981, 1055, 1056, 1059, 1064, 1066, 1070, 1162**
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
Fairchild Semiconductor Corp., 844 Charleston Rd., Palo Alto, Calif. – Pg. 1055
General Electric Co., Semi–Conductor Dept., Sec. EEM 59, Elctrns. Pk., Syracuse, N. Y. – Pg. 1056
General Transistor Corp., 91–27 138th Place, Jamaica, N. Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Hoffman Electronics Corp., Semiconductor Div., 930 Pitner Ave., Evanston, Ill.
Hughes Products, Hughes Aircraft, Semiconductor Div., Intl. Apt., Los Angeles, Calif. – Pg. 1059
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P. O. Box 1558, Indianapolis, Ind.
Pacific Semiconductors, Inc., 10451 W. Jefferson Blvd.,Culver City, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa. – Pg. 1064
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, L. I., N. Y.
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Texas Instruments, Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pg. 1066
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio
Trans–Sil Corp., 55 Honeck St., Englewood, N.J.
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
U. S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. – Pg. 981

TRANSISTORS. SWITCHING ..... **Pgs. 981, 1055, 1056, 1060, 1063–1067, 1070, 1071**
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
CBS–Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Fairchild Semiconductor Corp., 844 Charleston Rd., Palo Alto, Calif. – Pg. 1055
General Electric Co., Semi–Conductor Dept., Sec. EEM 59, Elctrns. Pk., Syracuse, N. Y. – Pg. 1056
General Transistor Corp., 91–27 138th Place, Jamaica, N. Y.
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Industro Transistor Corp., 35–10 36th Ave., Long Island City, N. Y. – Pg. 1060
Motorola, Inc., Semiconductor Prods. Div., 5005 E. McDowell Rd., Phoenix, Ariz. – Pg.1063
Pacific Semiconductors, Inc., 10451 W. Jefferson Blvd., Culver City, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa. – Pg. 1064
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.
Raytheon, Semiconductor Div., 215 First Ave., Needham Heights, Mass.
Semi–Elements, Inc., Saxonburg Blvd., Saxonburg, Pa.
Silicon Transistor Corp., 150 Glen Cove Rd., Carle Place, L. I., N. Y. – Pg. 1065
Sylvania Electric Products, Semiconductor Div., 100 Sylvan Rd., Woburn, Mass.
Texas Instruments, Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas – Pgs. 1066, 1067
Transitron Electronic Corp., 168–182 Albion St., Wakefield, Mass. – Pg. 1070
Tung–Sol Electric, Inc., 95–8th Ave., Newark, N. J. – Pg. 1071
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. – Pg. 981

TRANSISTORS. TETRODE ..... **Pgs. 1056, 1066, 1067**
Bogue Electric Mfg. Co., 52 Iowa Ave., Paterson, N. J.
General Electric Co., Semi–Conductor Dept., Sec. EEM 59, Elctrns. Pk., Syracuse, N. Y. – Pg. 1056
Great Eastern Mfg. Co., 165 Remsen Ave., Brooklyn, N. Y.
Minneapolis–Honeywell, Semiconductor Div., 2753 4th Ave., S. Minneapolis, Minn.
Texas Instruments, Semiconductor Components Div., Box 312, 13500 N. Central Expwy., Dallas, Texas, Pgs. 1066, 1067

TRANSLATOR. CARD. TAPE ..... **Pg. 769**
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Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Di–An Controls, Inc., 40 Leon St., Boston, Mass.
Dymec, Inc., 395 Page Mill Rd., Palo Alto, Calif.
Electro Instruments, Inc., 3540 Aero Ct., San Diego, Calif.
Electronic Eng. Co. of Calif., 1601 E. Chestnut, Santa Ana, Calif.
Moseley, F. L. Co., 409 N. Fair Oaks Ave., Pasadena, Calif. – Pg. 769
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.

TRANSLATOR. TIME FUNCTION ..... **Pg. 541**
Briggs Associates, Inc., 10 DeKalb St., Norristown, Pa.
Computer Equipment Corp., 1931 Pontius Ave., Los Angeles, Calif.
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Systron Corp., 950 Galindo St., Concord, Calif.

TRANSMISSION LINE. MICROWAVE ..... **Pgs. 830, 836, 837, 1189, 1200–1204**
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Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Crown Engineering, 3821 Commercial N. E., Albuquerque, N. Mex.
Dittmore–Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Plastoid Corp., 42–61 24th St., L. I. C., N. Y. – Pgs. 1200 – 1204
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Surface Conduction, Inc., 521 Fifth Ave., New York, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tamar Electronics, Ind., 2339 Cotner Ave., Los Angeles, Calif.
Technicraft Labs., Inc., Thomaston–Waterbury Road, Thomaston, Conn.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., Grand & Marine Sts., Farmingdale, N. Y. – Pg. 836
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Waveline, Inc., Box 718, W. Caldwell, N. J. – Pg. 837

TRANSMISSION. LINE. WIRE & CABLE ..... **Pgs. 556, 1189, 1190, 1198–1206**
Ames Mfg. Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill. – Pg. 556
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Beckley Electric Co., 468 Grand Ave., Brooklyn, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Asso'd. Cos., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Plastoid Corp., 42–61 24th St., L. I. C., N. Y. – Pgs. 1200 – 1204
Prodelin, Inc., 307 Bergen Ave., Kearny, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Wind Turbine Co., East Market St., W. Chester, Pa.

TRANSMITTERS. AIRBORNE
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St. N. E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
Emerson Radio Corp., Govt. Elctr. Div., 1140 East West Hway., Silver Spring, Md.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Light Military Elctr. Equip. Dept., French Rd., Utica, N. Y.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hycon Manufacturing Co., 1030 So. Arroyo Pway., P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intelex Systems, Inc., 22 Thames St., New York, N.Y.
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Minneapolis–Honeywell, Industrial Div. Wayne & Windrim Aves., Philadelphia, Pa.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telephonics Corp., Park Ave., Huntington, N. Y.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P.O. Box 252, Menlo Park, Calif.
Westronics of California, Div. Electromation, 318 E. Calaveras, Altadena, Calif.
Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif.

TRANSMITTERS. AIRCRAFT
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Aircraft Radio Corp., Boonton, N.J.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Brelonix, Inc., 1425 10th West, Seattle, Wash.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Collins Radio Co., 855 35th St.N.E., Cedar Rapids, Iowa
Communications Co. Inc., 300 Greco Ave., Coral Gables, Fla.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hycon Manufacturing Co., 1030 So. Arroyo P.Way+ P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Loral Electronics Corp., 825 Bronx River Ave., New York, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Minneapolis-Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Mitchell Industries, Inc., P.O. Box 17, Mineral Wells, Texas
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Ramo Wooldridge, Div. Thompson Ramo Woolridge, Box 90215, Los Angeles, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Stromberg Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Telectro Industries Corp., 35-16 37th St., L.I. City, N.Y.
Telephonics Corp., Park Ave., Huntington, N.Y.
Wave/Particle Corp., P.O. Box 252, Menlo Park, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

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TRANSMITTERS. AMATEUR
American Electronics Co., 1203-05 Bryant Ave., New York, N.Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N.Y.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Destron Co., 1321 Florwood Ave., Torrance, Calif.
Dunlap Electronics, 764 9th St., Des Moines, Iowa
Dynamic Electronics, N.Y. Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Greenray Industries, Electronics Div., Mechanicsburg, Pa.
Gyro Electronics Co., 36 Walker St., New York, N.Y.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey-Wells Electronics, North St., Southbridge, Mass.
Heath Co., Benton Harbor, Mich.
International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
Lettine Radio Mfg. Co., 62 Berkley St., Valley Stream, N.Y.
Millen, James Mfg. Co. Inc., 150 Exchange St., Malden, Mass.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Multi Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sorenson Industrial Elect., Route 10, Dover, N.J.
Telectro Industries Corp., 35-16 37th St., L.I. City, N.Y.

TRANSMITTERS. BROADCAST. A–M. F–M & TV ..... Pg. 775
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J. – Pg. 775
Continental Electronics Mfg. Co., 4212-20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics, N.Y. Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronics Development Co. Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Electric Co., Indl. Elec. Div.-Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
General Electronic Labs. Inc., 18 Ames St., Cambridge, Mass.
Hoffman H.L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Kay Electric Co., 14 Maple Ave., Pine Brook, N.J.
Northwest Instrument Co., 2313 Third Ave., Seattle, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Tel-Instrument Elect. Corp., 728 Garden Street, Carlstadt, N.J.

TRANSMITTERS. CITIZENS RADIO
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dynamic Electronics N.Y. Inc., 87-46 123rd St., Richmond Hill, N.Y.
Electro Mechanical Engrg., 1124 South 3rd St., Minneapolis, Minn.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Gyro Electronics Co., 36 Walker St., New York, N.Y.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
International Crystal Mfg. Co., 18 N. Lee St., Oklahoma City, Okla.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Multi–Products Co., 21470 Coolidge Hway, Oak Park, Mich.
Palmer, M.V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Vocaline Co. of America, Old Saybrook, Conn.
Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio

TRANSMITTERS. COLOR TV
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dynamic Electronics N.Y. Inc., 87-46 123rd St., Richmond Hill, N.Y.
Foto-Video Laboratories, Inc., 36 Commerce Rd., Cedar Grove, N.J.
General Electric Co., Indl. Elec. Div.-Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, Nl J.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Thompson Ramo–Wooldridge, Tapco Gp. Elctrns. Works, 23555 Euclid, Cleveland, Ohio

TRANSMITTERS. CUE
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. DIGITAL DATA
Collins Radio Corp., 2700 W. Olive Ave., Burbank, Calif.

TRANSMITTERS. DIPLEXER ..... Pgs. 818, 830, 1145, 1150
Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N. Y.
Bomac Laboratories, Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1150
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
Electronics Div., Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
Hycon Eastern, Inc., 75 Cambridge Pkway., Cambridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Development Labs, Inc., 92 Broad St., Babson Park 57, Wellesley, Mass. – Pg. 818
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y .
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.

TRANSMITTERS. DIRECTION FINDING
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Specialty Engrg. Div., Specialty Assembl. & Pack., 79 Clifton Pl., Brooklyn, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

TRANSMITTERS. DUPLEXER ..... Pgs. 818, 830, 1161
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Cascade Research, Div. Monogram Industries, 53 Victory La., Los Gatos, Calif.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Ferrotec, Inc., 217 California St., Newton, Mass.
Electronics Div. Gabriel Co., The, 135 Crescent Rd., Needham Hgts., Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewty Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Litton Industries, 960 Industrial Rd., San Carlo, Calif. – Pg. 1161
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Development Labs, Inc., 92 Broad St., Babson Park 57, Wellesley, Mass. – Pg. 818
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.

TRANSMITTERS. FACSIMILE
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N. Y.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Muirhead Instrument, Inc., 677 Fifth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Stewart–Warner Elctrns., Div. Steward–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Technitrol Inc., 1952 E. Allegheny Ave., Philadelphia, Pa.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Television Utilities Co., 112–33 Colonial Ave., Corona, N. Y.
Times Facsimile Corp., 540 W. 58th St., New York, N. Y.

TRANSMITTERS. FIXED FREQUENCY
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Babcock Radio Engrg., 1640 Monrovia Ave. – P. O. Box 344, Costa Mesa, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Balitimore, Md.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hycon Manufacturing Co., 1030 So. Arroyo Pway. – P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Lettine Radio Mfg. Co., 62 Berkley St., Valley Stream, N. Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Pearce–Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave,, L. I. City, N. Y.
Ratheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Telectro Industries Corp., 35–16 37th St., L. I. City, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. FIXED STATION COMM.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Collins Radio Co., 855 35th St. N. E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lettine Radio Mfg. Co., 62 Berkley St., Valley Stream, N. Y.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.

TRANSMITTERS. FIXED STATION COMM. (continued)
Pearce–Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Spring, Md.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop., Md.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. INFRARED
Avion, Div. A C F Industries, Inc., 7 Park Pl., Paramus, N. J.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Haller, Raymond, & Brown, Inc., Science Park, State College, Pa.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway. – P. O. Bin N, Pasadena, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Palmer, M. V. Inc., 4002 Fruit Valley Rd., Vancouver, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pyroferric Co., Inc., 621 E. 216th St., New York, N. Y.
Q.O.S. Corp. , 621 E. 216th St., New York, N.Y.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd, Mt. Vernon, N. Y.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Wave/Particle Corp., P. O. Box 252, Menlo Park, Calif.

TRANSMITTERS. INTERROGATION
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Dynamic Electronics, N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Specialty Co., 5121 San Fernando Road, Los Angeles 39, California
Hycon Manufacturing Co., 1030 So. Arroyo P'Way – P. O. Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Maxson, W.L. Corp., 475 Tenth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43rd St., New York, N .Y.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Topp Industries, Inc., 5221 W. 102 , Los Angleles, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

TRANSMITTERS. LORAN
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Centronix, Inc.,4000 N. W. 28th St., Miami, Fla.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics, N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electronic Communications, Inc., 1501 72nd St.N., St. Petersburg, Fla.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Topp Industries, Inc., 5221 W. 102 , Los Angeles, Calif.

TRANSMITTERS. MARINE
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y..
Bassett , Inc., Rex , 1314 N. E. 17th Court – Box 7127 , Fort Lauderdale, Fla.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine , Div. Kearfott Co., 92 Gold St., New York, N. Y.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics , N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N. Y.
Electro–Associates , Box 22 , St. Albans, N. Y.
Gray Radio Co., Inc., 501 Forest Hill Blvd., W. Palm Beach, Fla.
Hoffman Labs ., Div. Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
Jefferson, Ray Inc., 40 E. Merrick Rd., Freeport, N. Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Lel, Inc., 380 Oak St., Copiague, N.Y.
Lorain County Radio Corp., 203 9th St., Lorain, Ohio
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Multi–Products Co., 21470 Coolidge Hway, Oak Park, Mich.
Northwest Instrument Co., 2313 Third Ave., Seattle, Wash.
Nuclear–Electronics Corp., 2925 N. Broad St., Philadelphia 32, Pa.
Pearce–Simpson, Inc., 2295 N. W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Sonar Radio Corp., 3050 W. 21st St., Brooklyn, N.Y.
Stromberg–Calson, 1895 Hancock St., San Diego, Calif.
Sylvania Electric Products, Elctm. Systems Div., 100 1st Ave., Waltham, Mass.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Vocaline Co. of America, Old Saybrook, Conn.
Williams Ship Radio Co., 4366 Mentone, San Diego, Calif.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

TRANSMITTERS. MICROWAVE ..... Pg. 814
Adler Electronics, Inc., 1 Le Fevre Lane, New Rochelle, N.Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircom, Inc., 354 Main St., Winthrop, Mass.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Ameco, 2949 W. Osborn Rd., Phoenix, Ariz.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N,Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
Emerson Electric Mfg., Electr. & Avionics Div., 8100 Florissant Ave., St. Louis, Mo.
FXR, Inc., 26–12 Borough Pl., Woodside, N.Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hoffman, H.L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Kellogg Switchboard & Co., 6650 S. Cicero Ave., Chicago, Ill.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Loral Electronics Corp., 825 Bronx River Ave., New York, N.Y.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Maxson, W.L. Corp., 475 Tenth Ave., New York, N.Y.
Microtech, Inc., 2975 State St., Hamden, Conn.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L.I. City, N.Y.
Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Sylvania Electric Products, Elctm. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telephonics Corp., Park Ave., Huntington, N.Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P.O. Box 252, Menlo Park, Calif.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. MOBILE
AC Spark Plug Div., General Motors, 1925 E. Kenilworth Pl., Milwaukee, Wisc.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P.O. & Bin N, Pasadena, Calif.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Johnson, E.F., Co., 1439 Second Ave., S.W., Waseca, Minn.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Multi–Products Co., 21470 Coolidge Hway., Oak Park, Mich.
Pearce–Simpson, Inc., 2295 N.W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Sylvania Electric Products, Elctm. Systems Div., 100 1st Ave., Waltham, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. MULTIPLEX
Amtron Corp., 17 Felton St., Waltham, Mass.
Applied Research Inc., 76 South Bayles Ave., Port Washington, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Browning Labs., Inc., 100 Union Ave., Laconia, N.H.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Crosby Labs., Inc., 299 Robins Lane, Syosset, N.Y.
Dare, Inc., Route 25, Troy, Ohio
Dynamic Electronics N.Y. Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L.I. City, N.Y.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N.J.
Raytheon Mfg. Co., Communications Products Dept., 100 River St., Waltham, Mass.
Telechrome Mfg. Corp., 28 Ranick Drive, Amityville, N.Y.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. PORTABLE
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Fargo Co., 1162 Bryant St., San Francisco, Calif.

See YELLOW SECTION for local sales offices, telephones, etc.

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Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Gyro Electronics Co., 36 Walker St., New York, N.Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43 St., New York, N.Y.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Specialty Mfg. Co., 2023 S. E. 6th Ave., Portland, Ore.
Seismograph Service Corp., 6200 E. 41 St., Tulsa, Okla.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. PULSE PHASE MODULATION

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 2700 West Olive Ave., Burbank, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Maxson, W.L., Corp., 475 Tenth Ave., New York, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. PULSE TIME MODULATION ..... Pg. 1106

Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
General Communication Co., 677 Beacon St., Boston, Mass.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Maxson, W.L., Corp., 475 Tenth Ave., New York, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Remanco, Inc., 1630 Euclid St., Santa Monica, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Spellman High Voltage Co., Dicital Prods. Div., 329 Webster Ave., Bronx, N.Y. – Pg. 1106

TRANSMITTERS, RADAR ..... Pg. 814

Bell Aircraft Corp., Avionics Div., P.O. Box 1, Buffalo, N.Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canoga Div., Underwood Corp., 15330 Oxnard St., Van Nuys, Calif.
Centronix, Inc., 4000 N.W. 28th St., Miami, Fla.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
Fairchild Engine & Airplane Corp., Astrionics Div., Wyandanch, N.Y.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N.Y.
General Electric Co., Light Military Electr. Equip., Dept., French Rd., Utica, N.Y.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N.Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif. – Pg. 814
Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston, Mass.
Lavoie Laboratories, Inc., Morganville, N.J.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N.Y.
Maxson, W.L., Corp., 475 Tenth Ave., New York, N.Y.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radiotronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Raytheon Mfg. Co., Marine Products Dept., 100 River St., Waltham, Mass.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Strand Engrg. Co., 1354 N. Main St., Ann Harbor, Mich.
Sylvania Electric Products, Elctm. Systems Div., 100 1st Ave., Waltham, Mass.
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Voi–Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Wave/Particle Corp., P.O. Box 252, Menlo Park, Calif.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

TRANSMITTERS. RADIO RANGE

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N.Y.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

TRANSMITTERS. RADIOSONDE

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N.Y.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Automation Dynamics Corp., 255 County Rd., Tenafly, N.J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
General Electric Co., Light Military Electr., Equip. Dept., French Rd., Utica, N.Y.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Sylvania Electric Products, Elctm Systems Div., 100 1st Ave., Waltham, Mass.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.

TRANSMITTERS. RAILROAD

Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Radio, Div. Bendix Aviation Corp., East Joppa Rd., Baltimore, Md.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. SCATTER TROPOSPHERIC

Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L.I. City, N.Y.

TRANSMITTERS. SHORAN

Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Waldorf Instr. Co., Div., F.C. Huyck & Sons, Wolf Hill Rd., Huntington Sta., N.Y.

TRANSMITTERS, SINGLE SIDEBAND

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N.Y.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Barker & Williamson, Inc., Canal St.,& Beaver Dam Rd., Bristol, Pa.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Central Electronics, Inc., 1247 W. Belmont Ave., Chicago, Ill.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Crosby Labs., Inc., 299 Robins Lane, Syosset, N.Y.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Eldico Electronics, Div. Radio Engrg. Labs., 29–01 Borden Ave., L.I. City, N.Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Inertia Switch, 527 Lexington Ave., New York 1, N.Y.
Intelex Systems, Inc., 22 Thames St., New York, N.Y.
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Johnson, E.F. Co., 1439 Second Ave., S.W., Waseca, Minn.
MacKay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N.J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Morrow Radio Mfg. Co., 2794 Market St., Salem, Oreg.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Technical Material Corp., The, 700 Fenimore Rd., Mamaroneck, N.Y.
Telectro Industries Corp., 35–16 37th St., L.I. City, N.Y.
Telephonics Corp., Park Ave., Huntington, N.Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. SONAR

Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Bludworth Marine Div., Kearfott Co., 92 Gold St., New York, N.Y.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Circo Ultrasonics Corp., 51 Terminal Ave., Clark, N.J.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
General Electric Co., Hvy. Military Electr. Dept., Court St. Plant, Syracuse, N.Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
Harris Transducer Corp., Woodbury, Conn.
ITT Federal Div., Div. Intl. Tel.& Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Ling Electronics, Inc., 9937 W. Jefferson Blvd., Culver City, Calif.
Pearce–Simpson, Inc., 2295 N.W. 14 St., Miami, Fla.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

TRANSMITTERS. TELEMETERING ..... Pgs. 551, 824, 1101, 1104, 1105

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N.Y.
Advanced Electronics Corp., 2 Commercial St., Hicksville, L.I., N.Y. – Pg. 1101
Applied Science Corp. of Princeton, 45 Wallace Rd., Princeton, N.J.
Automation Dynamics Corp., 255 County Rd., Tenafly, N.J.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, Ohio
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, N. Hollywood, Calif.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dorsett Laboratories, Inc., P.O. Box 862, 401 Boyd St., Norman, Okl.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
EPR Special Products Corp., 675 Barbey St., Brooklyn, N.Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.

TRANSMITTERS. TELEMETERING (continued)

Electronics Development Co., Inc., 3743 Cahuenga Blvd., N. Hollywood, Calif.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Electric Co., Light Military Electr. Equip. Dept., French Rd., Utica, N.Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
Geotechnical Corp., The, 3401 Shiloh Rd., Garland, Texas
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Leupold & Stephens Instrs., Inc., 4445 N.E. Gilsan, P.O. Box 5082, Portland, Ore.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Loral Electronics Corp., 825 Bronx River Ave., New York, N.Y.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Maury & Associates, 10373 Mills Ave., Montclair, Calif.
Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va.
Minneapolis–Honeywell, Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Northeastern Eng., Inc., 25 South Bedford St., Manchester, N.H.
Omega Instrument Co., 103 E. Altadena Dr., Altadena, Calif.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 551, 824, 1104
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radiation, Inc., P.O. Box 37, Melbourne, Fla.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Frequency Labs., Inc., Powerville Rd., Boonton, N.J.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif. – Pg. 1105
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N.Y.
Spivey, James S., Inc., 4908 Hampden Lane, Washington, D.C.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Stratocon Corp., Box 10, Morristown, N.J.
Taller & Cooper Co., 75 Front St., Brooklyn, N.Y.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Texas Instruments, Inc., 6000 Lemmon Ave., Dallas, Texas
Thompson Ramo–Wooldridge, Tapco Grp., 23555 Euclid Ave., Cleveland 17, Ohio
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Warren Mfg. Co., The, Littleton, Mass.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. UHF

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N.Y.
Aircraft Radio Corp., Boonton, N.J.
Allied Engineering Corp., 230 Park Ave., New York, N.Y.
Babcock Radio Engrg., 1640 Monrovia Ave., P.O. Box 344, Costa Mesa, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N.J.
Collins Radio Co., 855 35th St., N.E., Cedar Rapids, Iowa
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N.J.
Dynair Electronics, Inc., Box 1103, El Cajon, Calif.
Dynamic Electronics N.Y., Inc., 87–46 123rd St., Richmond Hill, N.Y.
Electronic Communications, Inc., 1501 72nd St. N., St. Petersburg, Fla.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Devices, Inc., P.O. Box 253, Princeton, N.J.
General Electric Co., Indl. Elec. Div., Tech. Prod. Dept., Electr. Pk., Syracuse, N.Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metal Products Co., Centre & Glendale St., P.O. Box 347, Easton, Pa.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Harvey–Wells Electronics, North St., Southbridge, Mass.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N.Y.
Hycon Manufacturing Co., 1030 So. Arroyo Pkway., P.O. & Bin N, Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Kaar Engineering Corp., 2995 Middlefield Rd., P.O. Box 1320, Palo Alto, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N.Y.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N.Y.
Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Nevada Air Products Co., P.O. Box 2472, Reno, Nev.
Northwest Instrument Co., 2313 Third Ave., Seattle, Wash.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Elctm. Prods., Front & Cooper, Bl. 15–1, Camden, N.J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L.I. City, N.Y.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Sarkes Tarzian, Rectifier Div., Dept. K, 415 N. College Ave., Bloomington, Ind.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N.Y.
Stavid Engineering, Inc., Route 22, Plainfield, N.J.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Telephonics Corp., Park Ave., Huntington, N.Y.
Westinghouse Electric, Carrier Microwave Dept., 4100 Pistorio Rd., Halethrop, Md.
Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. VHF ..... Pg. 775

Adler Electronics, Inc., 1 LeFevre Lane, New Rochelle, N.Y.
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Aircraft Radio Corp., Boonton, N. J.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Babcock Radio Engrg., 1640 Monrovia Ave., P. O. Box 344, Costa Mesa, Calif.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Budelman Electronics Corp., 375 Fairfield Ave., Stamford, Conn.
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Centronix, Inc., 4000 N. W. 28th St., Miami, Fla.
Clegg Laboratories, Div. Clegg, Inc., Morristown, N J. – Pg. 775
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Communications Co., Inc., 300 Greco Ave., Coral Gables, Fla.
Continental Electronics Mfg. Co., 4212–20 S. Buckner Blvd., Dallas, Texas
Creative Electronics Corp., 94 Lincoln Ave., Stamford, Conn.
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dollar, Robert, Co., The Com. Equip. Div., 50 Drumm St., San Francisco, Calif.
Dynair Electronics, Inc., Box 1103, El Cajon, Calif.
Dynamic Electronics, N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Communications, Inc., 1501 72nd St., N., St. Petersburg, Fla.
Gates Radio Co., 123 Hampshire St., Quincy, Ill.
General Devices, Inc., P. O. Box 253, Princeton, N. J.
General Electric Co., Indl. Elec. Div.–Tech. Prod. Dept., Electr. Pk., Syracuse, N. Y.
General Electronic Labs., Inc., 18 Ames St., Cambridge, Mass.
General Metal Products Co., Centre & Glendale St., P. O. Box 347, Easton, Pa.
Gonset Div., Young Spring & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Harvey–Wells Electronics, North St, Southbridge, Mass.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Hycon Manufacturing Co., 1030 So. Arroyo P Way, P. O. & Bin N., Pasadena, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Johnson, E. F. Co., 1439 Second Ave., S. W., Waseca, Minn.
Kaar Engineering Corp., 2995 Middlefield Rd., P. O. Box 1320, Palo Alto, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lettine Radio Mfg. Co., 62 Berkley St., Valley Stream, N. Y.
Levinthal Electronic Products, Inc., 3180 Hanover Street, Palo Alto, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Mackay Radio & Telegraph Co., Marine Div., 133 Terminal Ave., Clark, N. J.
Madigan Corp., 200 Stonehinge Lane, Carle Place, N. Y.
Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago, Ill.
National Aeronautical Corp., Commerce Dr., Ft. Washington, Pa.
National Co., Inc., 61 Sherman St., Malden, Mass.
Northwest Instrument Co., 2313 Third Ave., Seattle, Wash.
Peer, Inc., P. O. Box 697, Benton Harbor, Mich.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Port–O–Vox Corp., 521 W. 43 St., New York, N. Y.
Pye Corp. of America, Telecomm. Div., 1149 Raritan Ave., Highland Park, N. J.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Radio Communico Co., 1020 E. Land Pl., Milwaukee, Wisc.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper Bl. 15–1, Camden, N. J.
Radio Eng. Labs., Standard Electronics Div., 29–01 Borden Ave., L. I. City, N. Y.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Rheem Mfg. Co., Defense & Tech. Prod. Div., 11711 Woodruff Ave., Downey, Calif.
Rixon Electronics, Inc., 2414 Reedie Dr., Silver Springs, Md.
Sarkes Tarzian, Rectifier Div., Dept K, 415 N. College Ave., Bloomington, Ind.
Seg Electronics Co., Inc., 1778 Flatbush Ave., Brooklyn, N.Y.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N.Y.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Tamar Electronics, Inc., 2339 Cotner Ave., Los Angeles, Calif.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N.Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.
Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill.

TRANSMITTERS. VHF OMNIRANGE

American Geloso Electronics, Inc., 251 4th Ave., New York, N. Y.
Collins Radio Co., 855 35th St., N. E., Cedar Rapids, Iowa
Dare, Inc., Route 25, Troy, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hazeltine Electronics Corp., 59–25 Little Neck Pkwy., Little Neck, N. Y.
Hoffman Labs. Div., Hoffman Electronics, 3740 S. Grand Ave., Los Angeles, Calif.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

TRANSPONDERS ..... Pgs. 551, 824, 1104

Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Cubic Corp., 5575 Kearny Villa Rd., San Diego, Calif.
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dorsett Laboratories, Inc., P. O. Box 862 – 401 Boyd St., Norman, Okl.
Dynamic Electronics N. Y. Inc., 87–46 123rd St., Richmond Hill, N. Y.
Hallamore Electronics Co., Div. Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif.
Hallicrafters Co., The, 4401 W. 5th Ave., Chicago, Ill.
ITT Federal Div., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
National Co., Inc., 61 Sherman St., Malden, Mass.
Packard–Bell Electronics Corp., 12333 W. Olympic Blvd., Los Angeles, Calif.
Parsons, Ralph M. Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif. – Pgs. 551, 824, 1104
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y.
Radio City Products Co., Centre & Glendale Sts., Easton, Pa.
Ramo Wooldridge, Div. Thompson Ramo Wooldridge, Box 90215, Los Angeles, Calif.
Resdel Engineering Corp., 330 S. Fair Oaks Ave., Pasadena, Calif.
Servo Corp. of America, 2020 Jericho Tpk., New Hyde Park, N. Y.
Solid State Electronics Co., Dept. E., 8158 Orion St., Van Nuys, Calif.
Stavid Engineering, Inc., Route 22, Plainfield, N. J.
Stewart–Warner Elctrns., Div. Stewart–Warner, 1300 N. Kostner Ave., Chicago, Ill.
Telechrome Mfg. Corp., 28 Ranick Dr., Amityville, N. Y.
Telephonics Corp., Park Ave., Huntington, N. Y.
Topp Industries, Inc., 5221 W. 102, Los Angeles, Calif.
United Electrodynamics, 1200 S. Marengo Ave., Pasadena, Calif.
Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo.

TRIPODS. PEDESTALS. CRANES

Advance Electronics Co., 8510 N. End Ave., Oak Park, Mich.
Cable Electric Products, 3344 Dabell St., Providence, R. I.
Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif.
Gordon Enterprises, 5362 N. Cahuenga Blvd., N. Hollywood, Calif.
Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Instrument Corp. of Fla., P. O. Box 1226, Melbourne, Fla.
McAlister Inc., 1117 N. McCadden Pl., Hollywood, Calif.
National Cine Equipment, Inc., 209 W. 48 St., New York, N. Y.
Peerless Products Industries, 812 N. Pulaski Rd., Chicago, Ill.
Ries Camera Co., 6610 Santa Monica Blvd., Hollywood, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Wind Turbine Co., East Market St., W. Chester, Pa.

TUBE COOLING UNITS ..... Pgs. 1061, 1144, 1152, 1153, 1157–1159

Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif. – Pg. 1144
Eastern Industries, Inc., 100 Skiff St. – Box 4372, Hamden, Conn.
Eitel–McCullogh, Inc., 301 Industrial Rd., San Carlos, Calif. – Pgs. 1152, 1153
International Electronic Research Corp., 145 W. Magnolia Blvd., Burbank, Calif. – Pgs. 1061, 1157–1159

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Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Trane Co., The, La Crosse, Wisc.

TUBE HEAT DISSIPATORS ..... **Pgs. 477, 1061, 1144, 1152, 1153, 1157, 1159**
Birtcher Corp., The, 4371 Valley Blvd., Los Angeles, Calif. – Pg. 1144
Eitel–McCullogh, Inc., 301 Industrial Rd., San Carlos, Calif. – Pgs. 1152, 1153
International Electronic Research Corp., 145 Magnolia Blvd., Burbank, Calif. – Pgs. 1061, 1157, 1159
Schyler Mfg. Corp., 84 Porette Ave., N. Arlington, N. J. – Pg. 477

TUBE PARTS. ANODES
Apex Electronics Inc., 100 Eighth St., Passaic, N. J.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Autoscrew Co., 216–222 W. 18th St., New York, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd Street, New York, N. Y.
New Jersey Zinc Co., 160 Front St., New York, N. Y.
Research Dev. Mfgr., Inc., 429 E. Collom St., Philadelphia, Pa.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Schuyler Mfg. Corp., 84 Porette Ave., North Arlington, N.J.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Superior Tube Co., Box 191, Norristown, Pa.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.

TUBE PARTS. BASE PINS
American Brass Co., 414 Meadow St., Waterbury, Conn.
Auto–Swage Products, Inc., 250 Canal St., Shelton, Conn.
Bead Chain Mfg. Co., The, 110 Mountain Grove St., Bridgeport, Conn.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

TUBE PARTS. BASES
American Lava Corp., Cherokee Blvd. & Mfgrs. Road, Chattanooga, Tenn.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Component Mfg. Service, Inc., 1 Component Park, W. Bridgewater, Mass.
Erca Tool–Die & Stamping Co., 19 Ash Street, Brooklyn, N.Y.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
Molded Insulation Co., 335 E. Price St., Philadelphia, Pa.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Owens–Illinois Glass Co., Closure & Plastics Div., Box 1035, Toledo, Ohio
P–W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

TUBE PARTS. BULBS AND ENVELOPES
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Kimble Glass Co., P. O. Box 1035, Toledo, Ohio
Lancaster Glass Corp., Lancaster, Ohio
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.

TUBE PARTS. BUTTON STEMS
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N.Y.
Thomas Electronics, Inc., 118 Ninth St., Passaic, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.

TUBE PARTS. CAPS
Auto–Swage Products, Inc., 250 Canal St., Shelton, Conn.
Bud Radio Corp., E. 55th & Cedar Ave., Cleveland, Ohio
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.

TUBE PARTS. CATHODE–RAY TUBE POWDERS
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N. Y.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Research Dev. Mfgr., Inc., 429 E. Collom St., Philadelphia, Pa.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.

TUBE PARTS. CATHODES
Superior Tube Co., Box 191, Norristown, Pa.

TUBE PARTS. COLOR TV
Apex Electronics, Inc., 100 Eighth St., Passaic, N. J.
Corning Glass Works, 95–6 Crystal St., Corning, N. Y.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
Kimble Glass Co., P.O. Box 1035, Toledo, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.

TUBE PARTS. COLOR TV. DELAY LINES
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.

TUBE PARTS. COLOR TV. FRAMES. GRIDS
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N.Y.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.

TUBE PARTS. COLOR TV. MASKS
Buckbee Mears Co., 4th & Rosabel Sts., St. Paul, Minn.
Johnson & Hoffman, Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
Superior Tube Co., Box 191, Norristown, Pa.
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.

TUBE PARTS. COLOR TV. PLATES
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.

TUBE PARTS. COLOR TV. SPACERS
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.

TUBE PARTS. CONES. METAL
Metpro, Inc., 230 Toronto Ave., Providence, R.I.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Spincraft, Inc., 4122 W. State St., Milwaukee, Wisc.
Staver Co., Inc., 41 No. Saxon Ave., Bay Shore, N. Y.

TUBE PARTS. FILAMENT WIRE
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Thermionic Products Co., Interhaven Ave., Plainfield, N.J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

TUBE PARTS. GETTERS
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Getters Electronics, Inc., 44 Falls St., Niagara Falls, N. Y.
Kemet Co., Div. Union Carbide Corp., 11901 Madison Ave., Cleveland, Ohio
King Laboratories, Inc., 127 Solar St., Syracuse, N. Y.
New Process Metals, Inc., 45–65 Manufacturers Place, Newark, 5, N. J.

TUBE PARTS. GRIDS & SUPPORTS
Autoscrew Co., 216–222 W. 18th St., New York, N. Y.
Driver, Wilbur B., Co., 1875 McCarter Hwy., Newark, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Erca Tool–Die & Stamping Co., 19 Ash Street, Brooklyn, 22, N. Y.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Johnson & Hoffman Mfg., Div. of Superior Tube Co., 31 E. 2nd St., Mineola, N. Y.
P–W Industries, Inc., Duncan & Melrose Sts., Philadelphia, Pa.
Pix Mfg. Co., Inc., 81A Hudson St., Newark, N. J.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBE PARTS. GRID WIRE
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No., Chicago, Ill.
Kemet Co., Div. Union Carbide Corp., 11901 Madison Ave., Cleveland, Ohio
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Newark Wire Cloth Co., 351 Verona Ave., Newark, N. J.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

TUBE PARTS. HEAT RADIATORS
Autoscrew Co., 216–222 W. 18th St., New York, N. Y.
Bud Radio Corp., E. 55th St. & Cedar Ave., Cleveland, Ohio
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Kost Products Co., Inc., 2335 N. Cicero Ave., Chicago, Ill.
Mansol Ceramics, 140 Little St., Belleville, N. J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
S.F. Metal Products Corp., 827 Bond St., Elizabeth, N.J.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.

TUBE PARTS. METAL SUPPORTS
Autoscrew Co., 216–222 W. 18th St., New York, N. Y.
Bram Metallurgical – Chemical Co., 820–65th Ave., Philadelphia, Pa.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Erca Tool–Die & Stamping Co., 19 Ash Street, Brooklyn, 22, N. Y.
Federal Electronic Products, Inc., 1380 Pompton Ave., Cedar Grove, N. J.
Griffiths Electronics, 155 Summit St., Newark, N. J.
King Laboratories, Inc , 127 Solar St., Syracuse, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Pix Mfg. Co., Inc., 81A Hudson St., Newark, N. J.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Washington Aluminum Co., Inc., Knecht Ave., & Penna. R.R., Baltimore, 29, Md.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

TUBE PARTS. MICA SUPPORTS ..... **Pgs. 772, 774**
Asheville–Schoonmaker Mica Co., 900 Jefferson Ave., Newport News, Va.
Erca Tool–Die & Stamping Co., 19 Ash Street, Brooklyn, 22, N. Y.
Ford Radio & Mica Corp., 536 63rd St., Brooklyn, N.Y. – Pgs. 772, 774
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Micacraft Products, Inc., 703 McCarter Hway., Newark, N.J.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Sylvania Electric Products, Inc. Parts Div., Warren, Pa.
United Mineral & Chem. Corp., 16 Hudson St., New York, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

TUBE PARTS. SLEEVES. DISCS
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Metpro., Inc., 230 Toronto Ave., Providence, R. I.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Penna. Fluorocarbon Co., Inc., 1115 N. 38th St., Philadelphia, Pa.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Staver Co., Inc., The, 41 No. Saxon Ave., Bay Shore, N. Y.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBE PARTS. TUBE SEAL LEADS
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Norrich Plastics Corp., 109 W. 18th St., New York, N.Y.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBE PARTS. WIRE
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Jones & Roy Co., 620 Commercial St., Covina, Calif.
King Laboratories, Inc., 127 Solar St., Syracuse, N. Y.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Pix Mfg. Co., Inc., 81A Hudson St., Newark, N. J.
S. F. Metal Products Corp., 827 Bond St., Elizabeth, N. J.
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

TUBE PIN STRAIGHTENERS
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
CBS–Hytron, Div., Columbia Brdcst., System, Inc., 100 Endicott St., Danvers, Mass.
Camden Electronics, Inc., 30 Irwin Ave , Collingswood, N. J.
Duro Specialty Co., Inc., 811 Boston St., Lynn, Mass.
Ercona Corp., Electro Div., 16 W. 46th St., New York, N. Y.
General Cement Mfg. Co., Div. of Textron, 400 Wyman St., Rockford, Ill.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J.

TUBE PIN STRAIGHTENERS (continued)
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Walsco Electronics Mfg. Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.

TUBE PULLERS – SEE PULLERS. TUBE

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Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
Huggins Laboratories, Inc., 999 E. Arques Ave., Sunnyvale, Calif.
Hughes Products–Hughes Aircraft, Electron Tubes, Intl. Apt.,Los Angeles,Calif.–Pg.1156
ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N.J.
Litton Industries, 960 Industrial Rd., San Carlos, Calif. – Pg. 1161
Raytheon Microwave & Power Tube Div., Ceramic Sales Dept., Waltham 54, Mass.–Pg.1163
Stewart Engrg. Co., P.O. Box 727, Soquel, California
Sylvania Electric Products, Elctrn Systems Div., 100 1st Ave., Waltham, Mass.
Sylvania Electric Prod., Special Tube Opns, 500 Evelyn, Mountain View, Calif.–Pgs.832,833
Varian Associates, Palo Alto, Calif.
Watkins–Johnson Co., 3333 Hillview, Stanford Industrial Park, Palo,Alto, Calif.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

TUBES. BALLAST ..... **Pg. 482**
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Clarostat Mfg. Co., Inc., Washington St., Dover, N.H.
Kip Electronics Corp., 29 Holly Place – Box 562, Stamford, Conn.
State Labs., Inc., 649 Broadway, New York, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Tung–Sol Electric, Inc., Newark, N. J.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Western Devices, Inc., 600 W. Florence Ave., Inglewood, Calif.– Pg. 482

TUBES. BATTERY CHARGER
CBS–Hytron, Div., Columbia Brdcst. System, Inc.,100 Endicott St., Danvers, Mass.
Christie Electric Corp., Dept. EEM, 3410 W. 67th St., Los Angeles, Calif.
Continental Electric Co., 715 Hamilton St., Genoa, Ill.
Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.

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Amperex Electronic Corp., P.O. Box 418, 230 Duffy Ave., Hicksville, L.I., N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
CBS–Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Cardinal Mfg., 3151 Fiberglass Rd., Kansas City, Kansas
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave , Passaic, N. J.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa. – Pgs. 671, 1151
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.–Pg. 545
General Electric Co., Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
Hoffman H. L. Co., 3403 Garrison Blvd., Baltimore, Md.
Hughes Prod.–Hughes Aircraft, Electron Tubes,Intl.Apt.,Los Angeles, Calif.–Pg. 1156
ITT, Components Division,P.O.Box 412, Clifton, N. J. –Pg. 976
Intelex Systems, Inc., 22 Thames St., New York, N. Y.
International Electronics Corp.,Mullard Equip., 81 Spring St.,N.Y., N.Y.–Pgs. 1154,1155
Kress Electronics, Inc., 191 Oraton St., Newark, 4, N. J.
Lloyd Electronic Enterprises, Inc., 1314 Second St., Berkeley, Calif.
Machlett Laboratories, Inc., 1063 Hope St., Springdale, Conn.
National Television Tube, Inc., Route 46, Saddle Brook, N. J.
National Union Electric, Electronics Div., Bloomington, Ill.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, 31, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St.,Harrsion, N.J. –Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
State Labs., Inc., 649 Broadway, New York, N. Y.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Stromberg–Carlson, Div. General Dynamics, 100 Carlson Rd., Rochester, N. Y.
Sylvania Electric Products, Elctrn Tubes Div.,1740 Bway., N.Y., N.Y. –Pg. 1165
Thomas Electronics, Inc., 118 Ninth St., Passaic, N.J.
Vacuum Tube Prods. Co., 2020 Short Street, P.O.Box 810, Oceanside, California
Waterman Products Co., 2445 Emerald St., Philadelphia, Pa. – Pgs. 763, 1167
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES. CATHODE–RAY. MULTIPLE GUN .....**Pgs. 671, 1151, 1154–1156, 1165**
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CBS–Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
Electronic Tube Corp., 1200 E. Mermaid Lane, Philadelphia, Pa. – Pgs. 671, 1151
General Electric Co., Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Hughes Products – Hughes Aircraft, Electron Tubes, Intl. Apt., Los Angeles, Calif. – Pg. 1156
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kress Electronics, Inc., 191 Oraton St., Newark, N. J.
Lloyd Electronic Enterprises, Inc., 1314 Second St., Berkeley, Calif.
Multi–Tron Laboratory, Inc., 9861 Derby Lane, Westchester, Ill.
National Television Tube, Inc., Route 46, Saddle Brook, N. J.
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Stromberg–Carlson, 1895 Hancock St., San Diego, Calif.
Sylvania Electric Products, Elctrn. Tubes Div., 1740 Broadway, New York, N. Y. –Pg. 1165
Vacuum Tube Prods. Co., 2020 Short Street, P. O. Box 810, Oceanside, California
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

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Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N.J.
Grimson Color, Inc., 381 Fourth Ave., New York, N. Y.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Lloyd Electronic Enterprises, Inc., 1314 Second St., Berkeley, Calif.
National Television Tube, Inc., Route 46, Saddle Brook, N. J.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Sylvania Electric Prod., Elctrn. Tubes Div., 1740 Broadway, New York, N. Y. – Pg. 1165
Thomas Electronics, Inc., 118 Ninth St., Passaic, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

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Calvideo Tube Corp., 18601 S. Santa Fe Ave., Compton, Calif.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Claremont Tube Corp., 36–02 35th Ave., Long Island City, N. Y.
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
Kress Electronics , Inc., 191 Oraton St., Newark, N. J.
Litton Industries, 960 Industrial Rd., San Carlos, Calif.
Litton Industries, Electronic Display Labs., 1476 66th St., Emeryville, Calif.
Lloyd Electronic Enterprises, Inc., 1314 Second St., Berkeley, Calif.
Multi–Tron Laboratory, Inc., 9861 Derby Lane, Westchester, Ill.
National Television Tube, Inc., Route 46, Saddle Brook, N. J.
New England Electronic, Components, Inc., 717 Main St., Holyoke, Mass.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Standard TV Tube Corp., 700 Dryades St., New Orleans, La.
Sylvania Electric Products, Elctrn Tubes Div., 1740 Broadway, New York, N. Y.
Thomas Electronics, Inc., 118 Ninth St., Passaic, N. J.
Tung–Sol Electric, Inc., 95 8th Ave., Newark, N. J.– Pg. 1166
Ultravision Mfg., 185 Goffle Rd., Hawthorne, N.J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

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Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Carborundum Co., The, P. O. Box 337, Niagara Falls, N. Y.
Central Electronic Mfrs., Inc., 2 Richwood Pl. Denville, N. J.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Du–Co Ceramics Co., Box 587, Butler, Pa.
Eitel–McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pgs. 1152, 1153
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Frenchtown Porcelain Co., Frenchtown, N. J.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
General Electric Co., Receiving Tube Dept., 316 E. Ninth St., Owensboro, Ky.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Machlett Laboratories, Inc., 1063 Hope St., Springdale, Conn.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Polarad Electronics Corp., 43–20 34th St., L. I. C., N. Y.– Pg. 829
Radio Corp. of America, Electrn Tube Div., 415 S. Fifth St., Harrison, N.J. – Pg. 1162
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Sylvania Electric Products, Elctrn Tubes Div., 1740 Broadway, New York, N. Y.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

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Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
General Electric Co., Receiving Tube Dept., 316 E. Ninth St., Owensboro, Ky.
General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
Hughes Products – Hughes Aircraft, Electron Tubes, Intl. Apt., Los Angeles, Calif. – Pg. 1156
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N. Y.
ITT Components Division, P. O. Box 412, Clifton, N. J. – Pg. 976
Machlett Laboratories, Inc., 1063 Hope St., Springdale, Conn.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon, Microwave & Power Tube Div., Ceramic Sales Dept., Waltham, Mass. – Pg. 1163
Tung–Sol Electric, Inc., Newark, N. J.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES. COUNTING ..... **Pgs. 545, 832, 1143**
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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Baird–Atomic, Inc., 33 University Rd., Cambridge, Mass. – Pg. 1143
Burroughs Corp., Electronic Tube Div., P.O. Box 1226, Plainfield, N.J.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Intelex Systems Inc., 22 Thames St., New York, N. Y.
National Union Electric, Electronics Div., Bloomington, Ill.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Sylvania Electric Products , Special Tube Opns., 500 Evelyn, Mountain View, Calif. – Pg. 832

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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Electronic Tube Sales, Inc., 74 Cortlandt St., New York, N. Y.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 545
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Tung–Sol Electric, Inc., Newark, N. J.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

TUBES. ELECTRON MULTIPLIER
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British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Dumont, Allen B. Labs., Inc., 760 Bloomfield Ave., Clifton, N. J.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N.J.
General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
Mackay Research Laboratories, Rural Route 2, Box 401, McHenry, Ill.

TUBES. GAMMA RAY
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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Red Bank Bank Div., Eatontown, N. J.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES. GAS ..... **Pgs. 1143, 1154, 1155, 1162**
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Amglo Corp., 4325 N. Ravenswood, Chicago, Ill.

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California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Continental Electric Co., 715 Hamilton St., Genoa, Ill.
Electronic Enterprises, Inc., 65 7th Ave., Newark, N. J.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
General Electric Co Ltd. of England, 80 Shore Rd., Port Washington, N. Y. – Pg. 1143
Intelex Systems Inc., 22 Thames St., New York, N. Y.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Kip Electronics Corp., 29 Holly Place, Box 562, Stamford, Conn.
Litton Industries, 960 Industrial Rd., San Carlos, Calif.
Mackay Research Laboratories, Rural Route 2, Box 401, McHenry, Ill.
National Electronics, 628 North St., Geneva, Ill.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
State Labs., Inc., 649 Broadway, New York, N. Y.
Sylvania Electric Products, Special Tube Opns, 500 Evelyn, Mountain View, Calif.
Tung-Sol Electric, Inc., Newark, N. J.
Vacuum Tube Prods. Co., 2020 Short Street, P. O. Box 810, Oceanside, California
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.
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TUBES. GEIGER-MUELLER ..... Pgs. 1143, 1154, 1155

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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Braun-Knecht-Heimann Co., Glass Engrg. Dept., 601 O'Neil Ave., Belmont, Calif.
Forro Scientific Co., 833 Lincoln, Evanston, Ill.
General Electric Co Ltd. of England, 80 Shore Rd., Port Washington, N. Y. – Pg. 1143
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Minneapolis-Honeywell, Semiconductor Div., 2753 4th Ave., S., Minneapolis, Minn.
Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo.
Nuclear-Electronics Corp., 2925 N. Broad St., Philadelphia, Pa.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn, N. Y.
Radiation Counter Labs., Inc., 5121 W. Grove St., Skokie, Ill.
Radiation Instr. Labs., 5737 S. Halstead St., Chicago, Ill.
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Tracerlab, Inc., 1601 Trapello Rd., Waltham, Mass.
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

TUBES. GLOW OR DISCHARGE ..... Pgs. 1154, 1155, 1162

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Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Burroughs Corp., Electronic Tube Div., P. O. Box 1226, Plainfield, N. J.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Continental Electric Co., 715 Hamilton St., Genoa, Ill.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Electric Co. Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Kip Electronics Corp., 29 Holly Place, Box 562, Stamford, Conn.
Mackay Research Laboratories, Rural Route 2, Box 401, McHenry, Ill.
National Union Electric, Electronics Div., Bloomington, Ill.
Nuclear Corp. of America, 2 Richwood Pl., Denville, N. J.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Tung-Sol Electric, Inc., Newark, N. J.
Victoreen Instr. Co., 5806 Hough Ave., Cleveland, Ohio
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

TUBES. HEARING AID ..... Pgs. 465, 1154, 1155, 1164

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Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y. – Pgs. 465, 1164
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Tung-Sol Electric, Inc., Newark, N. J.

TUBES. IGNITRON ..... Pg. 1162

Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
National Electronics, 628 North St., Geneva, Ill.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES. INFRARED ..... Pg. 1162

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ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Mackay Research Laboratories, Rural Route 2, Box 401, McHenry, Ill.
Merco Products Co., 1298 Bethel Dr., Eugene, Ore.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.

TUBES. IONIZATION ..... Pg. 1162

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Central Electronic Mfgs., Inc., 2 Richwood Pl., Denville, N. J.
Interstate Electronics Corp., 707 E. Vermont Ave., Anaheim, Calif.
Nucleonic Corp. of America, 196 De Graw St., Brooklyn 31, N. Y.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Sierra Electronic Corp., Sub. Philco, 5442 E. Bohannon Dr., Menlo Park, Calif.
Vacuum Tube Prods. Co., 2020 Short Street, P. O. Box 810, Oceanside, California
Veeco Vacuum Corp., 86 Denton Ave., New Hyde Park, N. Y.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES. KLYSTRON ..... Pgs. 545, 829, 832, 833, 1145–1150, 1152–1155, 1163

Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Applied Radiation Corp., P. O. Box 725, Walnut Creek, Calif.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bomac Laboratories, Salem Rd., Beverly, Mass. – Pgs. 1145-1150
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Eitel-McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pgs. 1152, 1153
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 545
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, NewYork
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y. – Pg. 1143
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Litton Industries, 960 Industrial Rd., San Carlos, Calif.
Multi-Tron Laboratory, Inc., 9861 Derby Lane, Westchester, Ill.
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State Labs., Inc., 649 Broadway, New York, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
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Systems, Inc., 2326 Diversified Way, Orlando, Fla.
Varian Associates, Palo Alto, Calif.
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Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
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Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Litton Industries, 960 Industrial Rd., San Carlos, Calif. – Pg. 1160
Mackay Research Laboratories, Rural Route 2, Box 401, McHenry, Ill.
Multi-Tron Laboratory, Inc., 9861 Derby Lane, Westchester, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
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Raytheon, Microwave & Power Tube Div., Ceramic Sales Dept., Waltham, Mass.–Pg. 1163
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
State Labs., Inc., 649 Broadway, New York, N. Y.
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Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

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Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
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International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
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Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.–Pg. 1163
Raytheon, Microwave & Power Tube Div., Ceramic Sales Dept., Waltham 54, Mass.
Sperry Gyroscope Co., Electronic Tube Div., Great Neck, N. Y.
Stewart Engrg. Co., P. O. Box 727, Soquel, California
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif. – Pgs. 832, 833
Varian Associates, Palo Alto, Calif.
Watkins-Johnson Co., 3333 Hillview, Stanford Industrial Park, Palo Alto, Calif.
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Wright Engineering Co., 180 E. California St., Pasadena, Calif.

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Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
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National Union Electric, Electronics Div., Bloomington, Ill.
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Raytheon Manufacturing Co., Receiving Tube Div., 55 Chapel St., Newton, Mass.
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State Labs., Inc., 649 Broadway, New York, N. Y.
Sylvania Electric Products, Elctrn. Tubes Div., 1740 Broadway, New York, N. Y.
Telefunken M. V. M., 48-50 34th Street, Long Island City, New York
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Burroughs Corp., Electronic Tube Div., P. O. Box 1226, Plainfield, N. J.
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Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y.
Litton Industries, 960 Industrial Rd., San Carlos, Calif.
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Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
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Dumont, Allen B., Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
General Electric Co., Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
International Electronics Corp., Mullard Equip., 81 Spring St., New York, N.Y.–Pgs. 1145, 1155
Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y. – Pg. 960
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
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General Electric, App. Sales Div., 1 River Rd., Schenectady, N. Y. – Pgs. 494, 495, 683, 850, 851, 901, 1129
General Electric Co. Ltd. of England, 80 Shore Road, Port Washington, N.Y.
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International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif. – Pg. 977
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Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

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Eitel-McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pgs. 1152, 1153
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y. – Pg. 1143
ITT Components Division, Box 412, Clifton, N. J.
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TUBES. PROJECTION ..... **Pg. 1162**
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Eitel-McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pg. 1152
Electronic Enterprises, Inc., 65 7th Ave., Newark, N. J.
Electrons, Inc., 127 Sussex Ave., Newark, N. J.
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General Electric Co., Ltd. of England, 80 Shore Rd., Port Washington, N. Y.
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Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.
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National Electronics, 628 North St., Geneva, Ill.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
State Labs., Inc., 649 Broadway, New York, N. Y.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
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United Electronics Co., Sub. Ling Electronics, 42 Spring St., Newark, N. J.–Pgs. 1168, 1169
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Continental Electric Co., 715 Hamilton St., Genoa, Ill.
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Tung-Sol Electric, Inc., 95 8th Ave., Newark, N. J. – Pg. 1166
U.S. Dynamics Corp., 1250 Columbus Ave., Boston, Mass.
United Electronics Co., Sub. Ling Electronics, 42 Spring St., Newark, N. J.–Pgs. 1168, 1169
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CBS-Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
General Electric Co., Receiving Tube Dept., 316 E. Ninth St., Owensboro, Ky.
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y.
Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
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General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
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Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
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Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
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Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
General Electric Co., Receiving Tube Dept., 316 E. Ninth St., Owensboro, Ky.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kip Electronics Corp., 29 Holly Place, Box 562, Stamford, Conn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philco Corp., Lansdale Tube Co. Div., Lansdale, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Rye Sound Corp., 145 Elm St., Mamaroneck, N. Y.
Sonotone Corp., Electronic Applications Div., Elmsford, N. Y. – Pgs. 465, 1164
State Labs., Inc., 649 Broadway, New York, N. Y.
Super Ear Products Co., 34 Deering, E. Rockaway, N. Y.
Sylvania Electric Products, Elctrn. Tubes Div., 1740 Broadway, New York, N. Y.
Tung-Sol Electric, Inc., Newark, N. J.

TUBES, TELEVISION CAMERA PICKUP ..... **Pg. 1162**
Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Diamond Power Specialty Corp., Electronics Div., P. O. Box 415, Lancaster, Ohio
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
Hoffman, H. L. & Co., 3403 Garrison Blvd., Baltimore, Md.
Machlett Laboratories, Inc., 1063 Hope St., Springdale, Conn.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES, THYRATRON ..... **Pgs. 976, 1143, 1154, 1155, 1162, 1166, 1169**
American Elite, Inc., 48-50 34th St., Long Island City, N. Y.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
CBS-Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Continental Electric Co., 715 Hamilton St., Genoa, Ill.
Edgerton, Germeshausen & Grier, Inc., 160 Brookline Ave., Boston, Mass.
Electrons, Inc., 127 Sussex Ave., Newark, N. J.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
General Electric Co., Receiving Tube Dept., 316 E. Ninth St., Owensboro, Ky.
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y. – Pg. 1143
Industrial Tubes, Inc., 321 Stevens St., Geneva, Ill.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
ITT Components Division, P. O. Box 412, Clifton, N. J. – Pg. 976
Kip Electronics Corp., 29 Holly Place, Box 562, Stamford, Conn.
Kuthe Laboratories, Inc., Div. I. T. T., 730 So. 13th St., Newark, N. J.
Mackay Research Laboratories, Rural Route 2, Box 401, McHenry, Ill.
National Electronics, 628 North St., Geneva, Ill.
Penta Labs., Inc., 312 N. Nopal St., P. O. Box 1469, Santa Barbara, Calif.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
State Labs., Inc., 649 Broadway, New York, N. Y.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif.
Tung-Sol Electric, Inc., 95 8th Ave., Newark, N. J. – Pg. 1166
United Electronics Co., Sub. Ling Electronics, 42 Spring St., Newark, N. J. – Pg. 1169
Vacuum Tube Prods. Co., 2020 Short Street, P. O. Box 810, Oceanside, California
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES, TR, PRE TR & ANTI TR ..... **Pgs. 832, 1145–1147, 1161**
Barker & Williamson, Inc., Canal St. & Beaver Dam Rd., Bristol, Pa.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Bomac Laboratories, Salem Rd., Beverly, Mass. – Pgs. 1145–1147
California Computer Prod., 3927 W. Jefferson Blvd., Los Angeles, Calif.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y.
Litton Industries, 960 Industrial Rd., San Carlos, Calif. – Pg. 1161
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif. – Pg. 832
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES, TRANSDUCER ..... **Pg. 1162**
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N.Y.

TUBES, TRAVELING WAVE AMP, TYPE ..... **Pgs. 832, 833, 976, 1152, 1154, 1156, 1162, 1163**
American Elite, Inc., 48-50 34th St., Long Island City, N. Y.
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Eitel-McCullough, Inc., 301 Industrial Rd., San Carlos, Calif. – Pg. 1152
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
General Electric Co., Power Tube Dept., 1 River Road, Schenectady, New York
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y.
Huggins Laboratories, Inc., 999 E. Arques Ave., Sunnyvale, Calif.
ITT Components Division, P.O. Box 412, Clifton, N.J. – Pg. 976
ITT Labs., Div. Intl. Tel. & Tel. Corp., 500 Washington Ave., Nutley, N. J.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Litton Industries, 960 Industrial Rd., San Carlos, Calif. – Pg. 1161
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon, Microwave & Power Tube Div., Ceramic Sales Dept., Waltham 54, Mass.–Pg. 1163
Sperry Gyroscope Co., Electronic Tube Div., Great Neck, N. Y.
Sylvania Electric Products, Elctrn. Systems Div., 100 1st Ave., Waltham, Mass.
Sylvania Electric Products, Special Tube Opns., 500 Evelyn, Mountain View, Calif. – Pgs. 832. 833
Varian Associates, Palo Alto, Calif.
Watkins-Johnson Co., 3333 Hillview, Stanford Industrial Park, Palo Alto, Calif.
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y.
Wright Engineering Co., 180 E. California St., Pasadena, Calif.

TUBES, TRIGGER ..... **Pg. 832**
Sylvania Electric Prod., Special Tube Opns, 500 Evelyn, Mountain View Calif.–Pg. 832

TUBES, ULTRAVIOLET
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Black Light Eastern Corp., 201-04 Northern Blvd., Bayside, New York
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dumont, Allen B., Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N. J.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
Stroblite Co., 75 W. 45 St., New York, N. Y.

TUBES, VOLTAGE REFERENCE OR REGULATING ..... **Pgs. 882, 1143, 1154, 1155, 1162, 1166**
Aerolux Lights Corp., 653 11th Ave., New York, N. Y.
American Elite, Inc., 48-50 34th St., Long Island City, N. Y.
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y. – Pg. 882
Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
British Electronics Sales Co., Inc., Oakland Garden St., Flushing, N. Y.
CBS-Hytron, Div. Columbia Brdcst. System, Inc., 100 Endicott St., Danvers, Mass.
Canadian Marconi Co., Tube & Components Div., 830 Bayview Ave., Toronto, Canada
Electronic Enterprises, Inc., 65 7th Ave., Newark, N. J.
General Electric Co., Ltd., of England, 80 Shore Rd., Port Washington, N. Y. – Pg. 1143
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kip Electronics Corp., 29 Holly Place, Box 562, Stamford, Conn.
Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N. J. – Pg. 1162
Raytheon Manufacturing Co., Industrial Tube Div., 55 Chapel St., Newton, Mass.
Signalite, Inc., 37-41 Neptune Hway., Neptune, N. J.
Technical Apparatus Builders, 109 Liberty St., New York, N. Y.
Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn.
Tung-Sol Electric, Inc., 95 8th Ave., Newark, N. J. – Pg. 1166
Victoreen Instr. Co., 5806 Hough Avenue, Cleveland, Ohio

TUBES, X-RAY ..... **Pgs. 545, 1154, 1155**
Amperex Electronic Corp., P. O. Box 418, 230 Duffy Ave., Hicksville, L. I., N. Y.
Atomic Labs., Inc., 3086 Claremont Ave., Berkeley, Calif.
Bracke-Seib X-Ray Co., Inc., 16 Pelham Bay Pk., W., Pelham Manor, N. Y.
Eureka X-Ray Tube Corp., 3250 N. Kilpatrick, Chicago, Ill.
Ferranti Electric, Inc., Electronics Div., 95 Madison Ave., Hempstead, N. Y. – Pg. 545
Field Emission Corp., 210 N. Ford St., McMinnville, Ore.
General Electric Co., X-Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
International Electronics Corp., Mullard Equipment, 81 Spring St., New York, N. Y. – Pgs. 1154, 1155
Kemlite Labs., Inc., 1819 W. Grand Ave., Chicago, Ill.
Machlett Laboratories, Inc., 1063 Hope St., Springdale, Conn.
P. E. K. Labs., 4024 Transport St., Palo Alto, Calif.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Triplett & Barton, Inc., 831 N. Lake St., Burbank, Calif.

TUBING, ALUMINUM
Acme Tube, Inc., 212 Coit St., Irvington, N. J.
Alprodco, Inc., Box 4974, Memphis, Tenn.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Channel Master Corp., Ellenville, N. Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif.
Harvey & Co., 41–18 38th St., L.I. City, N.Y.
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
National Lead Co., 111 Broadway, New York, N. Y.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.

TUBING, ALUMINUM (continued)
Paul, F.H. & Stein Bros., Inc., 235 5th Ave., New York, N.Y.
Precision Tube Co., Inc., N. Wales, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.
Reynolds Metals Co., 3rd & Grace St., Richmond, Va.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Tri–Ex Tower Corp., 127 E. Inyo St., Tulare, Calif.
Uniform Tubes, Level Rd., Collegeville, Pa.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, ASBESTOS
Accurate Paper Tube Co., Inc., 810 N. Peoria St., Chicago, Ill.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave., & Stack St., Middletown, Conn.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Johns–Manville, 22 E. 40th St., New York, N.Y.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Paramount Paper Tube Co., 614 Lafayette St., Fort Wayne, Ind.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, BRASS OR COPPER
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N.J.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Precision Tube Co., Inc., N. Wales, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.
Uniform Tubes, Level Rd., Collegeville, Pa.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, CERAMIC
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Carborundum Co., The, P.O. Box 337, Niagara Falls, N. Y.
Centralab, Div. Globe–Union, 984 E. Keefe Ave., Milwaukee, Wisc.
Du–Co Ceramics Co., Box 587, Butler, Pa.
Electro–Ceramics, Inc., 2645 S. 2nd W., Salt Lake City, Utah
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Frenchtown Porcelain Co., Frenchtown, N. J.
Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif.
Illumitronic Engrg. Co., 680 Taylor Ave, Sunnyvale, Calif.
Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J.
Kirchberger, M. & Co., 250 Humphrey St., Englewood, N. J.
Materials for Elctrns., Contl. Hotel Bldg., 152–25 138th Ave., Jamaica, N.Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitronics, Inc., 1290 Central Ave., Hillside, N. J.
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Norton Co., 1 New Bond St., Worcester, Mass.
Pyrometer Co. of America, Penndel, Pa.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N. Y.
Steward, D. M. Mfg. Co., East 36th St., Chattanooga, 1, Tenn.
Superior Steatite & Ceramic Corp., 83–91 W. Forest Ave., Englewood, N. J.
Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
United Mineral & Chem. Corp., 16 Hudson St, New York, N. Y.
Wisconsin Porcelain Co., Sun Prairie, Wisconsin

TUBING, FABRIC – SEE TUBING, SPAGHETTI

TUBING, FIBRE ..... Pg. 786
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave., & Stack St., Middletown, Conn.
Bentley–Harris Mfg. Co., Conshohocken, Pa.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Fibre Fabricators Co., Inc., 4540 Addison, Chicago, Ill.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N. Y.
Middlesex Paper Tube Co., 345 Chelmford St., Lowell, Mass.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Resinite Corp., 2035 W. Charleston St., Chicago, Ill.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
Wilmington Fibre Specialty Co., New Castle, Del.

TUBING, FUSED QUARTZ ..... Pgs. 773, 777
Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Blacklight Corp. of America, 5114 Walnut Grove Ave., San Gabriel, Calif.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Dell Optics Co., Ltd., 327 55 St., West New York, N.J. – Pg. 777
Englehard Industries, Inc., 113 Astor St., Newark, N.J.
General Electric Co., Willoughby Quartz Plant, Willoughby, Ohio – Pg. 773
P.E.K. Labs., 4024 Transport St., Palo Alto, Calif.
Quartsite Processing, Inc., 197 Chelsea St., Everett, Mass.
Thermal American Fused Quartz Co., 18–20 Salem St., Dover, N.J.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.

TUBING, GLASS FIBRE INSULATION ..... Pgs. 1179–1181, 1183, 1184, 1192
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1180, 1183
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Bentley–Harris Mfg. Co., Conshohocken, Pa.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y.
Chemfab Corp., 40–30 23rd St., Long Island City, N.Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Dela.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Plastics Corp., 165 3rd Ave., Paterson, N.J.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y. – Pg. 1192
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Lamtex Industries, Inc., 51 State St., Westbury, N.Y.
Long, Thomas, J. Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N.Y.
NY–Glass Inc., 2501 E. 68th St., Long Beach, Calif.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela.
Natvar Corporation, 211 Randolph Avenue, Woodbridge, N.J.
Pilgrim Products, Inc., 271 Central St., W. Acton, Mass.
Porter, Wm., Co., 1007 Santa Fe Ave., Los Angeles, Calif.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Silicone Insulation, Inc., 1381 Seabury Ave., Bronx, N.Y.
Stevens Products, Inc., 86–88 Main St., East Orange, N.J.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
Varflex Corp., 512 W. Court St., Rome, N.Y.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, GLASS PRECISION ..... Pgs. 608, 777
Braun–Knecht–Heimann Co., Glass Engrg. Dept., 601 O'Neil Ave., Belmont, Calif.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Corning Glass Works, 95–6 Crystal St., Corning, N.Y.
Dell Optics Co., Ltd., 327 55 St., West New York, N.J. – Pg. 777
Fischer & Porter Co., 115 Warminster Rd., Hatboro, Pa.
Kimble Glass Co., P.O. Box 1035, Toledo, Ohio
P.E.K. Labs., 4024 Transport St., Palo Alto, Calif.
Phoenix Precision Instrument Co., 3803 N 5 St., Philadelphia, Pa.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.
Wilmad Glass Co., Inc., Buena, N.J. – Pg. 608

TUBING, MAGNESIUM
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Dow Chemical Co., Midland, Mich.
South River Metal Products Co., 377–379 Turnpike, South River, N.J.

TUBING, METAL HOSE, FLEXIBLE ..... Pg. 596
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
Co–Op Industries, Inc., 100 Oakdale Rd., Chester, N.J.
Crucible Steel Co. of America, Oliver Bldg., Box 88, Mellon Sq., Pittsburgh, 30, Pa.
Flexonics Corp., 1315 S. 3rd Ave., Maywood, Ill.
Hallett Mfg. Co., 5910 Bowcroft St., Los Angeles 16, Calif.
Korfund Co., Inc., 48–15 32nd Pl., Long Island City, N.Y.
Kupfrian Mfg., Corp., 363 State St., Binghamton, N.Y. – Pg. 596
Titeflex, Inc., Hendee Street, Springfield, Mass.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, MICA
Asheville–Schoonmaker Mica Co., 900 Jefferson Ave., NewPort News, Va.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Dela.
General Electric, Insulating Materials Dept., Schenectady, N.Y.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
MacAllen Co., The, New Market, N.H.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N.J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N.Y.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Resinite Corp., 2035 W. Charleston St., Chicago, Ill.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.

TUBING, MOLYBDENUM ..... Pgs. 1179–1181, 1183
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1181, 1183
American Silver Co., 36–07 Prince St., Flushing, N.Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Electronic Parts Mfg. Co., Inc., 508–10 25th St., Union City, N.J.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
MacKay, A.D., Inc., 198 Broadway, New York 38, N.Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.

TUBING, NYLON ALSO SEE TUBING, SPAGHETTI ..... Pg. 786
Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N.Y.
Allied Plastics Supply Corp., 75 Cliff St., New York, N.Y.
American Molded Products Co., 2727 W. Chicago Ave., Chicago, Ill.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Barwood, L.J., Mfg. Co., Inc., 22 Williams St., Everett, Mass.
Chemplast, Inc., 3 Central Ave., E. Newark, N.J.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N.Y.
Fluorulon Labs. Inc., Box 305, Caldwell, N.J.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N.Y.
Long, Thomas, J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N.Y.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N.Y.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Nylon Molding Corp., 141 South Ave., Garwood, N.J.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Shamban, W.S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Taylor Fibre Co., P.O. Box 471, Norristown, Pa.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, PAPER
Accurate Paper Tube Co., Inc., 810 N. Peoria St., Chicago, Ill.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Auburn Mfg. Co., Pease Ave., & Stack St., Middletown, Conn.
Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Jonesville Paper Tube Corp., 474 Beck Rd., Jonesville, Mich.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L.I., N. Y.
Middlesex Paper Tube Co., 345 Chelmford St., Lowell, Mass.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Paramount Paper Tube Co., 614 Lafayette St., Fort Wayne, Ind.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Resinite Corp., 2035 W. Charleston St., Chicago, Ill.
Stone Paper Tube, Div. Stone Straw, 900 Franklin St., N.E., Washington, D.C.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.

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TUBING, PLASTIC ALSO SEE TUBING, SPAGHETTI .... Pgs. 603, 771, 780, 784–786, 1179–1181, 1183, 1194, 1205

Ace Plastic Co., 91–54 Van Wyck Exprwy., Jamaica, N. Y.
Actioncraft Products, 2 Yennicock Ave., Port Washington, N. Y.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1181, 1183
American Molded Products Co., 2727 W. Chicago Ave., Chicago, Ill.
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Anchor Plastics Co., 36–36 36th St., Long Island City, N. Y.
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Blum & Co., Inc., Julius, Carlstadt, N. J.
Bolta Products Div., General Tire & Rubber Co., Lawrence, Mass.
Bonny Mfg. Co., 339 Auburn St., Auburnadle, Mass.
Borden Co., The, Chemical Div., Resinite Dept., Box 1589, Santa Barbara, Calif.
Chemfab Corp., 40–30 23rd St., Long Island City, N. Y.
Chemical & Power Products, Inc., 11 Broadway, New York, N. Y.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Cleveland Container, Co., 6201 Barberton Ave., Cleveland, Ohio
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Del.
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dielectric Materials Co., 5315–17 N. Ravenswood Ave., Chicago, Ill.
Dow Chemical Co., Midland, Mich.
Dura Plastics of N.Y., Inc., 303–5th Ave., New York, N.Y.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Epoxy Products, Inc., 137 Coit St., Irvington, N. J. – Pg. 784
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Electric Co., Laminated Products Dept., Section EEM–59, Coshocton, Ohio – Pg. 603
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Goodrich, B. F. Co., Aviation Products Div., Akron, Ohio
Halogen Insulator & Seal Corp., 9960 Pacific Ave., Franklin Park, Ill.
Houghton Labs., Inc., 322 Houghton Ave., Olean, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Joclin Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Kupfrian Mfg. Corp., 363 State St., Binghamton, N. Y. – Pg. 1194
Lamtex Industries, Inc., 51 State St., Westbury, N. Y.
Long, Thomas J., Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Mica Insulator, Div. Minnesota Min. & Mfg., P. O. Box 1076, Schenectady, N. Y.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
National Vulcanized Fibre Co., Dept. A–2, Wilmington, Dela. – Pg. 786
Natvar Corporation, 211 Randolph Ave., Woodbridge, N. J.
New England Tape Co., Hudson, Mass.
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Paul, F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Pilgrim Prodts., Inc., 271 Central St., W. Acton, Mass.
Pioneer Industries, Inc., 2700 Hawkeye Dr., Box 1500, Sioux City, Ia.
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Porter, Wm. Co., 1007 Sante Fe Ave., Los Angeles, Calif.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Raytherm Corp., Oakside At Northside, Redwood City, Calif.
Resinite Corp., 2035 W. Charleston St., Chicago, Ill.
Resistoflex Corp., Roseland, N. J.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Richardson Co., The, 2640 Lake St., Melrose Pk., Ill.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Shamban, W. S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Stevens Products, Inc., 86–88 Main St., East Orange, N. J.
Stone Paper Tube, Div. Stone Straw, 900 Franklin St. N. E., Washington, D. C.
Superior Insulated Wire Co., Washburns La., Stony Point, N.Y.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Synthane Corp., 12 River Rd., Oaks, Pa.
Taylor Fibre Co., P. O. Box 471, Norristown, Pa.
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Tri–Point Plastics, Inc., 175–177 I. U. Willets Rd., Albertson, N. Y. – Pg. 780
U. S. Rubber Co., 1230 Ave. Of The Americas, New York, N.Y.
Varflex Corp., 512 W. Court St., Rome, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Westinghouse Electric Corp., Micarta Div., Hampton, S. Caro.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, PRECIOUS METAL

American Silver Co., 36–07 Prince St., Flushing, N. Y.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Handy & Harman, 82 Fulton St., New York, N. Y.
Improved Seamless Wire Co., 775 Eddy St., Providence, R. I.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York 38, N. Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
Uniform Tubes, Level Rd., Collegeville, Pa.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N. Y.

TUBING, PRINTED ..... Pg. 1213

Actioncraft Products, 2 Yennicock Ave., Port Washington, N. Y.
Middlesex Paper Tube Co., 345 Chelmford St., Lowell, Mass.
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Thermal Wire Of America, Keelers Bay, So. Hero, Vermont
Westline Products Div., Western Lithograph, Rose & E. 2nd, Los Angeles, Calif. – Pg. 1213

TUBING, RUBBER, NATURAL & SYNTHETIC

Minor Rubber Co., Inc., 49 Ackerman St., Bloomfield, N. J.
Republic Rubber, Div–Lee Rubber & Tire Corp., 1410 Albert St., Youngstown, Ohio

TUBING, SPAGHETTI – SEE INSULATION PARTS, TUBING

TUBING, STEEL ..... Pg. 1194

Acme Tube, Inc., 212 Coit St., Irvington, N. J.
Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
Alprodco, Inc., Box 4974, Memphis, Tenn.
Avon Tube Div. Migbie Mfg., Wagner Road, Rochester, Mich.
Babcock & Wilcox Co., Tubular Products Div., Beaver Falls, Pa.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.
Carpenter Steel Co., The, Alloy Tube Div., Springfield Road, Union, N. J.
Crucible Steel Co. Of Amer., Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Firth Sterling, Inc., 3113 Forbes St., Pittsburgh, Pa.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Kupfrian Mfg. Corp., 363 State St., Binghamton, N. Y. – Pg. 1194
Lance Antenna Mfg. Co., 1802 First St., San Fernando, Calif.
Mechanical Steel Tubing Corp., 500 Barry St., New York, N. Y.
Metpro, Inc., 230 Toronto Ave., Providence, R. I.
Ohio Seamless Tube, Div. Copperweld Steel Co., Shelby, Ohio
Precision Tube Co., Inc., N. Wales, Pa.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Superior Tube Co., Box 191, Norristown, Pa.
Uniform Tubes, Level Rd., Collegeville, Pa.
Wallingford Steel Co., Valley St., Wallingford, Conn.

TUBING, TANTALUM

American Silver Co., 36–07 Prince St., Flushing, N. Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Crucible Steel Co. of Amer., Oliver Bldg. – Box 88, Mellon Sq., Pittsburgh 30, Pa.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Mackay, A. D. Inc., 198 Broadway, New York 38, N. Y.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.

TUBING, TEFLON ALSO SEE TUBING, SPAGHETTI ..... Pgs. 771, 1184, 1192

Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Allied Nucleonics Corp., Plastics Div., 556 Hawthorne, Los Altos, Calif.
Allied Plastics Supply Corp., 75 Cliff St., New York, N. Y.
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Auburn Mfg. Co., Pease Ave. & Stack St., Middletown, Conn.
B & C Insulation Products, Inc., 490 Lincoln Hwy., Iselin, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Bonny Mfg. Co., 339 Auburn St., Auburndale, Mass.
Chemical & Power Products Inc., 11 Broadway, New York, N. Y.
Continental Diamond Fibre Corp., Sub. Budd Co., 16 Chapel St., Newark, Delaware
Cortland Industries, Inc., 4545 W. Cortland St., Chicago, Ill.
Dilectrix Corp., Allen Blvd. & Grand Ave., Farmingdale, N. Y.
Dixon Corp., Burnside St., Bristol, R. I.
Emerson Plastics Corp., 1383 Seabury Ave., Bronx, N. Y.
Flexonics Corp., 1315 S. 3rd Ave., Maywood, Ill.
Fluorocarbon Products, Inc., Div. United States Gasket Co., Camden, N. J. – Pg. 771
Fluorulon Labs., Inc., Box 305, Caldwell, N. J.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
General Cement Mfg. Co., Div. of Textron, 400 S. Wyman St., Rockford, Ill.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Joclin Mfg. Co., Lafeery Ave., Wallingford, Conn.
Jodee Plastics, Inc., 36 Crescent St., Brooklyn, N. Y.
Johns–Manville, 22 E. 40th St., New York, N. Y.
Long, Thomas J. Inc., 215 Stonehinge Lane, Carle Place, L. I., N. Y.
Mica Fabricating Co., 53 Central Ave., Rochelle Park, N. J.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Modern Industrial Plastics, 3337 N. Dixie Dr., Dayton, Ohio
Norrich Plastics Corp., 109 W. 18th St., New York, N. Y.
Nylon Molding Corp., 141 South Ave., Garwood, N. J.
Penna. Fluorocarbon Co., Inc., 1115 N. 38 St., Philadelphia, Pa.
Permacel, U. S. Highway 1, New Brunswick, New Jersey
Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa.
Raybestos–Manhattan, Inc., 61 Willett St., Passaic, N. J.
Resistoflex Corp., Roseland, N. J.
Shamban, W.S. & Co., 11617 W. Jefferson Blvd., Box 1037, Culver City, Calif.
Sparta Mfg. Co., Dover, Ohio
Surprenant Mfg. Co., 172 Sterling St., Clinton, Mass.
Thermal Wire of America, Keelers Bay, So. Hero, Vermont
Topper Mfg. Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUBING, TITANIUM

American Silver Co., 36–07 Prince St., Flushing, N. Y.
Babcock & Wilcox Co., Tubular Products Div., Beaver Falls, Pa.
Bram Metallurgical–Chemical Co., 820–65 th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Carpenter Steel Co., The Alloy Tube Div., Springfield Road, Union, New Jersey
Crucible Steel Co. Of Amer., Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Mackay, A. D., Inc., 198 Broadway, New York 38, N. Y.
National Lead Co., 111 Broadway, New York, N. Y.
Superior Tube Co., Box 191, Norristown, Pa.

TUBING, TUNGSTEN

Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Bram Metallurgical–Chamical Co., 820–65th Ave., Philadelphia, Pa.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N. J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N. Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

TUBING, VARNISHED OR LACQUERED ..... Pgs. 1179–1181, 1183, 1208

Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1181, 1183
B & C Insulation Products, Inc., 490 Lincoln Hwy., Iselin, N. J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Dielectric Materials Co., 5315–17 N. Ravenswood Ave., Chicago, Ill.
Franklin Fibre–Lamitex Co., Box 1768, Wilmington, Dela.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif.
Insulation Mfg. Corp., 565 W. Washington Blvd., Chicago, Ill.
Minnesota Mining & Mfg., Electrical Prod. Div., 900 Bush Ave., St. Paul, Minn.
Mitchell–Rand Mfg. Corp., Insulation Division, 51 Murray St., New York, N. Y.
Natvar Corporation, 211 Randolph Ave., Woodbridge, N. J.
Paramount Paper Tube Co., 614 Lafayette St., Fort Wayne, Ind.
Precision Paper Tube Co., 2041 W. Charleston St., Chicago, Ill.
Resinite Corp., 2035 W. Charleston St., Chicago, Ill.
Stone Paper Tube, Div. Stone Straw, 900 Franklin St. N. E., Washington, D. C.
Superior Cable Corp., Box 480–A, Hickory, N. Car. – Pg. 1208
Varflex Corp., 512 W. Court St., Rome, N. Y.

TUBING, WAVEGUIDE ..... Pgs. 798, 799, 836, 837

Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N. J.
American Brass Co., 414 Meadow St., Waterbury, Conn.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.

TUBING, WAVE GUIDE (continued)
Co–Op Industries, Inc., 100 Oakdale Rd., Chester, N.J.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N. J.
Kent, F. C. Corp., 135 Manchester Pl., Newark, N. J.
Lamtex Industries, Inc., 51 State St., Westbury, N. Y.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Microtech, Inc., 2975 State St., Hamden, Conn.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.
Superior Tube Co., Box 191, Norristown, Pa.
Technicraft Labs., Inc., Thomaston–Waterbury Road, Thomaston, Conn.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., Grand & Marine Sts., Farmingdale, New York, – Pg. 836
Washington Aluminum Co., Inc., Knecht Ave. & Penna. R. R., Baltimore 29, Md.
Waveline, Inc., Box 718, W. Caldwell, N. J. – Pg. 837
Wilmad Glass Co., Inc., Buena, N. J.

TUBING, WOVEN OR KNITTED WIRE ..... **Pgs. 478, 479, 596, 1179–1181, 1183**
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1181, 1183
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Kupfrian Mfg. Corp., 363 State St., Binghamton, N. Y. – Pg. 596
Schuyler Mfg. Corp., 84 Porette Ave., North Arlington, N.J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J. – Pgs. 478, 479
Zippertubing Co., 752 S. San Pedro, Los Angeles, Calif.

TUNERS, A–M, F–M, AM–FM
Admiral Corp., Gov. Sales Div., 3800 Cortland St., Chicago, Ill.
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Bell Sound Div., Thompson–Ramo–Wooldridge, Inc., 555 Marion Rd., Columbus, Ohio
Blonder–Tongue Labs., Inc., 9 Alling St., Newark, N. J.
Calbest Electronics, 4801 Exposition Blvd., Los Angeles, Calif.
Continental Manufacturing, Inc., 1612 California St., Omaha, Nebraska
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
DeWald Radio, Div. United Scientific Labs., 35–15 37th Ave., L. I. City, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn.
Electronic Instrument Co., Inc., 33–00 Northern Blvd., Long Island City, N. Y.
Emerson Radio Corp., Gov. Elctrn. Div., 1140 East West Hwy, Silver Spring, Md.
Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
Fisher Radio Corp., 21–21 44th Dr., Long Island City, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Harman–Kardon, 520 Main St., Westbury, N. Y.
Heath Co., Benton Harbor, Mich.
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Mattson Electronics Corp., 11645–47 McBean Dr., El Monte, Calif.
Miller, J. W. Co., 5917 S. Main St., Los Angeles, Calif.
Miratel, Inc., 1080 Dionne St., St. Paul, Minn.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Pilot Radio Corp., 37–06 36th St., Long Island City, N. Y.
Precise Development Corp., 2 Neil Ct., Oceanside, N. Y.
Precision Radiation Instruments, 4223 W. Jefferson Blvd., Los Angeles, Calif.
Quality Electronics, Inc., 319 Church St., New York, N.Y.
Radio Condenser Co., Davis & Capewood Sts., Camden, N.J.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Reeves Equipment Corp., Tandberg Div., 10 E. 52nd St., New York, N. Y.
Roberts Mfg. Co., 426 E. Shaffer, Gleburne, Texas
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Setchell, Carlson, Inc., 330 5th Ave., New Brighton, Minn.
Sherwood Electronic Labs., Inc., 4300 N. California Ave., Chicago, Ill.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., Long Island City, N. Y.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

TUNERS, ANTENNA
Allied Engineering Corp., 230 Park Ave., New York, N. Y.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Nevada Air Products Co.,P.O. Box 2472, Reno, Nev.
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Electrn. Prods., Front & Cooper, Bl.15–1, Camden, N. J.
Technical Appliance Corp., P.O. Box 38, Sherburne, N. Y.
Wright Radio Co., 11 Morton Place, Scituate Harbor, Mass.

TUNERS, KLYSTRON
Aircom, Inc., 354 Main St., Winthrop, Mass.
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
LEL, Inc., 380 Oak St., Copiague, N. Y.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N.Y.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.

TUNERS, L–C ..... **Pg. 499**
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y. – Pg. 499

TUNERS, MICROWAVE ... **Pgs. 712, 748, 798–800, 803, 804, 806, 810, 817, 823, 830, 834, 837, 839**
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N. J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Brubaker Electronics, 3652 Eastham Dr., Culver City, Calif.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N. Y.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Don–Lan Electronics, Inc., 1101 Olympic Blvd., Santa Monica, Calif.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N. Y. – Pg. 800
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Eastern Industries, Inc., 100 Skiff St., Box 4372, Hamden, Conn.
Elsin Electronic Corp., Eileen Way, Syosset, N.Y. – Pg. 803
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
FXR, Inc., 26–12 Borough Pl., Woodside, N. Y. – Pg. 804
General Communication Co., 677 Beacon St., Boston, Mass.
Gombos, John Co., Inc., 103 Montgomery Ave., Irvington,N. J.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R. I.
Hewlett–Packard Co., 4801R Page Mill Rd., Palo Alto, Calif. – Pg. 810
Itek Corp., 1559 Trapelo Road, Waltham, Mass. – Pg. 806
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn. – Pg. 712
Kearfott, Inc., Microwave Div., Dept. 25C, 14844 Oxnard, Van Nuys, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N. Y.
Ling Systems, Inc., 11949 Vose St., No. Hollywood, Calif.
Litton Industries, Maryland Div., 4900 Calvert Rd., College Park, Md.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Meridan Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microlab, 71 Okner Pkway., Livingston, N. J.
Microtech, Inc., 2975 State St., Hamden, Conn.
Narda Microwave Corp., The, 118–160 Herricks Rd., Mineola, N. Y. – Pg. 823
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N. J.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y. – Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Radar Design Corp., Box 38, Syracuse, N. Y.
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L. I., N. Y. – Pg. 834
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sierra Electronic Corp., 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 748
Systems, Inc., 2326 Diversified Way, Orlando, Fla.
T. E. M., Inc., 71 Okner Pkway., Livingston, N. J. – Pg. 817
Technical Appliance Corp., P. O. Box 38, Sherburne, N. Y.
Telerad Mfg. Corp., 1440 Broadway, New York, N. Y.
Victor, R. F. & Microwave Co., 36 W. Water St., Wakefield, Mass.
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Weinschel Engineering Co., Kensington, Maryland – Pg. 859
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

TUNERS, PERMEABILITY
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Ferrotran Electronics Co., 693 Broadway, New York, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.

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Continental Manufacturing, Inc., 1612 California St., Omaha, Neb.
Crosley Div., Avco Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio
Daven Co., 526 W. Mt. Pleasant Ave., Livingston, N. J.
Dynamic Electronics N. Y., Inc., 87–46 123rd St., Richmond Hill, N. Y.
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Empire Devices Products Corp., 37 Prospect St., Amsterdam, N. Y.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
Hycon Manufacturing Co., 1030 So. Arroyo Pway., P.O. Bin N, Pasadena, Calif.
Itek Corp., 1559 Trapelo Road, Waltham, Mass. – Pg. 806
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Jones, M. C. Electronics Co., Inc., 185 N. Main St., Bristol, Conn. – Pg. 712
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Lewyt Mfg. Corp., 43–22 Queens St., Long Island City, N. Y.
Mallory, P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Oak Manufacturing Co., 1260 N. Clybourn, Chicago 10, Ill.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radio Kits, Inc., 120 Cedar St., New York, N. Y.
Sarkes Tarzian, Broadcast Equipt. Div., E. Hillside Drive, Bloomington, Ind.
Sickles, F. W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.
Sierra Electronic Corp., 5442 E. Bohannon Dr., Menlo Park, Calif. – Pg. 748
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Elsin Electronic Corp., Eileen Way, Syosset, N.Y. – Pg. 803
Emerson Radio Corp., Govt. Electr. Div., 1140 East West Hway., Silver Spring, Md.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
JFD Electronics Corp., 1462 62nd St., Brooklyn, N. Y.
Lyndon Aircraft, Inc., 140 Clifford St., Newark, N. Y.
Maxson, W. L. Corp., 475 Tenth Ave., New York, N. Y.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Polarad Electronics Corp., 43–20 34th St., Long Island City, N.Y. – Pgs. 825, 828
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Sequoia Wire & Cable, Div. Mandrel, Ind., 2950 N. Ontario St., Burbank, Calif.
Sickles, F.W. Div., General Instrument Corp., 165 Front St., Chicopee, Mass.

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TUNGSTEN – SEE METALS

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Canadian Marconi Co., 2442 Trenton Ave., Montreal, Canada
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Ercona Corp., Electro. Div., 16 W. 46th St., New York, N. Y.
Fairchild Recording Equip Co., 10–40 45th Ave., Long Island City, N.Y.
Garrard Sales Corp., 80 Shore Rd., Port Washington, N. Y.
Intersearch, Inc., 7 Arcadia Place, Cincinnati, Ohio
Q. R. K. Electronic Prods., 445 No. Circle Dr., Fresno, Calif.
Radio Corp. Of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Rek–O–Kut Co., 38–19 108th St., Corona, N.Y.
Rockbar Corp., 650 Halstead Ave., Mamaroneck, N. Y.
Scott, Hermon Hosmer, Inc., 111 Powdermill Road, Maynard, Mass.
Simpson, Mark Mfg. Co., Inc., 32–28 49th St., Long Island City, N. Y.
Sorenson Industrial Elect., Route 10, Dover, N. J.
Stromberg–Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y.
Thorens Co., Thorens & Atlantic Aves., New Hyde Park, N. Y.
Weathers Industries, Div. Advanced Industries, 66 E. Gloucester, Barrington, N. J.

ULTRASONIC EQUIP. – SEE AMPLIFIERS, ANALYZERS, CLEANERS, CONTROLS, ETC.

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Black Light Eastern Corp., 201–04 Northern Blvd., Bayside, N.Y.
Black Light Products, Inc., 53 W. Jackson Blvd., Chicago 4, Ill.
Block Associates, Inc., 37 Sherman St., Cambridge, Mass.
Dallons Laboratories, Inc., 5066 Santa Monica Blvd., Los Angeles, Calif.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Gates, George W. & Co., Hempstead Tpke. & Lucille Ave., Franklin Square, N. Y.
Kruger, Harold Instruments, Box 164, San Gabriel, Calif.
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Menlo Research Lab., 538 Whelan Ave., San Jose, Calif.
Perkin–Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn.
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Spectra Electronics Corp., Div. Douglas Microwave, 250 E. 3rd St., Mt. Vernon, N. Y.
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Sperti–Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J.
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Stroblite Co., 75 W. 45 St., New York, N. Y.
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Bendix Aviation Corp., Red Bank Div., Eatontown, N. J.
Central Electronic Mfgrs. Inc., 2 Richwood Pl., Denville, N. J.
Central Scientific Co., 1700 Irving Park Rd., Chicago, Ill.
Central Scientific Co. of Canada, 146 Kendal Ave., Toronto, Canada
Consolidated Electrodynamics Corp., 300 N. Sierra Madre Villa, Pasadena, Calif.
Consolidated Electrodynamics Corp., 1775 Mt. Read Blvd., Rochester, N. Y.
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Electric Hotpack Co., Cottman Ave. & Melrose St., Philadelphia, Pa.
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Sinclair Mfg. Co., Chartley, Mass.
Star Stainless Screw Co., 655 Union Blvd., Totowa, N.J.
Stover Co. Inc., The, 41 No. Saxon Ave., Bay Shore, N.Y.
Sterling Bolt Co., 363-405 W. Erie St., Chicago, Ill.
Stimpson Co. Inc., 74 Franklin Ave., Brooklyn, N.Y.
Techniques, Inc., 52 Jackson Ave., Hackensack, N.J.
Tricon Mfg. Co., 8012 S. Wallace St., Chicago, Ill.
U.S. Engrg. Co., Components Div., Litton Ind., 5873 Rodeo Rd., Los Angeles, Calif.
United-Carr Fastener Corp., 31 Ames St., Cambridge, Mass.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Waldom Electronics, Inc., 4625 W. 53rd St., Chicago, Ill.–Pg. 644
Walsco Electronics Mfg., Div. Textron, 3225 Exposition Pl., Los Angeles, Calif.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wilmington Fibre Specialty Co., New Castle, Del.
Wrought Washer Mfg. Co., 2252 South Bay St., Milwaukee, Wisc.

WAVEGUIDE–COAX ADAPTERS ..... **Pgs. 796, 798–800, 804, 810, 820, 823, 830, 834**
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island, N.Y. – Pg. 796
Demoray–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
Douglas Microwave, 252 E. Third St., Mt. Vernon, N.Y.–Pg. 800
FXR, Inc., 26-12 Borough Pl., Woodside, N.Y.–Pg. 804
Hewlett-Packard Co., 4801 N. Page Mill Rd., Palo Alto, Calif.–Pg. 810
Narda Microwave Corp., 118-160 Henricks Ave., Mineola, N.Y.–Pgs. 820,823
Portchester Instr. Corp., 114 Wilkens Ave., Port Chester, N.Y. – Pg. 830
Radar Measurements Corp., 190 Duffy Ave., Hicksville, L.I., N.Y.–Pg. 834

WAVEGUIDES, FLEXIBLE
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Andrew California Corp., 941 S. Marylind Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Co-Op Industries, Inc., 100 Oakdale Rd., Chester, N.J.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Technicraft Labs. Inc., Thomaston-Waterbury Road, Thomaston, Conn.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.

WAVEGUIDES, RIGID ..... **Pgs. 455, 798, 799, 814, 830, 831, 836, 837**
Aircom, Inc., 354 Main St., Winthrop, Mass.
Aircom, Inc., 139 East First Ave., Roselle, N.J.
Airtron, Inc., Div. Litton Industries, 200 E. Hanover Ave., Morris Plains, N.J.
Allied Res. & Engrg. Div., Allied Record, 6916 Santa Monica Bd., Hollywood, Cal.
Andrew California Corp., 941 S. Maryland Ave., Claremont, Calif.
Andrew Corp., 363 East 75th St., Chicago, Ill.
Budd–Stanley Co., Inc., 43–01 22nd St., Long Island City, N.Y.
Cardwell Condenser Corp., The, Hultenius St., Plainville, Conn.
Central Electronic Mfrs. Inc., 2 Richwood Pl., Denville, N.J.
Chemalloy Electronics Co., Gillespie Airport, Santee, Calif.
Co-Op Industries, Inc., 100 Oakdale Rd., Chester, N.J.
Danbury Knudson, Div. Amphenol Electric, Box 148, Thorpe St., Danbury, Conn.
Demornay-Bonardi Corp., 780 S. Arroyo Pkway, Pasadena, Calif.–Pgs. 798,799
Diamond Antenna & Microwave Corp., 7 North Ave., Wakefield, Mass.
Dittmore-Freimuth Corp., 2517 E. Horwich St., Milwaukee, Wisc.
Douglas Microwave Co., 252 E. Third St., Mt. Vernon, N.Y.
Elsin Electronic Corp., Eileen Way, Syossett, N.Y.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Federal Mfg. & Engrg. Co., 1055 Stewart Ave., Garden City, N.Y.
GB Electronics Corp., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N.Y.
Gombos, John Co. Inc., 103 Montgomery Ave., Irvington, N.J.
Gorham Manufacturing Co., 333 Adelaide Ave., Providence, R.I.
I-T-E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa.
J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Kearfott Co. Inc., Little Falls , N.J.
Kearfott, Inc., Microwave Div., Dept. 25 C, 14844 Oxnard, Van Nuys, Calif.–Pg. 814
Kennedy, D. S. & Co., Cohasset, Mass.
Kent, F.C. Corp., 135 Manchester Pl., Newark, N.J.
Lambda-Pacific Eng., Inc., 14725 Arminta St., P.O. Box 70, Van Nuys, Calif.
Lieco, Inc., 3610 Oceanside Rd., Oceanside, N.Y.
Ling Systems Inc., 11949 Vose St., No. Hollywood, Calif.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Metal Fabricators Corp., 63 Pond St., Waltham 54, Mass.
Microtech, Inc., 2975 State St., Hamden, Conn.
Microwave Development, 92 Broad St., Babson Pk., Wellesley, Mass.–Pg. 818
Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif.
Narda Microwave Corp., 118-160 Herricks Rd., Mineola, N.Y.
N.R.K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Nicholas Prods. Co., 325 W. Main St., Moorestown, N.J.
Omega Laboratories, Inc., Box 308, Rowley, Mass.
Pabst Engrg. Eqpt., Co., 677 Pennsylvania Ave., Elizabeth, N.J.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N.Y.–Pg. 830
Premier Instrument Corp., 33 New Broad St., Port Chester, N.Y. – Pg. 831
Radiatronics, Inc., 5956 Kester Ave., Van Nuys, Calif.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15-1, Camden, N.J.
Technical Appliance Corp., P.O. Box 38, Sherburne, N.Y.–Pg. 455
Technicraft Labs. Inc., Thomaston-Waterbury Road, Thomaston, Conn.
Telerad Mfg. Corp., 1440 Broadway, New York, N.Y.
Uniwave, Inc., Grand & Marine Sts., Farmingdale, N.Y.–Pg. 836
Voi-Shan Electronics, 13259 Sherman Way, N. Hollywood, Calif.
Walworth Co., Electronics Div., 89 Union St., Mineola, L.I., N.Y.
Washington Aluminum Co. Inc., Knecht Ave. & Penna, R.R., Baltimore 29, Md.
Waveline, Inc., Box 718, W. Caldwell, N.J.–Pg. 837

WAX – SEE INSULATING COMPOUNDS

WEATHERSTRIP, ELECTRONIC ..... **Pgs. 474, 477–479**
Metal Textile Corp., 647 E. First Ave., Roselle, N.J.–Pg. 474
Schuyler Mfg. Corp., 84 Porette Ave., N. Arlington, N.J. – Pg. 477
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N.J. – Pgs. 478, 479

WELDING EQUIP. & ACCESS. ALSO SEE CONTROLS, WELDING & TIMERS, WELDING–ELECTRONIC ..... **Pgs. 962, 966**
Aeroprojects, Inc., 310E. Rosedale Ave., West Chester, Pa.
All-State Welding Alloys Co. Inc., 249 Ferris Ave., White Plains, N.Y.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Brasing Alloys Co., P.O. Box 11, Pelham, N.Y.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Boesch Mfg. Co. Inc., 45 River St., Danbury, Conn.
D & R Plastic Welders, Inc., Hazardville, Conn.
Dalweld Co. Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Eisler Engineering Co. Inc., 750 South 13th St., Newark, N.J.
Ewald Instruments, Route 7–R, Kent, Conn.
Federal Tool Engrg., Inc., 1386 Pompton Ave., Cedar Grove, N.J.
General Scientific Equip. Co., 7516 Limekiln Pike, Philadelphia, Pa.
Hobart Bros., Hobart Square, E. Troy, Ohio
Intercontinental Electronics Corp., 1551 Franklin Ave., Mineola, N.Y.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Kahle Engineering Co., 3326 Hudson Ave., Union City, N.J.–Pg. 962
Linde Co., Crystals Dept., Div. Union Carbide, 300 Madison Ave., New York, N.Y.
Mallory P.R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind.
Metal & Thermit Corp., Rahway, N.J.
Milburn, Alexander Inc., 403 Penn St., Baltimore, Md.
Miller Electric Mfg. Co., 718 S. Bounds, Appleton, Wisc.
Peer, Inc., P.O. Box 697, Benton Harbor, Mich.
Photocon Research Products, Box 5485, 421 N. Altadena Dr., Pasadena, Calif.
Raytheon, Indl. App. Div., Production Al paratus Prod., Dept. 6120MC, Waltham, Mass.
Sciaky Bros. Inc., 4915 W. 67th St., Chicago, Ill.
Scientific Electric, Inc., 105-119 Monroe St., Garfield, N.J.
Scientific Engineering Laboratory, 1510-6th St., Berkeley 10' Calif.
Servomechanisms, Canada Ltd., Rexdale Blvd. & Kipling Ave., Toronto, Can.
Taylor-Winfield Corp., 1056 Mahonig, N.W., Warren, Ohio
Tempil Corp., 132 W. 22nd St., New York, N.Y.
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
Titan Metal Mfg. Co., Bellefonte, Pa.
Transformer Design, Inc. of Milwaukee, 7377 N. 76 St., Milwaukee, Wisc.
Trindl Prods., Ltd., 1807 S. Clark St., Chicago, Ill.
Vacuum Tube Products, Co., 2020 Short St., P.O. Box 810, Oceanside, Calif.
Vickers, Inc., Electric Div., 1825 Locust St., St. Louis, Mo.
Weldmatic Div. Unitek, 375 N. Halsted Ave., Pasadena, Calif.–Pg. 966
Weltronic Co., 19500 W. 8 Mile Rd., Detroit, Mich.

WELDING SERVICES – SEE SERVICES, WELDING

WINDINGS, TRANSFORMERS, COILS, POTENTIOMETERS, ETC ..... **Pg. 827**
AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif.
American Electronics Co., 81 Lowry Ave., N. E., Minneapolis, Minn.
American Rectifier Corp., 95 Lafayette St., New York, N.Y.
Boesch Mfg. Co., Inc., 45 River St., Danbury, Conn.
Brys Instrument Co., 7026 Sixth Ave., Brooklyn, N.Y.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
EMP Electronics, Res. Labs. Inc., 1940 E. Buchanan St., Phoenix, Ariz.
Essex Electronics, Berkeley Heights, N.J.
Essex Wire Corp., Magnetic Windings Div., Freemansburg Ave., Easton, Pa.
Ferranti Electric, Inc., Transformer Div., 30 Main St., Brooklyn, N.Y.
Geotronic Labs. Inc., 1314 Cedar Hill Ave., Dallas, Texas
Grinnell–Harris Electronics, Inc., 4130 Temple City Blvd., Rosemead, Calif.
Holiday Transformer Co., 2954 N. Sheffield Ave., Chicago, Ill.
Industrial Winding Machinery Corp., 120 Wall St., New York, N. Y.
Johnson Electronics, Inc., P. O. Box 1675, Casselberry, Fla.
Knopp, Inc., 1307 66th St., Oakland, Calif.
Lee Electric, Inc., 566 52nd St., W. New York, N. J.
Leonard Electric Products, 67 34th St., Brooklyn, N. Y.
National Coil Co., P. O. Box 1237, Sheridan, Wyo.
Opad Electric Co., 69–12 Murray St., New York, N. Y.
Polard Electronics Corp., 43–20 34th St., L. I. City, N. Y. – Pg. 827

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Precise Measurements Co., Millbrook Pl., RD 1, Flemington, N. J.
Ram Electronics Co., 600 Industrial Ave., Paramus, N. J.
Rollan Electric Co., 8233 S. Princeton Ave., Chicago, Ill.
Skysweeper, Inc., Mchenry, Ill.
Technical Apparatus Builder, 109 Liberty St., New York, N. Y.
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Transformer Design, Inc. of Milwaukee, 7377 N. 76th St., Milwaukee, Wisc.
Weymouth Instrument Co., 1440 Commercial St., E. Weymouth, Mass.

WINDINGS, PRESSURIZING ..... **Pgs. 1145, 1148**
Bomac Laboratories, Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1148

WINDOWS, WAVEGUIDE ..... **Pgs. 798, 799, 827, 832, 833, 1145, 1148**
Anton Electronic Labs., 1226 Flushing Ave., Brooklyn, N. Y.
Bomac Laboratories, Inc., Salem Rd., Beverly, Mass. – Pgs. 1145, 1148
Central Electronic Mfrs., Inc., 2 Richwood Pl., Denville, N. J.
Demornay–Bonardi Corp., 780 S. Arroyo Pkway., Pasadena, Calif. – Pgs. 798, 799
J–V–M Microwave Co., 9300 W. 47th St., Brookfield, Ill.
Linde Co., Crystals Dept., Div. Union Carbide, 300 Madison Ave., New York, N. Y.
Meller, Adolf, Co., 387 Charles St., P. O. Box 702, Providence, R. I.
Meridian Metalcraft, Inc., 8739 S. Millergrove Dr., Whittier, Calif.
Microtech, Inc., 2975 State St., Hamden, Conn.
N. R. K. Mfg. & Engineering, 4601 W. Addison St., Chicago, Ill.
Polard Electronics Corp., 43–20 34th St., L. I. City, N. Y. – Pg. 827
Polymica & Insulation Co., 683 Main St., Willimantic, Conn.
Portchester Instrument Corp., 114 Wilkins Ave., Port Chester, N. Y.
Premier Instrument Corp., 33 New Broad St., Port Chester, N. Y.
Sage Laboratories, Inc., 159 Linden St., Wellesley, Mass.
Spruce Pine Mica Co., Spruce Pine, N. C.
Sylvania Elec. Prods., Special Tube Opns., 500 Evelyn, Mountain View, Cal. – Pgs. 832, 833
Techniques, Inc., 52 Jackson Ave., Hackensack, N. J.
Telerad Mfg., Corp., 1440 Broadway, New York, N. Y.
Uniwave, Inc., 109 Marine St., Farmingdale, N. Y.

WIRE, ALUMINUM ALSO SEE CABLES ..... **Pgs. 1186, 1187, 1189, 1190, 1206–1208**
All–State Welding Alloys Co., Inc., 249 Ferris Ave., White Plains, N. Y.
Alprodco, Inc., P. O. Box 4974, Memphis, Tenn.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
Aluminum Mfg., Co., 1629 Portland Ave., Louisville, Ky.
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Belden Mfg., Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brookfield Wire Co., Inc., Brookfield, Mass.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Associated Co., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Cooper & Sons, Inc., 180 Varick St., New York, N. Y.
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Electric Auto–Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Harvey & Co., 41–18 38th St., L. I. City, N. Y.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Modern Wire Co., 39–30 Review Ave., L. I. City, N. Y.
Molecu–Wire Corp., Eatontown–Freehold Pike, Scobeyville, N. J.
Nesor Alloy Products Co., 282 Halsey St., Newark, N. J.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Paul, F. H. & Stein Bros., Inc., 235 5th Ave., New York, N. Y.
Permaluster, Inc., 2012 W. Burbank, Burbank, Calif.
Rea Magnet Wire Co., Inc., East Pontiac St., Fort Wayne, Ind.
Reliance Div., Eaton Mfg. Co., 25 Charles Ave., S. E., Massillon, Ohio
Reynolds Metals Co., 3rd & Grace Sts., Richmond, Va.
Roeblin's, John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Secon Metals Corp., 7 Intervale St., White Plains, N. Y.
South River Metal Products Co., 377–379 Turnpike, South River, N. J.
Southwire Co., 4 Fortilla St., Carrollton, Ga.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Superior Cable Corp., P. O. Box 480–A, Hickory, N. Car. – Pg. 1208
Suprenant Mfg., Co., 172 Sterling St., Clinton, Mass.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.

WIRE, ANNUNCIATOR, BELL – SEE WIRE COPPER

WIRE, ANTENNA .. **Pgs. 1179–1181, 1183, 1186, 1187, 1189, 1190, 1200–1204, 1206–1208, 1210–1212**
A–K Mfg., Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
All–Channel Products Corp., 47–39 49th St., Woodside, N. Y.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pgs. 1179, 1180, 1181, 1183
Alprodco, Inc., P. O. Box 4974, Memphis, Tenn.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldgs., Cleveland, Ohio
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Amphenol–Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Belden Mfg., Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Bergen Wire Rope Co., 458 Gregg St., Lodi, N.J.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Calcon Mfg., Co., Inc., 100 Oakland Ave., Washington, Pa.
Chester Cable Corp., Hill St., Chester, N. Y.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Associated Co., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Cornish Wire Co., 50 Church St., New York, N. Y.
Crown Metal Products Co., Wyano, Pa.
Crucible Steel Co. of Amer., Oliver Bldg. – P. O. Box 88, Mellon Sq., Pittsburgh, Pa
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Hackensack Cable Corp., 110 Orchard St., Hackensack, N. J.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Judd Wire Mfg., Corp., Turners Falls, Mass.
Levington Mfg., Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Modern Wire Co., 39–30 Review Ave., L.I. City, N. Y.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Philco Corp., Accessory Div., P. O. Box 3635, Phila., Pa.
Plastoid Corp., 42–61 24th St., L.I. City, N.Y. – Pgs. 1200–1204
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R.I.
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Spargo Wire Co., Railroad St., Rome, N. Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Superior Cable Corp., P. O. Box 480–A, Hickory, N. Car. – Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y. – Pg. 1212
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. – Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R.I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, ASBESTOS INSULATED ..... **Pgs. 1189, 1190, 1200–1204, 1207**
American Steel & Wire Div., US Steel Corp., Rockfeller Bldg., Cleveland, Ohio
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Belden Mfg., Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Blake, Whitney Co., New Haven, Conn.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Circle Mfg., Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Associated Co., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Cornish Wire Co., 50 Church St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver, Wilbur B. Co., 1875 McCarter Hwy., Newark, N. J.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Plastoid Corp., 42–61 24th St., L. I. City, N. Y. – Pgs. 1200 – 1204
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Revere Corp. of America, Wallingford, Conn.
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Saxton Products, Inc., 4320 Park Ave., New York, N.Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, BERYLLIUM COPPER ..... **Pgs. 1190, 1207**
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brookfield Wire Co., Inc., Brookfield, Mass.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Consolidated Wire & Associated Co., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Driver, Wilbur B., Co., 1875 McCarter Hway., Newark, N. J.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Nesor Alloy Products Co., 282 Halsey St., Newark, N. J.
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.

WIRE, BRAID ..... **Pgs. 1179–1181, 1183, 1185–1187, 1195, 1198, 1199, 1207**
A–K Mfg., Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pgs. 1179–1181, 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Associated American Trading Div., 750 St. Anns Ave., New York, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Belden Mfg., Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Calcon Mfg., Co., Inc., 100 Oakland Ave., Washington, Pa.
Chester Cable Corp., Hill St., Chester, N. Y.
Circle Mfg., Co., 720 Monmouth St., P. O. Box 591, Trenton, N. J.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Dielectric Materials Co., 5315–17 N. Ravenswood Ave., Chicago, Ill.
Electric Auto–Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Judd Wire Mfg., Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lenz Electric Mfg., Co., 1751 N. Western Ave., Chicago, Ill. – Pg. 1195
National–Standard Co., Niles, Mich.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N. J.
New England Electrical Works, Inc., Lisbon, N. H.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207

WIRE, BRAID (continued)
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main St., W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, BRASS ..... Pg. 1207
American Brasing Alloys Co., P. O. Box 11, Pelham, N. Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N. Y.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Modern Wire Co., 39–30 Review Ave., L. I. City, N. Y.
Nesor Alloy Products Co., 282 Halsey St., Newark, N. J.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Reliance Div., Eaton Mfg., Co., 25 Charles Ave., S. E., Massillon, Ohio
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Titan Metal Mfg., Co., Bellefonte, Pa.
United Wire & Supply Corp., 1497 Elmwood Ave., Providence, R. I.

WIRE, CATS WHISKERS
Cooper & Sons, Inc., 180 Varick St., New York, N. Y.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
Mackay, A. D., Inc., 198 Broadway, New York, N. Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, CERAMIC INSULATED ..... Pgs. 1192, 1206, 1207
Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
Alite Div., U. S. Stoneware Co., Box 119, Orville, Ohio
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
National Beryllia Corp., 4501 Dell Ave., N. Bergen, N. J.
Radio Corp. of America, Indl. Elctrn. Prods., Front & Cooper, Bl. 15–1, Camden, N. J.
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.
Secon Metals Corp., 7 Intervale St., White Plains, N. Y.
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, COPPER, BARE – SEE WIRE, COPPER

WIRE, COPPER–CLAD ..... Pgs. 785, 1186, 1187, 1190, 1198, 1199, 1205–1207
American Silver Co., 36–07 Prince St., Flushing, N. Y.
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Brookfield Wire Co., Inc., Brookfield, Mass.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Consolidated Wire & Asso'd. Cos., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Crown Metal Products Co., Wyano, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Electric Auto–Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electronic Parts Mfg., Co., Inc., 508–10 25th St., Union City, N. J.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N. J.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
National–Standard Co., Niles, Mich.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N. J.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Rex Corp, The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Reynolds Wire Div., National Standard Co., Dixon, Ill.
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Southwire Co., 4 Fortilla St., Carrollton, Ga.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, COPPER – BARE, ENAMELED, INSULATED .. Pgs. 785, 1179–1181, 1183–1187, 1189, 1190, 1192, 1193, 1195, 1196, 1198, 1199, 1200, 1204–1212
A–K Mfg., Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pgs. 1179, 1180, 1181, 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., U. S. Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Ames Mfg., Corp., 4320 Park Ave., Bronx, N. Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Ansonia Wire & Cable Co., The, 111 Martin Street, Ashton, R. I.
Apex Wire & Cable Corp., 237 37th St., Brooklyn, N. Y.
Asco Wire & Cable Co., The, 2 Burroughs St., Bridgeport, Conn.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
B. & B. Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N. J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
Bram Metallurgical–Chemical Co., 820–65th Ave., Philadelphia, Pa.
Cable Designs, Inc., 66 Rushmore St., Westbury, N. Y.
Calcon Mfg., Co., Inc., 100 Oakland Ave., Washington, Pa.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Chemplast, Inc., 3 Central Ave., E. Newark, N. J.
Chester Cable Corp., Hill St., Chester, N. Y.
Circle Mfg. Co., 720 Monmouth St. – P. O. Box 591, Trenton, N. J.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Cornish Wire Co., 50 Church St., New York, N. Y.
Delta Chemical Works, 21 W. 60th St., New York, N. Y.
Dielectric Materials Co., 5315–17 N. Ravenswood Ave., Chicago, Ill.
Eagle Electric Mfg. Co., 23–10 Bridge Plaza So., Long Island City, N. Y.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electric Auto–Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Electric Auto–Lite Co., The, Champlain St., Toledo, Ohio
Electric Parts Corp., Box 234, Georgetown, Ky.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York, N. Y.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
General Electric Co., Wiring Device Dept., 95 Hathoway St., Providence, R. I.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
Hallett Mfg., Co., 5910 Bowcroft St., Los Angeles, Calif.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N. J.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N. Y. – Pg. 1192
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. – Pg. 785
Inca Mfg., Div. Phelps Dodge Copper Prod., 4400 New Haven Ave., Ft. Wayne, Ind.
Inso Electronic Prods., Inc., Wire & Cable Div., 1200 Commerce Ave., Union, N.J. – Pg. 1193
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Kerrigan Lewis Mfg. Co., 4421 W. Rice St., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill. – Pg. 1195
Leviton Mfg., Co., Inc., 236 Greenpoint Ave., Brooklyn, N. Y.
Markel, L. Frank & Sons, Norristown, Pa. – Pg. 1196
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Modern Wire Co., 39–30 Review Ave., Long Island City, N. Y.
Molecu–Wire Corp., Eatontown–Freehold Pike, Scobeyville, N. J.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
New England Electrical Works, Inc., Lisbon, N. H.
Okonite Co., The, 220 Passaic St., Passaic, N. J.
Pacific Electricord Co., 3217 Exposition Pl., Los Angeles, Calif.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N. Y.
Plastoid Corp., 42–61 24th St., L. I. City, N. Y. – Pgs. 1200–1204
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Rea Magnet Wire Co., Inc., East Pontiac St., Fort Wayne, Ind.
Rego Insulated Wire Co., 830 Monroe St., Hoboken, N. J.
Revere Corp. of America, Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. – Pg. 1205
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N. Y.
Roebling's, John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N. Y.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Sanders Associates, Inc., 95 Canal St., Nashua, N. H.
Saxton Products, Inc., 4320 Park Ave., Bronx, N. Y. – Pg. 1206
Sequoia Wire & Cable, Div. Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Slepian, Arthur & Co., 2 Burroughs St., Bridgeport, Conn.
Southwire Co., 4 Fortilla St., Carrollton, Ga.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Superior Cable Corp., P. O. Box 480–A, Hickory, N. Car. – Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N. Y.
Surprenant Mfg., Co., 172 Sterling St., Clinton, Mass.
Tape Cable Corp., 790 Linden Ave., Rochester, N. Y. – Pg. 1209
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N. Y. – Pg. 1212
Thermal Wire of America, Keelers Bay, So. Hero, Vermont
Thermax Wire Corp., 304 E. 45th St., New York, N. Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. – Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N. J.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

WIRE, ENAMELED – SEE WIRE, COPPER

WIRE, FLAT, FILM INSULATED ..... Pgs. 1027, 1192, 1196, 1205, 1209, 1212
Hitemp Wires, Inc., 1200 Shames Dr., Wesbury, N.Y. - Pg. 1192
International Resistance Co., 401 N. Broad St., Phila., Pa. – Pg. 1027
Methode Mfg. Corp., 7447 W. Wilson Ave., Chicago, Ill. - Pg. 1196
Modern Adhesives & Electronics, Inc., 131 Allen Blvd., Farmingdale, N. Y.
Permaluster, Inc., 2012 W. Burbank, Burbank, Calif.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. - Pg. 1205
Tape Cable Corp., 790 Linden Ave., Rochester, N. Y. – Pg. 1209
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212

WIRE, FUSE ..... Pg. 1079
Alpha Metals, Inc., 56 Waters St., Jersey City, N.J.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
Bussmann Mfg. Div., Mc Graw-Edison Co., University At Jefferson, St. Louis, Mo. - Pg. 1079
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N.J.
National-Standard Co., Niles, Mich.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Spargo Wire Co., Railroad St., Rome, N.Y.

WIRE, GLASS INSULATED ... Pgs. 1184–1187, 1189, 1190, 1192, 1198, 1199, 1206, 1207, 1210–1212
A-K Mfg., Co., Inc., 115 S. Northwest Hway., Barrington, Ill.
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. - Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N.Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N.Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Bache, Semon & Co., 636 Greenwich St., New York, N. Y.

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Belden Mfg., Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y. - Pgs. 1186, 1187
Cable Desidgns, Inc., 66 Rushmore St., Westbury, N.Y.
Chester Cable Corp., Hill St., Chester, N.Y.
Circle Mfg. Co., 720 Monmouth St., P. O. Box 591, Trenton 4, N.J.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. – Pg. 1189
Consolidated Wire & Assoc. Companies, 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Cornish Wire Co., 50 Church St., New York, N.Y.
Driver-Harris Co., 201 Middlesex St., Harrison, N.J.
Driver, Wilbur B. Co., 1875 McCarter Hway., Newark, N.J.
Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St. Port Huron, Mich.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Essex Wire Corp., The, 601 Wall St., Fort Wayne, Ind.
Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York, N. Y.
Gavitt Wire & Cable Co., Div., of Amerace Corp., Brookfield, Mass.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y. - Pg. 1192
Jefferson Wire & Cable Corp., Pleasant Valley Rd., Sutton, Mass.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kerrigan Lewis Mfg. Co., 4421 W. Rice St., Chicago, Ill.
Molecu-Wire Corp., Eatontown-Freehold Pike, Scobeyville, N.J.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phelps Dodge Copper Prods., Co., 300 Park Ave., New York, N. Y.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Revere Corp of America, Wallingford, Conn.
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Rome Cable Corp., 421 Ridge St., Rome, N.Y.
Saxton Products, Inc., 4320 Park Ave., Bronx, N.Y. - Pg. 1206
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. – Pgs. 1210, 1211
Topper Mfg., Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

WIRE, GOLD PLATED ..... **Pgs. 1198, 1199, 1210, 1211, 1212**
Bishop, J & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical-Chemical Co, 820-65th Ave., Philadelphia, Pa.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N.Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cooper & Sons, Inc., 180 Varick St., New York, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston, Mass.
Elmet Div., North American Phillips Co., Lisbon Rd., Lewiston, Me.
Improved Seamless Wire Co., 775 Eddy St., Providence, R. I.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N.J.
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Thermionic Products Co., Interhaven Ave., Plainfield, N.J.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. – Pgs. 1210, 1211
United Mineral & Chem., Corp., 16 Hudson St., New York, N.Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.

WIRE, GUY ..... **Pgs. 1186, 1187, 1198, 1199, 1206**
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ames Mfg., Corp., 4320 Park Ave., Bronx, N.Y.
Bergen Wire Rope Co., 458 Gregg St., Lodi, N.J.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y. - Pgs. 1186, 1187
Calcon Mfg. Co., Inc., 100 Oakland Ave., Washington, Pa.
Channel Master Corp., Ellenville, N.Y.
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Crown Metal Products Co., Wyano, Pa.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Modern Wire Co., 39-30 Review Ave., Long Island City, N.Y.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Roebling's, John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Saxton Products, Inc., 4320 Park Ave., Bronx, N.Y. - Pg. 1206
South River Metal Products Co., 377-379 Turnpike, South River, N.J.
Southwire Co., 4 Fortilla St., Carrollton, Ga.
Spargo Wire Co., Railroad St., Rome, N.Y.
Utilities Service Co., 1 Pine St., Allentown, Pa.
Wright, G. F. Steel & Wire Co., 243 Stafford St., Worcester, Mass.

WIRE, HARNESSES ..... **Pgs. 1185–1187, 1189, 1190, 1192, 1194, 1196, 1198, 1199, 1205, 1207, 1210, 1211**
A–K Mfg., Co., Inc., 115 S. Northwest Hway., Barrington, Ill.
Allied Allegri Machine Co., Inc., 141 River Road, Nutley, N.J.
Alpha Wire Corp., 200 Varick St., New York, N.Y.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
Ampco Mfg., Co., 9 Kiver St., Morristown, N. J.
Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Beckley Electric Co., 468 Grand Ave., Brooklyn, N.Y.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Bendix Aviation Corp., Scintilla Div., Sidney, N.Y.
Berkshire Electric Cable, Leeds, Mass.
Bernco Engineering Corp., P. O. Box 41037, Indianapolis, Ind.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bliss Electronic Corp., Box 366, Sussex, N.J.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Cadre Industries Corp., Box 150, Endicott, N.Y.
Cannon Electric Co., Dept. 1000, 3208 Humboldt St., Los Angeles, Calif.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Coils-Electronics Co., 2939-49 N. 2nd St., Philadelphia, Pa.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. - Pg. 1189
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
Consolidated Wire & Assod. Cos., 16355 S. Clinton St., Chicago, Ill. – Pg. 1190
Cornish Wire Co., 50 Church St., New York, N.Y.
Detronic Industries, 33840 Plymouth Rd., Livonia, Mich.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electri–Wire Assemblies Co., 700 W. Virginia St., Milwaukee, Wisc.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electric Parts Corp., Box 234, Georgetown, Ky.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
Electronic Cable Corp., 615 Somerville Ave., Somerville, Mass.
Electronic Production & Development, Inc., 138 Nevada St., El Segundo, Calif.
Electronics, Inc. of Pa., 39 York Rd., Willow Grove, Pa.
Electrovert, Inc., 124 E. 40th St., New York, N.Y.
Empire Electronics Co., Inc., 166 River St., Paterson, N.J.
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Lab., Assoc., Inc., 17 E. Railroad St., Norwich, N.Y.
Genistron, Inc., 2301 Federal Ave., Los Angeles, Calif.
H. & S. Wire Cutting Services, Inc., 24 E. 21 St., New York, N.Y.
Hallett Mfg., Co. 5910 Bowcroft Street, Los Angeles 16, California
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N.J.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Dela.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y. - Pg, 1192
Houlihan Co., T. J., 2510 W. Lawrence, Chicago 25, Ill.
Industrial Wiring & Cable Co., 103 Foundry St., Wakefield, Mass.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Kasson Die & Motor Corp., 34-08 Northern Blvd., L. I. City, N.Y.
Keisers Industries, Inc., Laumau St., Mt. Holly, Springs, Pa.
Kupfrian Mfg. Corp., 363 State St., Binghamton, N.Y. - Pg. 1194
Lear, Inc., 3171 S. Bundy Dr., Santa Monica, Calif.
Manger Electric Co., Miller St., Stamford, Conn.
Mercury Engrg. Corp., 339 E. Cottage Pl., York, Pa.
Methode Mfg., Corp., 7447 W. Wilson Ave., Chicago, Ill. – Pg. 1196
Miller Electric Co., 120 Main St., Pawtucket, R. I.
Modelectric Products Corp., 1500 Bangs Ave., Asbury Park, N.J.
Morton Electronics, Tenth St. & Horton Ave., Chester, Pa.
Mutron Corp., 125 Perkins Ave., Brockton, Mass.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Nelson Instrument Co., 607 Howard St., Evanston, Ill.
North Electric Co., 553 S. Market St., Galion, Ohio
Pacific Automation Prods., Inc., 1000 Airway, Glendale, Calif.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Paraplegics Mfg. Co., Inc., 10068 Franklin Ave., Franklin Park, Ill.
Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Republic Electronic, Industries Corp., 111 Gazza Blvd., Farmingdale, N.Y.
Revere Corp. of America, Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. - Pg. 1205
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N.Y.
Rowe Industries, 1702 Wayne St., Toledo, Ohio
Sag Harbor Industries, Inc., Bay St., Sag Harbor, N.Y.
Sanders Associates, Inc., 95 Canal St., Nashua, N.H.
Sangamo Electric Co., 1207 N. Eleventh St., Springfield, Ill.
Sequoia Wire & Cable, Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Sittler Corp., 18 N. Ada St., Chicago, Ill.
Skysweeper, Inc., McHenry, Ill.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Stocker & Yale, Inc., 40 Green St., Marblehead, Mass.
Suffolk Products Corp., Woodbine & Scudder, Northport, N.Y.
Surprenant Mfg., Co., 172 Sterling St., Clinton, Mass.
Tenatronics, Ltd., 1011 Power Ave., Cleveland, Ohio
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. - Pgs. 1210, 1211
Univox Corp., 102 Warren Street, New York, N.Y.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Wade Electric Products , 400 Jacob St., Sturgis, Mich.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Workman TV, Inc., 309 Queen Anne Rd., Teaneck, N.J.

WIRE, HIGH TEMPERATURE ..... **Pgs. 1179–1181, 1183, 1186, 1187, 1189, 1190, 1196, 1205, 1207, 1210–1212**
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1181, 1183
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y. - Pgs. 1186, 1187
Consolidated Wire & Assoc. Cos., 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Markel, L. Frank & Sons, Morristown, Pa. - Pg. 1196
Permaluster, Inc., 2012 W. Burbank, Burbank, Calif.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. - Pg. 1205
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. - Pgs. 1210, 1211
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212

WIRE, HIGH VOLTAGE ..... **Pgs. 1179–1181, 1183, 1185–1187, 1189, 1190, 1195, 1196, 1198–1207, 1210–1212**
A–K Mfg., Co., Inc., 115 S. Northwest Hwy., Barrington, Ill.
Alpha Wire Corp., 200 Varick St., New York, N.Y. – Pgs. 1179–1181, 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ames Mfg. Corp., 4320 Park Ave., Bronx, N.Y.
Amphenol-Borg Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Amphenol Cable & Wire Div., Harlem Ave. at 63rd St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N.Y.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Bimbach Radio Co., Inc., 145 Hudson St., New York, N.Y. - Pgs. 1186, 1187
Boston Insulated Wire & Cable Co., 65 Bay St., Dorchester, Mass.
Cable Designs, Inc., 66 Rushmore St., Westbury, N.Y.
Calcon Mfg. Co., Inc., 100 Oakland Ave., Washington, Pa.
Carol Cable Co., 20 Central Ave., Pawtucket, R. I.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. - Pg. 1189
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago, Ill.
Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N.J.
International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill.
Judd Wire Mfg. Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill. - Pg. 1195

WIRE, HIGH VOLTAGE (continued)
Leviton Mfg. Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y.
Markel, L. Frank & Sons, Norristown, Pa. - Pg. 1196
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Plastoid Corp., 46-61 24th St., L. I. City, N.Y. - Pgs. 1200, 1204
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Rex Corp., The 100 Hayward Rd., West Acton, Mass. - Pg. 1205
Rhode Island Insulated Wire Co., 50 Brunham Ave., Cranston, R. I.
Roebling's John A. Sons Corp., 640 So. Broad St., Trenton, N. J.
Rome Cable Corp., 421 Ridge St., Rome, N.Y.
Saxton Products, Inc., 4320 Park Ave., Bronx, N.Y. - Pg. 1206
Sequoia Wire & Cable, Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Supa Insulations, Inc., 123 East Bassett St., Rocky Mount, N. C.
Superior, Insulated Wire Co., Washburns La., Stony Point, N.Y.
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. - Pg. 1210, 1211
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, HOOKUP – SEE WIRE, COPPER

WIRE, LITZ ..... **Pgs. 1190, 1198, 1199, 1207**
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt.
Asco Wire & Cable Co., The, 2 Burroughs St., Bridgeport, Conn.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Consolidated Wire & Assod. Cos. 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York, N.Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N.J.
Kerrigan Lewis Mfg. Co., 4421 W. Rice St., Chicago, Ill.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
New England Electrical Works, Inc., Lisbon, N.H.
Slepian, Arthur & Co., 2 Burroughs St., Bridgeport, Conn.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, MAGNET ..... **Pgs. 785, 1184, 1186, 1187, 1190, 1192, 1193, 1207, 1212**
Acme Wire Co., 1255 Dixwell Ave., Hamden, Conn.
Alpha Wire Corp., 200 Varick St., New York, N.Y.
Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh, Pa.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. - Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N.Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N.Y.
Asco Wire & Cable Co., The 2 Burroughs St., Bridgeport, Conn.
Associated American Trading Div., 750 St. Anns Ave., New York, N.Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Belden Mfg. Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N.Y. – Pgs. 1186, 1187
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Cable Designs, Inc., 66 Rushmore St., Westbury, N.Y.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Coleman Cable & Wire Co., 3919 Wesley Ter., Schiller Park, Ill.
Consolidated Wire & Asso., Companies, 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Crucible Steel Co. of Amer., Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Elmet Div., North American Phillips Co., Lisbon Rd., Lewiston, Me.
Essex Wire Corp., The, 1601 Wall St., Fort Wayne, Ind.
Fairbanks Wire Co., Inc., 2287 Hollers Ave., New York, N.Y.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y.- Pg. 1192
Illumitronic Engrg., Co., 680 Taylor Ave., Sunnyvale, Calif. - Pg. 785
Inca Mfg., Div., Phelps Dodge Copper Prod., 4400 New Haven Ave., Ft. Wayne, Ind.
Inso Electronic Prods., Inc., Wire & Cable Div., 1200 Commerce Ave., Union, N.J. - Pg. 1193
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Kerrigan Lewis Mfg. Co., 4421 W. Rice St., Chicago, Ill.
New England Electrical Works, Inc., Lisbon, N.H.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phelps Dodge Copper Prods. Co., 300 Park Ave. ,New York, N.Y.
Rea Magnet Wire Co., Inc., East Pontiac St., Fort Wayne, Ind.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Roebling, S. John A. Sons Corp., 640 So. Broad St., Trenton, N.J.
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Slepian, Arthur & Co., 2 Burroughs St., Bridgeport, Conn.
Sprague Electric Co., 91 Marshall St., No. Adams, Mass.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Thermal Wire of America, Keelers Bay, So. Hero, Vermont
Topper Mfg., Co., Inc., 147–12 Liberty Ave., Jamaica, N. Y.
Viking Wire Co., Inc., Box 104, Shelter Rock Rd., Danbury, Conn.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, MARKING EQUIPMENT ..... **Pgs. 1188, 1213**
Ackerman-Gould Co., 92 Bleecker St., New York, N.Y.
Brady, W. H. Co., 710 W. Glendale Ave., Milwaukee, Wisc. – Pg. 1188
Gillies Co., Inc., 66 Central St., W. Boylston, Mass.
Heller Roberts Mfg., 700 Jamaica Ave., Brooklyn, N.Y.
Matthews & Co., James H., 3832 Forbes Ave., Pittsburgh, Pa.
Westline Products Div., Western Lithograph, Rose & E. 2nd, Los Angeles, Calif. - Pg. 1213

WIRE, MESH ..... **Pgs. 478, 479, 1198, 1199**
Factory Enterprises, Inc., 3431 Butler St., Pittsburgh, Pa.
Jelliff Mfg. Corp., 200 Pequot Ave., Southport, Conn.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Metal Textile Corp., 647 E. First Ave., Roselle, N. J.
Modern Wire Co., 39-30 Review Ave., Long Island City, N.Y.
National-Standard Co., Niles, Mich.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Newark Wire Cloth Co., 351Verona Ave., Newark, N.J.
Schuyler Mfg., Corp., 84 Porette Ave., North Arlington, N. J.
Technical Wire Products, Inc., 48 Brown Ave., Springfield, N. J. – Pgs. 478, 479
Wind Turbine Co., East Market St., W. Chester, Pa.

WIRE, MOLYBDENUM
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Brookfield Wire Co., Inc., Brookfield, Mass.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N.J.
Electronic Parts Mfg., Co., Inc., 508–10 25th St., Union City, N. J.
Elmet Div., North American Phillips Co., Lisbon Rd., Lewiston, Me.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Kemet Co., Div. Union Carbide Corp., 11901 Madison Ave., Cleveland, Ohio
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Thermionic Products Co., Interhaven Ave., Plainfield, N.J.
United Mineral & Chem. Corp., 16 Hudson St., New York, N.Y.
Wah Chang Corp., 233 Broadway, New York, N.Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.

WIRE, NICKEL CLAD COPPER ..... **Pgs. 1190, 1198, 1199, 1207**
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
Associated Engrg. & Mfg. Corp., Glen Ridge, N. J.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Brookfield Wire Co., Inc., Brookfield, Mass.
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Electronic Parts Mfg., Co., Inc., 508–10 25th St., Union City, N. J.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N.J.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Molecu-Wire Corp., Eatontown-Freehold Pike, Scobeyville, N.J.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Riverside-Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N.J.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Sylvania Electric Products, Inc., Parts Div., Warren, Pa.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N.J.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, PHOSPHOR BRONZE ..... **Pgs. 1186, 1187, 1190, 1207**
American Brasing Alloys Co., P. O. Box 11, Pelham, N.Y.
American Brass Co., 414 Meadow St., Waterbury, Conn.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brookfield Wire Co., Inc., Brookfield, Mass.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Hackensack Cable Corp., 110 Orchard St., Hackensack, N. J.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N.J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Riverside-Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N.J.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, PLASTIC INSULATED – SEE WIRE, COPPER

WIRE, PLATINUM ..... **Pgs. 1198, 1199**
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Brookfield Wire Co., Inc., Brookfield, Mass.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N.Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Cooper & Sons, Inc., 180 Varick St., New York, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Derringer Metallurgical Corp., 8131 Monticello Ave., Skokie, Ill.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Metz Refining Co., 369 Mulberry St., Newark, N.J.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. - Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Pyrometer Co. of America, Penndel, Pa.
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
Tricon Mfg., Co., 8012 S. Wallace St., Chicago, Ill.
Western Gold & Platinum Co., 525 Harbor Blvd., Belmont, Calif.
Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.

WIRE, RECORDING
Anchor Metal Co., Inc., 966A Meeker Ave., Brooklyn, N.Y.
Brookfield Wire Co., Inc., Brookfield, Mass.
Fidelitone, Inc., 6415 Ravenswood Ave., Chicago, Ill.
Molecu-Wire Corp., Eatontown-Freehold Pike, Scobeyville, N.J.
National-Standard Co., Niles, Mich.
Peirce Dictation Systems, Inc., 5900 Northwest Hway., Chicago, Ill.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.

WIRE, RESISTANCE AND FILAMENT ..... **Pgs. 1189, 1190, 1207, 1210, 1211**
A–K Mfg., Co., Inc., 115 S. Northwest Hway., Barrington, Ill.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
Berkshire Electric Cable, Leeds, Mass.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.

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Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. - Pg. 1189
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. Pg. 1190
Driver-Harris Co., 201 Middlesex St., Harrison, N.J.
Driver, Wilbur B. Co., 1875 McCarter Hway., Newark, N.J.
Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St. Port Huron, Mich.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
General Electric Co., Wiring Device Dept., 95 Hothoway St., Providence, R. I.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Jelliff Mfg. Corp., 200 Pequot Ave., Southport, Conn.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Molecu-Wire Corp., Eatontown-Freehold Pike, Scobeyville, N.J.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Rodale Mfg. Co., Inc., Emmaus, Pa.
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. – Pg. 1207
Techalloy Co., Inc., Box 34, Rahns, Pa.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. - Pgs. 1210, 1211
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, SHIELDED ... Pgs. 459, 1179–1181, 1183–1187, 1189, 1190, 1192, 1193, 1195, 1198, 1199, 1205–1208, 1210–1212

A–K Mfg., Co., Inc., 115 S. Northwest Hway., Barrington, Ill.
Aero–Marine Development Corp., 110 Summit Ave., Chatham, N. J.
Alpha Wire Corp., 200 Varick St., New York, N.Y. - Pgs. 1179, 1180, 1181, 1183
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
American Super Temperature Wires, Inc., 12 W. Canal St., Winooski, Vt. - Pg. 1184
Ames Mfg. Corp., 4320 Park Ave., Bronx, N.Y.
Amphenol-Borg, Electronics Corp., 1830 So. 54th Ave., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N.Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
B & B Electronics Corp., 17360 S. Gramercy Pl., Gardena, Calif. – Pg. 1185
Barker Sales Co., 339 S. Broad Ave., Ridgefield, N.J.
Belden Mfg., Co., 415 So. Kilpatrick Ave., Chicago, Ill.
Berkshire Electric Cable, Leeds, Mass.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Blake, Whitney Co., New Haven, Conn.
Cable Designs, Inc., 66 Rushmore St., Westbury, N.Y.
Cable Electric Products, 234 Dabell St., Providence, R. I.
Chester Cable Corp., Hill St., Chester, N.Y.
Columbia Wire & Supply Co., 2850 Irving Park Rd., Chicago, Ill. - Pg. 1189
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. - Pg. 1190
Cornish Wire Co., 50 Church St., New York, N.Y.
Dielectric Materials Co., 5315-17 N. Ravenswood Ave., Chicago, Ill.
Eagle Electronics Corp., Old Country Rd., Tracy, Conn.
Electric Auto-Lite Co., The, Champlain St., Toledo, Ohio
Electronic Applications, Inc., 194 Richmond Hill Ave., Stamford, Conn. Pg. 459
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Electric Co., Wire & Cable Dept., 1285 Boston Ave., Bridgeport, Conn.
General Insulated Wire Works, 69 Gordon Ave., Providence, R. I.
Hallett Mfg. Co., 5910 Bowcroft Street, Los Angeles 16, California
Hatfield Wire & Cable, 487 Hillside Ave., Hillside, N.J.
Haveg Industries, Inc., 900 Greenbank Rd., Wilmington, Dela.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y. - Pg. 1192
Inso Electronic Prod., Inc., Wire & Cable Div., 1200 Commerce Ave., Union, N.J. - Pg. 1193
Judd Wire Mfg., Corp., Turners Falls, Mass.
Kaiser Aluminum & Chem. Sales, Inc., 919 N. Michigan Ave., Chicago, Ill.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill. Pg. - 1195
Miller Electric Co., 120 Main St., Pawtucket, R. I.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Pacific Resistor Co., 2186 Colorado Ave., Santa Monica, Calif.
Packard Electric Div., General Motors Corp., Dana St., Warren, Ohio
Parkside Wire Co., 2535 W. Armitage Ave., Chicago, Ill.
Phalo Plastics Corp., 530 Turnpike Rd., Shrewsbury, Mass.
Phelps Dodge Copper Prods. Co., 300 Park Ave., New York, N.Y.
Precision Tube Co., Inc., N. Wales, Pa.
Raytherm Corp., Oakside at Northside, Redwood City, Calif.
Revere Corp. of America., Wallingford, Conn.
Rex Corp., The, 100 Hayward Rd., West Acton, Mass. - Pg. 1205
Rhode Island Insulated Wire Co., 50 Burnham Ave., Cranston, R. I.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Rockland Insulated Wire & Cable, 36 Main St., Haverstraw, N.Y.
Roebling, S. John A. Sons Corp., 640 So. Broad St., Trenton, N.J.
Royal Electric Corp., Electronic Cable Div., 95 Grand Ave., Pawtucket, R. I.
Saxton Products, Inc., 4320 Park Ave., Bronx, N.Y. - Pg. 1206
Sequoia Wire & Cable, Div., Mandrel Ind., 2950 N. Ontario St., Burbank, Calif.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Stretch Wire Corp., P. O. Box 893, New Rochelle, N.Y.
Superior Cable Corp., Box 480-A, Hickory, N. Carolina - Pg. 1208
Superior, Insulated Wire Co., Washburns La., Stony Point, N.Y.
Surprenant Mfg., Co., 172 Sterling St., Clinton, Mass.
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.
Times Wire & Cable Co.,400 Hall Ave., Wallingford, Conn. - Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N.J.
Victor Elect. Wire & Cable Corp., 618 Main Street, W. Warwick, R. I.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Wirecraft Products, Inc., 10 Lake St., W. Brookfield, Mass.

WIRE, SILICON BRONZE Pgs. 1179–1181, 1183, 1186, 1187, 1190, 1195, 1207, 1210, 1211

Alpha Wire Corp., 200 Varick St., New York, N.Y. - Pgs. 1179, 1180, 1181, 1183
American Brasing Alloys Co., P.O. Box 11, Pelham, N.Y.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brookfield Wire Co., Inc., Brookfield, Mass.
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. Pg. 1190
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N Y.
Hackensack Cable Corp., 110 Orchard St., Hackensack, N.J.
Lenz Electric Mfg., Co., 1751 N. Western Ave., Chicago, Ill. – Pg. 1195
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. – Pgs. 1210, 1211
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.

WIRE, SILVER PLATED ..... Pgs. 785, 1190, 1195, 1198–1200, 1204, 1207, 1210, 1211

American Electric Cable Co., 181 Appleton St., Holyoke, Mass.
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N.Y.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Consolidated Wire & Assod. Cos., 1635 S. Clinton St., Chicago, Ill. – Pg. 1190
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Driver, Wilbur B. Co., 1875 McCarter Hway., Newark, N.J.
Eastern Smelting & Refining Corp., 107–109 W. Brookline St., Boston, Mass.
Electric Auto-Lite Co., Wire & Cable Div., 3529 24th St., Port Huron, Mich.
Engelhard Industries, Inc., 113 Astor St., Newark, N.J.
Illumitronic Engrg. Co., 680 Taylor Ave., Sunnyvale, Calif. - Pg. 785
Improved Seamless Wire Co., 775 Eddy St., Providence, R. I.
Leach & Garner Co., Industrial Div., Attleboro, Mass.
Lenz Electric Mfg., Co., 1751 N. Western Ave., Chicago, Ill. – Pg. 1195
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N.J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Molecu-Wire Corp., Eatontown-Freehold Pike, Scobeyville, N.J.
Montgomery Co., Windsor Locks, Conn.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Nonotuck Mfg. Co., 1001 Water St., Holyoke, Mass.
Plastoid Corp., 42-61 24th St., Long Island City, N.Y. - Pgs. 1200, 1204
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.
Thermionic Products Co., Interhaven Ave., Plainfield, N.J.
Times Wire & Cable Co., 400 Hall Ave., Wallingford, Conn. - Pgs. 1210, 1211
U. S. Wire & Cable Corp., Progress & Monroe Sts., Union, N.J.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Williams Gold Refining Co., Inc., 2978 Main St., Buffalo, N.Y.

WIRE, STAINLESS STEEL ..... Pgs. 1198, 1199, 1206, 1207

Allegheny Ludlum Steel Co., H. W. Oliver Bldg., Pittsburgh, Pa.
American Silver Co., 36-07 Prince St., Flushing, N.Y.
American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Armco Steel Corp., 703 Curtis St., Middletown, Ohio
Atlantic & Pacific Wire & Cable Co., Inc., 137 Grand St., New York, N. Y.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Brookfield Wire Co., Inc., Brookfield, Mass.
Carpenter Steel Co., 142 W. Bern St., Reading, Pa.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Crucible Steel Co. of America, Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Dalweld Co., Inc., 15 Bertel Ave., Mt. Vernon, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Driver-Harris Co., 201 Middlesex St., Harrison, N.J.
Driver, Wilbur B. Co., 1875 McCarter Hway., Newark, N.J.
Hackensack Cable Corp., 110 Orchard St., Hackensack, N.J.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Modern Wire Co., 3930 Review Ave., L. I. City, N. Y.
National-Standard Co., Niles, Mich.
National Wire & Cable Corp., 136 San Fernando Rd., Los Angeles, Calif. – Pgs. 1198, 1199
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Peirce Dictation Systems, Inc., 5900 Northwest Hway., Chicago, Ill.
Republic Steel Corp., 1441 Republic Bldg., Cleveland, Ohio
Riverside–Alloy Metal Div., H. K. Porter Co., Inc., Riverside, N. J.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Saxton Products, Inc., 4320 Park Ave., Bronx, N.Y. - Pg. 1206
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Star Stainless Screw Co., 655 Union Blvd., Totowa., N.J.
Techalloy Co., Inc., Box 34, Rahns, Pa.
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.

WIRE, STEEL ..... Pg. 1206

American Steel & Wire Div., US Steel Corp., Rockefeller Bldg., Cleveland, Ohio
Ames Mfg., Corp., 4320 Park Ave., Bronx, N.Y.
Armco Steel Corp., 703 Curtis St., Middletown, Ohio
Brookfield Wire Co., Inc., Brookfield, Mass.
Carpenter Steel Co., The, Alloy Tube Div., Springfield Rd., Union, N. J.
Copperweld Steel Co., Wire & Cable Div., Glassport, Pa.
Crucible Steel Co. of America, Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Firth Sterling, Inc., 3113 Forbes St., Pittsburgh, Pa.
General Cable Corp., 420 Lexington Ave., New York, N.Y.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh, Pa.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Modern Wire Co., 39-30 Review Ave., Long Island City, N.Y.
National-Standard Co., Niles, Mich.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Republic Steel Corp., 1441 Republic Bldg., Cleveland, Ohio
Roebling, S. John A. Sons Corp., 640 So. Broad St., Trenton, N.J.
Ryerson & Son, Inc., 2558 W. 16th St., Chicago, Ill.
Saxton Products, Inc, 4320 Park Ave., Bronx, N.Y. - Pg. 1206

WIRE, TANTALUM

American Silver Co., 36-07 Prince St., Flushing, N.Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Driver, Wilbur B. Co., 1875 McCarter Hway., Newark, N.J.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Haynes Stellite Co., 725 S. Lindsay St., Kokomo, Ind.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N.Y.

WIRE, TEFLON INSULATED ____ Pgs. 1179–1184, 1186, 1187, 1192, 1193, 1196, 1200–1204, 1212

Alpha Wire Corp., 200 Varick St., New York, N. Y. – Pgs. 1179–1183
American Super Temperature Wire, Inc., 12 W. Canal St., Winooski, Vt. – Pg. 1184
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y. – Pgs. 1186, 1187
Gore, W. L. & Assoc., 487 Papermill Rd., Newark, Dela.
Hitemp Wires, Inc., 1200 Shames Dr., Westbury, N.Y. - Pg. 1192
Inso Electronic Prods., Inc., Wire & Cable Div., 1200 Commerce Ave., Union, N.J. - Pg. 1193
Markel, L. Frank & Sons, Norristown, Pa. - Pg. 1196
Plastoid Corp., 42–61 24th St., L. I. City, N. Y. – Pgs. 1200–1204
Supa Insulations, Inc., 123 East Bassett St., Rocky Mount, N. C.
Tensolite Insulated Wire Corp., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Thermal Wire of America, Keelers Bay, So. Hero, Vermont
Topper Mfg. Co., Inc., 147-12 Liberty Ave., Jamaica, N.Y.

WIRE, THERMOCOUPLE ..... Pgs. 1200–1204, 1207, 1212

Aero Research Instrument Co., 315 N. Aberdeen St., Chicago, Ill.
American Electric Cable Co., 181 Appleton St., Holyoke, Mass.

WIRE, THERMOCOUPLE (continued)
Berkshire Electric Cable, Leeds, Mass.
Bishop, J. & Co., Platinum Works, Malvern, Pa.
Composite Industrial Metals, Inc., 237 Georgia Ave., Providence, R. I.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Driver-Harris Co., 201 Middlesex St., Harrison, N.J.
Englehard Industries, Inc., 113 Astor St., Newark, N.J.
Gavitt Wire & Cable Co., Div. of Amerace Corp., Brookfield, Mass.
General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N.Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
Hoskins Mfg., Co., 4445 Lawton Ave., Detroit, Mich.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
Minneapolis-Honeywell Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa.
Pyrometer Co. of America, Penndel, Pa.
Pyrometer Instrument Co., 92 Portland Ave., Bergenfield, N.J.
Radix Wire Co., 26260 Lakeland Blvd., Cleveland, Ohio
Revere Corp. of America, Wallingford, Conn.
Sequoia Wire & Cable Co., 2201 Bay Rd., Redwood City, Calif.
Smith, E. C. Mfg., Co., Conshohocken, Pa.
Standard Wire & Cable Co., 3434 Overland Ave., Los Angeles, Calif. - Pg. 1207
Tensolite Insulated Wire Co., Inc., West Main St., Tarrytown, N.Y. - Pg. 1212
Thermax Wire Corp., 304 E. 45th St., New York, N.Y.
Thermo Electric Co., Inc., Saddle Brook, N.J.
Thermo Products Co., 3727 N. Palmer St., Milwaukee, Wisc.
West Instrument Corp., 4363 W. Montrose Ave., Chicago, Ill.
Western Gold & Platinum Co., 525 Harbor Blvd, Belmont, Calif.
Westwood Cable Corp., 3440 Overland Ave., Los Angeles, Calif.
Winslow Co., Inc., 707 Lehigh Avenue, Union, N.J.

WIRE, TITANIUM
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Bram Metallurgical-Chemical Co., 820-65th Ave., Philadelphia, Pa.
Bridgeport Brass Co., 30 Grand St., Bridgeport, Conn.
Brookfield Wire Co., Inc., Brookfield, Mass.
Crucible Steel Co. of America, Oliver Bldg., Box 88, Mellon Sq., Pittsburgh 30, Pa.
Driver, Wilbur B. Co., 1875 McCarter Hway., Newark, N.J.
Little Falls Alloys, Inc., 189 Caldwell Ave., Paterson, N.J.
Mackay, A. S., Inc., 198 Broadway, New York 38, N.Y.
National Lead Co., 111 Broadway, New York, N.Y.
National–Standard Co., Niles, Mich.
Secon Metals Corp., 7 Intervale St., White Plains, N.Y.
Techalloy Co., Inc., Box 34, Rahns, Pa.

WIRE, TUNGSTEN
Associated Engrg. & Mfg., Corp., Glen Ridge, N. J.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Eisler Engineering Co., Inc., 750 South 13th St., Newark, N.J.
Electronic Parts Mfg. Co., Inc., 508-10 25th St., Union City, N.J.
Elmet Div., North American Phillips Co., Lisbon Rd., Lewiston, Me.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., No. Chicago, Ill.
Kulite Tungsten Co., 1040 Hoyt Ave., Ridgefield, N.J.
Mackay, A. D., Inc., 198 Broadway, New York 38, N. Y.
Nesor Alloy Products Co., 282 Halsey St., Newark, N.J.
Sylvania Electric Products, Inc., Chemical & Metallurgical Div., Towanda, Pa.
Thermionic Products Co., Interhaven Ave., Plainfield, N.J.
Wah Chang Corp., 233 Broadway, New York, N.Y.
Westinghouse Electric Corp., Lamp Div., Bloomfield, N. J.

WIRE, ZIRCONIUM
American Silver Co., 36-07 Prince St., Flushing, N.Y.
Associated Engrg. & Mfg. Corp., Glen Ridge, N.J.
Bram Metallurgical–Chemical Co., 820 65th Ave., Phila., Pa.
Carborundum Co., The, P. O. Box 337, Niagara Falls, N.Y.
Delta Chemical Works, 21 W. 60th St., New York, N.Y.
Duramark, Inc., 2 Secatoag Ave., P. O. Box 231, Port Washington, N.Y.
Firth Sterling, Inc., 3113 Forbes St., Pittsburgh, Pa.
Mackay, A. D., Inc., 198 Broadway, New York 38, N.Y.
General Plate Div., Metals & Controls Corp., 31 Forest St., Attleboro, Mass.
National Lead Co., 111 Broadway, New York, N.Y.
Paul F. H. & Stein Bros., Inc., 235 5th Ave., New York, N.Y.
Wah Chang Corp., 233 Broadway, New York, N.Y.

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WIRE SHIELDING – SEE SHIELDS, WIRE
WIRE STRIPPERS – SEE STRIPPERS, WIRE

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Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago, Ill.
Billings & Spencer Co., 1 Laurel St., Hartford, Conn.
Desco Mfg. Co., 551 W. Glenoaks Blvd., Glendale, Calif.
Erikson Specialized Tool Co., Box 424, Pico, Calif. - Pg. 1111
General Hardware Co., 80 White St., New York, N.Y.
Hunter, R. N. Sales Co., Inc., 9851 Alburtis Ave., Sante Fe Springs, Calif.
In-Dus-Tronic Div., H. Boker & Co., Inc., 101 Duane St., New York, N.Y.
Kelsey-Hayes Co., 3600 Military, Detroit, Mich.
Kraeuter & Co., Inc., 583-585 18th Ave., Newark, N.J.
Moody Machine Products Co., P. O. Box 2248, Providence, R. I.
Owatonna Tool Co., The, Owatonna, Minn.
Proto Tool Co., 2209 Santa Fe Ave., Los Angeles, Calif.
Richmont, Inc., 922 S. Myrtle Ave., P. O. Box 179, Monrovia, Calif.
Snap-On Tools Corp., Kenosha, Wisc.
Stevens-Walden, Inc., 475 Shrewsbury St., Worcester, Mass.
Superex Electronics Corp., 4-6 Radford Place, Yonkers, N.Y.
Utica Drop Forge & Tool, Div., Kelsey-Hayes, 2515 Whitesboro Street, Utica, N.Y.
Xcelite, Inc., 19-42 Bank St., Orchard Park, N.Y.

X–RAY EQUIPMENT
Applied Research Labs., P. O. Box 1710, Glendale, Calif.
Bar-Ray Products, Inc., 209 25th St., Brooklyn, N.Y.
Bendix Aviation Corp., Cinc. Div., 3130 Wasson Rd., Cincinnati, Ohio
Bracke-Seib X-Ray Co., Inc., 16 Pelham Bay Pk., W., Pelham Manor, N.Y.
Curtiss-Wright Corp., Princeton Div., Princeton, N.J.
Field Emission Corp., 210 N. Ford St., Mc Minnville, Ore.
Geisler Laboratories, P. O. Box 252, Menlo Park, Calif.
General Electric Co., X-Ray Dept., 4855 Electric Ave., Milwaukee, Wisc.
Hamner Electronics Co., Inc., P. O. Box 531, Princeton, N. J.
High Voltage Engrg. Corp., S. Bedford St., Burlington, Mass.
Jarrell-Ash Co., 26 Farwell St., Newtonville, Mass.
Philco Corp., Govt. & Ind. Div., 4700 Wissahickon Ave., Philadelphia, Pa.
Philips Electronics, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Picker X-Ray Corp., 25 S. Broadway, White Plains, N.Y.
Radiation Dynamics, Inc., 1800 Shames Drive, Westbury, N.Y.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Rototest Labs., Inc., 2803 Los Flores Blvd., Lynwood, Calif.
St. John X-Ray Lab., Califon, N.J.
Sheffield Corp., The, Box 893, Dayton, Ohio
Solarton, Inc., 530 Cooper St., Camden, N. J.
Technical Operations, Inc., South Ave., Burlington, Mass.
Triplett & Barton, Inc., 831 N. Lake St., Burbank, Calif.
U. S. Radium Corp., Morristown, N. J.
Warren Corp., 2901 Brighton Rd., Pittsburgh, Pa.
Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

YOKES, DEFLECTION ..... Pgs. 520, 778
American Research & Mfg., Co., 920 Halpine Ave., Rockville, Maryland
Automated Circuits, Inc., 337 Payne Ave., North Tonawanda, N.Y.
Blackburn Electronic Corp., 55 W. 7th St., Wyoming, Pa.
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio
Coil Winders, Inc., New York Ave., Westbury, L. I., N.Y.
Consolidated Productions, Inc., 3991 S. W. 12th Terrace, Fort Lauderdale, Florida
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Davis Electric Co., 230 N. Spring St., Cape Girardeau, Mo.
Dumont, Allen B. Labs., Inc., Indus. Tube Div., 2 Main Ave., Passaic, N.J.
Forbes & Wagner, Inc., 346 Central Ave., Silver Creek, N.Y. - Pg. 778
General Instrument Corp., Semiconductor Div., 65 Gouverneur St., Newark, N. J.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Jet Electronics Corp., 4426 San Fernando Rd., Glendale, Calif.
Missouri Research Labs., 2019 Locust St., St. Louis, Mo.
Penn-Tran Corp., Bellefonte, Pa.
Philco Corp., Accessory Div., Box 3635, Philadelphia, Pa.
Ram Electronics Co., 600 Industrial Ave., Paramus, N.J.
Redmond Co., Inc., Owosso, Mich.
Resitron Laboratories, Inc., 2908 Nebraska Ave., Santa Monica, Calif.
Ross Mfg., Co., 2538 W. Peterson Ave., Chicago, Ill.
Sylvania Electric Products, Elctm. Systems Div., 100 1st Ave., Waltham, Mass.
Syntronic Instruments, Inc., 100 Industrial Rd., Addison ,Ill. - Pg. 520
Telectron Co., 3991 S. W. 12 Terrace, Fort Lauderdale, Fla.
Teleradio Engrg., 99 Wall St., New York, N.Y.
Telvision Laboratories, Inc., 333 Mill St., Wauconda, Ill.
Thordarson-Meissner, Div., Maguire Industries, 7th & Bellmont, Mt. Carmel. Ill.
Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif.

YOKES, ROTATING COIL ..... Pg. 520
Celco-Constantine Engrg. Labs., Island Ave., Mahwah, N.J.
Coil Winders, Inc., New York Ave., Westbury, L. I., N.Y.
DX Radio Products Co., Inc., 2300 Armitage Ave., Chicago, Ill.
Electro Mechanical Products, 32700 Ford Rd., Garden City, Mich.
General Mills, Inc., Mechanical Div., 1620 Central Ave., Minneapolis, Minn.
Jet Electronics Corp., 4426 San Fernando Rd., Glendale, Calif.
Ram Electronics Co., 600 Industrial Ave., Paramus, N.J.
Syntronic Instruments, Inc., 100 Industrial Rd., Addison, Ill. - Pg. 520

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ELECTRONIC ENGINEERS MASTER

CATALOG SECTION

The catalog section of **eem** is divided into 51 Product Sections. These sections broadly categorize related electronic products and services to enable you to quickly compare similar items. However, to pinpoint specific products within the catalog pages, always refer to the index (Green Section).

NOTE: These product sections are the basis of an industry-wide filing system. For complete details on how to set up your own personal files see inside back cover.

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1200	Antennas & Accessories
1300	Audio Equipment & Accessories
1400	Cabinets, Chassis, Racks, Boxes, etc.
1500	Capacitors (All Types)
1600	Chemicals (Acids, Coatings, Paints, Varnishes, Lubricants, etc.)
1700	Circuits (Encapsulated, Embedded, Printed, Plug-In)
1800	Coils (Inductors, Toroids) Assemblies, Forms
1900	Communications Equipment (Broadcast, Television, Amateur, Facsimile)
2000	Computers & Associated Equipment
2100	Connectors (Plugs, Jacks, Receptacles, Sockets, Clips)
2200	Controls, Control Components & Systems
2300	Crystals, Equipment & Accessories
2400	Dials, Knobs, Handles, Panel Components
2500	Fabricated Mechanical Parts (Bearings, Cores, Gears, Magnets, etc.)
2600	Fans & Blowers; Air Conditioners; Environmental Chambers
2700	Filters, General Purpose
2800	Hardware (Bolts, Nuts, Screws, Washers, Terminals, Terminal Boards, etc.)
2900	Instruments, Electrical Measuring and Test
3000	Instruments, Graphic Recording
3100	Insulators, Insulating Material and Parts
3150	Manufacturing, Sub-Contracting, Custom Fabrication
3200	Materials, Raw (Metals, Plastics, Glass, Rubber, Cloth, etc.)
3300	Medical Electronic Equipment
3400	Microwave, Radar Equipment, Components & Accessories
3500	Motors & Accessories
3600	Nuclear & Radiation Equipment, Components, Accessories
3700	Photoelectric Equipment & Components
3800	Photographic & Optical Equipment, Accessories
3900	Pilot & Signal Lamps, Lights & Accessories
4000	Power Supplies, Converters, Inverters, Batteries, etc.
4100	Production Machinery & Automation Equipment
4200	Publications (Textbooks, Reference Handbooks, etc.)
4300	Recording Equipment (Non-Audio Types)
4400	Rectifiers (Non-Tube Types)
4500	Relays
4600	Research, Development, Engineering, Services, etc.
4700	Resistors (All Types)
4800	Semiconductors (Diodes, Transistors)
4900	Servo Mechanisms & Components
5000	Studio Equipment
5100	Switches; Circuit Breakers, Fuses, Protective Devices
5200	Telemetering Equipment
5300	Thermal Devices, Thermocouples, Thermopiles, Thermostats, etc.
5400	Tools (Hand & Power); Supplies
5500	Transducers & Associated Equipment
5600	Transformers, Chokes, Reactors, etc.
5700	Tubes, Tube Parts, Shields, Inserts, etc.
5800	Ultra-Sonic, Sonic, Sub-Sonic Equipment
5900	Vibrators, Choppers, etc.
6000	Wire, Cable, Harnesses, Accessories

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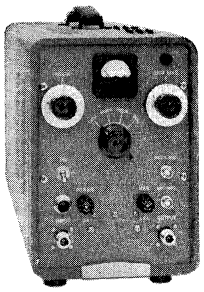
Wide Band Amplifiers for Fast Circuit Work

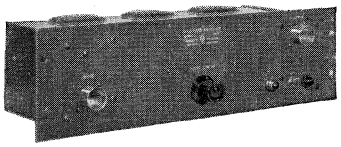
Traveling-Wave Tube Amplifiers



-hp- offers Traveling-Wave Tube Amplifiers for all frequencies 2 to 12.4 KMC. *-hp-* 490B, 492A and 494A are low level, high gain amplifiers with 30 and 25 db gain; they offer amplitude, pulse, phase or FM modulation. *-hp-* 491A is a high power traveling-wave tube amplifier having a rated output of 1 watt, 2 to 4 KMC. All amplifiers have exclusive *-hp-* helical coupling system, and employ encapsulated traveling-wave tubes that can be readily replaced. *-hp-* 490B/491A, $1,400.00. *-hp-* 492A/494A, $1,500.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 450A Amplifier, Stabilized	General purpose lab amplifier	10 cps to 1,000,000 cps	20 and 40 db gain, frequency response ±½ db	$ 140.00
-hp- 460AR Amplifier, Wide Band	Wide band, pulse amplification	100 KC to 120 MC	20 db gain, rise time 0.003 μsec	185.00
-hp- 460BR Amplifier, Fast Pulse	Pulse amplification high output	100 KC to 120 MC	15 db gain, 125 peak volts	225.00
-hp- 490B Traveling-Wave Tube Amplifier	Amplification throughout "S" band	2 to 4 KMC	30 db gain; Millimicrosec rise time; 10 mw output	1,400.00
-hp- 491A Traveling-Wave Tube Amplifier	High power "S" band amplification	2 to 4 KMC	30 db gain; millimicrosec rise time; 1 watt output	1,400.00
-hp- 492A Traveling-Wave Tube Amplifier	Amplification through most of "G" and "J" bands	4 to 8 KMC	30 db gain; millimicrosec rise time; 10 mw output	1,500.00
-hp- 494A Traveling-Wave Tube Amplifier	Amplification throughout "X" band	7 to 12.4 KMC	25 db gain; millimicrosec rise time; 5 mw output	1,500.00

460AR/BR Fast Pulse Amplifiers



-hp- 460AR Wide Band Amplifiers, in cascade with *-hp-* 460BR Fast Pulse Amplifiers, provide up to 90 db gain, 125 v open circuit. This permits direct connection to oscilloscope deflection plates. Rise time 0.003 μsec. Will amplify millimicrosecond pulses. Over 100 MC band width for 'scopes. *-hp-* 460AR, $185.00. *-hp-* 460BR, $225.00.

HEWLETT-PACKARD COMPANY • PALO ALTO, CALIFORNIA, U. S. A.
4801R Page Mill Road • Cable "HEWPACK" • DAvenport 5-4451
World's largest manufacturer of electronic test instruments

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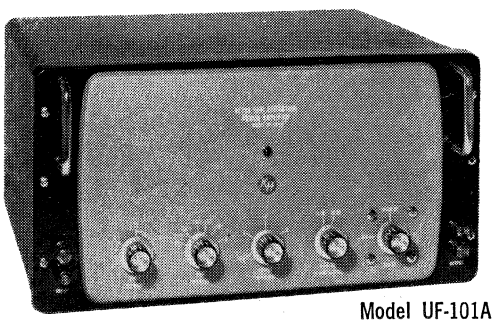
Krohn-Hite LABORATORY POWER AMPLIFIERS

- **50 watts RC coupled from 20 cps to 20 kc, with distortion less than 0.005%**
- **10 watts direct coupled from dc to 1 mc, with distortion less than 0.1% from 10 cps to 100 kc, zero drift less than 0.1% per hour**



Model UF-101A

Model UF-101A: LOW DISTORTION
POWER OUTPUT: 50 watts from 20 cps to 20 kc
FEEDBACK: 80 db
FREQUENCY RESPONSE: ±0.5 db from 0.5 cps to 30 kc, ±3 db from 0.03 cps to 70 kc
DYNAMIC RANGE: 110 db
HARMONIC DISTORTION: less than 0.005% at 1 kc
INTERMODULATION DISTORTION: less than 0.005%
OUTPUT IMPEDANCE: 1, 2, 4, 8, and 225 ohms
VOLTAGE GAIN: 14 or 30 db from 8-ohm output
PRICE: $425.00

Model DCA-10: WIDE BAND
POWER OUTPUT: 10 watts 10 cps to 1 mc into 600 ohms, dc to 500 kc into 1,000 ohms
DISTORTION: at 10 watts, 0.1% 10 cps to 100 kc, 0.3% below 10 cps, 1.5% above 100 kc
FREQUENCY RESPONSE: ±1 db from dc to 1 mc
VOLTAGE GAIN: maximum of 10, continuously variable, or fixed gains of 10 or unity
ZERO DRIFT: less than 0.1% of full output per hour, at fixed line voltage
LOAD IMPEDANCE: 600 ohms from 10 cps to 1 mc
Price on request

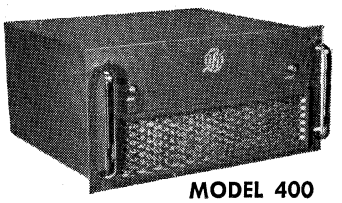
For more detailed information on power amplifiers, wide-range RC oscillators, tunable filters, and regulated power supplies, write:
Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.

See YELLOW SECTION for Local Offices, Telephone, etc.

INSTRUMENTS FOR INDUSTRY, Inc.

101 NEW SOUTH ROAD • HICKSVILLE, LONG ISLAND, NEW YORK

WIDE BAND AMPLIFIERS



MODEL 400

HIGH POWER DISTRIBUTED AMPLIFIER

The Model 400 is a broad band amplifier capable of 100 watts CW output which can be used for both CW and very short pulse amplification. The fast rise time and high power output make the Model 400 ideal for short pulse applications. In the laboratory it is utilized in testing wide tuning range transmitters and antennae and as a final stage for tunable RF signal sources.

The Model 400 can be used for the amplification of video pulses, either as a Class A amplifier in which the maximum output pulse power is limited to 100 watts or it may be used for higher level pulses up to approximately 5 kilowatts peak power (with special power supply).

The Model 400 is normally furnished with a power supply having the following characteristics:

Plate: 500 volts at 2.5A
Screen: 400 volts at 500 MA
Filaments: 6.0 volts at 15.6A
Bias: 30 volts at 100 MA

Price $4900

SPECIFICATIONS

Bandpass	200 KC to 300 MC
Input Impedance	50 ohms
Output Impedance	90 ohms
Gain (max.)	10 db
Rise Time	0.0016 microseconds
Power Output (max.)	100 watts CW
Dimensions (amp. only)	8¾" high, 19" wide, 16¼" deep for standard relay rack mounting
Tube Complement	Six 4X250B

Standard Relay Rack Panel Mount 19" Wide x 3½" High.

SERIES M500 AMPLIFIER

In combination, IFI amplifiers deliver a gain as high as 46 DB. With bandpass 200KC-220MC wide, you get power output of 3 watts. Pulses with rise time as short as 3 millimicroseconds can be measured. A Model 530, for instance, driving a Model 510, in turn connected to a Model 500 and fed with a signal of 120 millivolts (peak), will furnish an amplitude of 25 volts peak. Input pulse may be positive or negative with rise time of 2 or 3 millimicroseconds.

SPECIFICATIONS

	M-530	M-500A*	M-510
Band Pass	10 KC to 300MC	200KC to 220MC	200KC to 220 MC
Input Impedance	135 ohms	90 ohms	90 ohms
Output Impedance	150 ohms	185 ohms	185 ohms
Gain	18 DB	12 DB	16 DB (90 ohm load)
Rise Time	.002 sec.	.0025 μsec	.0025 μsec.
Average Power	0.08W	3 Watts CW	0.75W
Peak Pulse Power	—	300 Watts (Negative pulse into 185 ohm load)	—
RMS Voltage out—across rated load impedance	3.5 V	22 Volts	12 Volts
Peak to Peak Voltage—across rated load impedance	7V	62 Volts	33 Volts
Price including Power Supply	$245	$390*	$325

*A modified version of the M-500A which operates only in the linear mode, is the M-500 which is available at a price of $330.

MODEL 395A

SUPER VIDEO AMPLIFIER

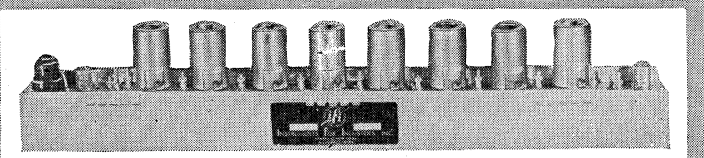
The Model 395A features high gain over a very wide bandwidth. This amplifier is unique in its specification and applications. It consists of two identical Model 600 Amplifiers and a common power supply. Each section has a 90 ohm input and a 90 ohm output impedance with separate connectors on the front panel.

The Model 395A may be used as two separate amplifiers each with a gain of 40 db and 2.0 VRMS output. The twin amplifier sections can also be used in three other ways — cascade, parallel or push-pull. When used in cascade, the gain is 80 db. Parallel connection results in gain of 40 db and a power output of .08 watts, the input and output impedance being 50 ohms. A push-pull arrangement makes it possible to deflect most laboratory scopes a full inch (30 V. peak to peak approx.) if output is fed directly into the plates. **Price $495**

SPECIFICATIONS

Bandpass	200 cps to 50 mcs
Gain	40 db ±1½ db (into matched load)
Input and Output Impedance	90Ω
Max. undistorted ouput voltage into matched load	2.0 VRMS (open circuit voltage=5 V max. load capacity 25 μμf for 3 db down at 50 mc)
Max. Pulse Output into matched load	3.0 volts peak (open circuit 7.0 Volts peak) positive or negative
Pulse Rise Time	10 mμsecs.
Max. Pulse Duration (10% droop)	60 μsecs.
Pulse Delay Time	20 mμsecs.
Recovery Time (100 times overload)	500 mμsecs
Noise Figure	Approximately 9 db
Gain Control Range	20 db
Linear Range at full gain	Approximately 60 db

I-F AMPLIFIERS—SERIES M200



SPECIFICATIONS OF STANDARD UNITS

	M-260	*M-230	*M-235
Band center	60 mc	30 mc	30 mc
Band width	10 mc	2 mc	10 mc
Voltage gain	90 db	110 db	90 db
Input impedance	50 ohms	50 ohms	50 ohms
Input V.S.W.R. less than	1.3:1	1.3:1	1.3:1

*Variations of the above standard units are available as follows

M-2330 LN—Model M-230 modified for low noise figure input circuit (1.5 db).

M-230 A—Model M-230 modified and featuring a built-in detector and cathode follower. Video output of 2 VRMS (for 30% modulated signal) across 400 ohms approx. Video bandwidth 1 mc.

M-235A—Model M-235 modified and featuring a built-in detector and cathode follower. Video output of 2 VRMS (for 30% modulated signal) across 400 ohms approx. Video bandwidth 5 mc.

Prices of the above units remain same as standard M-200 Series amplifiers.

POWER SUPPLY REQUIREMENTS

Power supply requirements for the standard units are detailed below.

M-230—140 V at 90 Ma—6.3 V at 1.4A
M-235—140 V at 90 Ma—6.3 V at 1.4A
M-260—125 V at 90 Ma—6.3 V at 1.4A

POWER OUTPUT CAPABILITIES

Due to the high gain available in the IFI units, it is possible to saturate the final stage of the amplifier with a relatively small applied signal voltage at full gain. Saturation occurs at the following ouput powers and voltages. Beyond this output level the amplifier will not operate linearly.

Price $180 each

	Output Power	*Output Voltage
M-235	0.051 WATTS	1.6
M-230	0.096 WATTS	2.2
M-260	0.007 WATTS	0.6

See YELLOW SECTION for Local Offices, Telephone, etc.

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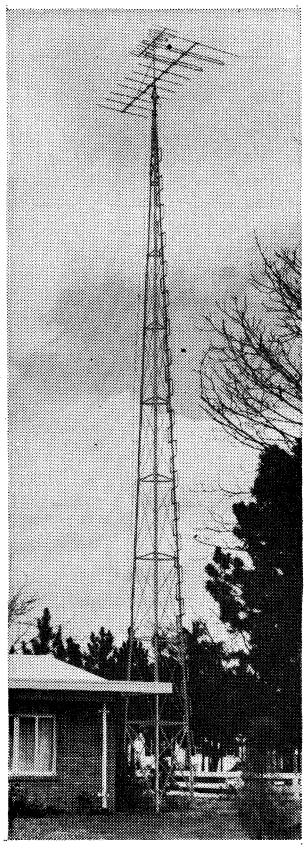
AERMOTOR STEEL ANTENNA TOWERS

DESIGNED FOR MAXIMUM ERECTION EASE — Towers can be assembled from the ground up. In most cases, no specialized construction personnel or equipment are required for erection. Bolt holes always match perfectly, simplifying erection and eliminating delays and extra expense.

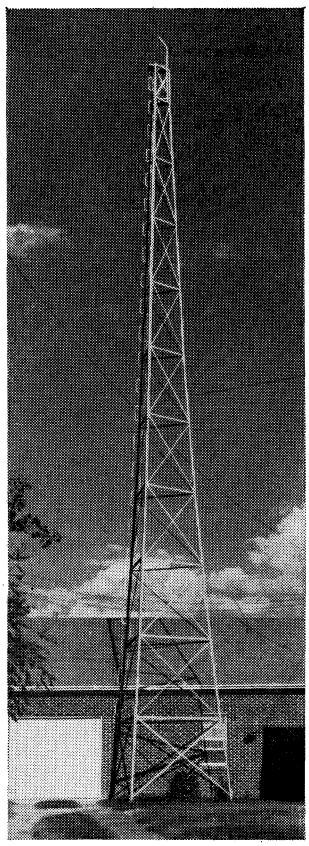
SELF-SUPPORTING — Absence of guy wires permits extreme flexibility in locating towers . . . materially reduces fencing requirements on unattended sites.

HEAVILY GALVANIZED — Carefully supervised hot-dip galvanizing process, after all fabrication is completed, produces a heavy and uniform zinc coating that protects every part from rust indefinitely.

A COMPLETE SERVICE TO MEET EVERY TOWER REQUIREMENT



POINTED TOP



FLAT TOP

STANDARD TOWER MODELS

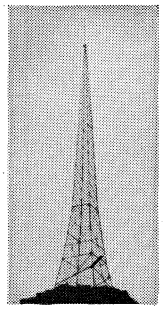
Six basic 3-post tower models in 35 heights from 20′ to 149′ 9″ offer a wide choice to suit varying height and wind-loading requirements. Standard tower models can also be adapted to suit specific construction or application problems. A condensed list of specifications is shown below; detailed data, including stress diagrams for any of these towers, will be furnished on request.

Tower Type	Height	Base Dimensions	Weight Lbs.	Designed to Withstand Max. Winds of:	Maximum Projected Antenna Area Square Feet
MI-98 Pointed Top	20′ 33′ 47′ 60′ 73′ 87′ 100′ 113′ 3″	2′ 0 7/16″ 3′ 2 1/4″ 4′ 4″ 6′ 0 1/8″ 8′ 3 1/8″ 11′ 1 1/16″ 14′ 6″ 17′ 11″	300 405 550 765 955 1240 1595 2134	85 M. P. H.	6
MP-5 Flat Top	30′ 8″ 44′ 1″ 57′ 5″ 70′ 9″ 84′ 97′ 3″	4′ 4″ 6′ 0 1/8″ 8′ 3 1/8″ 11′ 1 1/16″ 14′ 6″ 17′ 11″	480 680 860 1210 1550 2050	85 M. P. H.	20
MI-98B Pointed Top	100′ 120′ 133′ 3″	14′ 6″ 19′ 6 1/2″ 22′ 11 3/8″	1748 2590 3662	100 M. P. H.	5
MP-3 Pointed Top (Heavy Duty)	60′ 73′ 87′ 100′ 113′ 127′ 140′	5′ 11 11/16″ 8′ 2 1/2″ 11′ 0 5/16″ 14′ 5 1/8″ 17′ 9 7/8″ 21′ 2 11/16″ 24′ 7 1/2″	1313 1694 2158 2575 3142 4320 5406	Meets RETMA * Spec. TR-116	6
MP-9 Flat Top (Heavy Duty)	43′ 11″ 57′ 2″ 63′ 9″ 70′ 5″ 83′ 8″ 96′ 11″ 110′ 2″ 123′ 5″	5′ 11 11/16″ 8′ 2 1/2″ 9′ 7″ 11′ 0 5/16″ 14′ 5 1/8″ 17′ 9 7/8″ 21′ 2 11/16″ 24′ 7 1/2″	1140 1408 1735 2020 2457 2928 4225 5280	Meets RETMA * Spec. TR-116	25
MP-15 Flat Top (Heavy Duty)	129′ 9″ 136′ 8″ 149′ 9″	12′ 8 5/16″ 16′ 1 3/4″ 20′	4980 5290 6455	Meets RETMA * Spec. TR-116	25

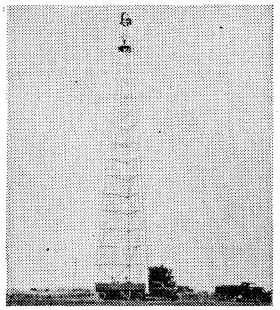
* RETMA Specifications TR-116 specify a wind load of 30#/sq. ft. (85 M.P.H.); however, steel column formulas given therein permit a substantial possible overload above this.

CUSTOM DESIGN SERVICE Aermotor's engineering department is available for consultation on unusual or special tower designs. More than 70 years design experience in a wide range of tower applications adequately equips the department to successfully carry out custom design projects.

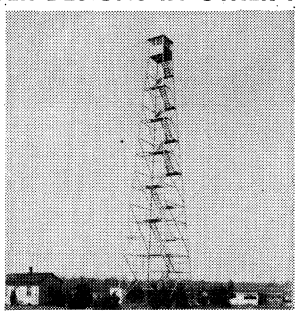
REPRESENTATIVE AERMOTOR TOWER DESIGNS IN OTHER FIELDS



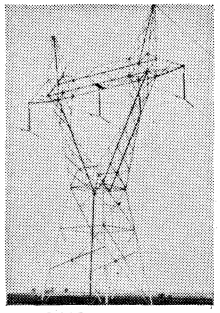
RADIO TRANSMITTING TOWER



BILBY TRIANGULATION TOWER (U.S. Coast and Geodetic Survey)



FIRE CONTROL TOWER



SINGLE CIRCUIT TRANSMISSION TOWER

Complete information on any standard tower or custom design problem is available by writing:

AERMOTOR COMPANY SPECIAL TOWERS DIVISION

Telephone: SEeley 3-7000 — 2500 ROOSEVELT ROAD, CHICAGO 8, ILLINOIS — Cable Address: AERMOTOR

See YELLOW SECTION for Local Offices, Telephone, etc.

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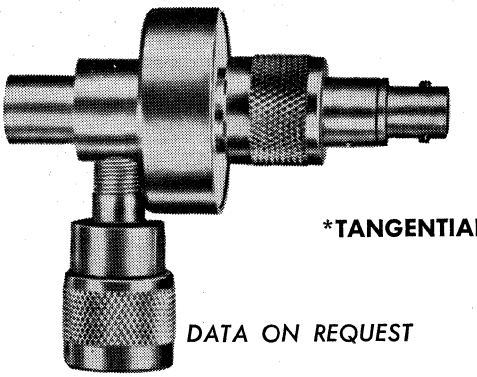
AEL CRYSTAL VIDEO DETECTOR MOUNTS

AEL is now producing CRYSTAL VIDEO DETECTOR MOUNTS which may more than "TRIPLE THE RANGE" of existing microwave beacons and countermeasure systems.

THESE DETECTOR MOUNTS ARE DESIGNED FOR TANGENTIAL SENSITIVITIES AS HIGH AS **−65 dbm**



DATA ON REQUEST

NOW YOU CAN

REDUCE SYSTEM POWER • CUT COST
CUT WEIGHT • EXTEND DETECTION RANGE

Standard and custom units to your requirements in small or production quantities. All mounts are available either broadband (50-12000MC/s) or narrow band . . . to your specification.

***TANGENTIAL SENSITIVITY**

*Tangential Sensitivity (T.S.) is defined as the power level of the incoming signal at which the signal plus noise equals twice noise. T.S. is read when the bottom of the noise inside the pluse is tangential to the top of the noise outside the pulse. All AEL T.S. measurements are made with a video bandwidth of 2mc using the MA 408B crystal. NO AEL MOUNT HAS SUCK-OUTS WITHIN MATCHED BAND.

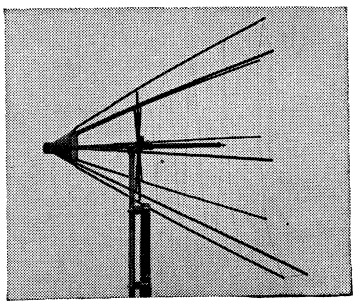
AMERICAN ELECTRONIC LABORATORIES, INC. 121 N. SEVENTH ST., PHILA. 6, PA.

AEL BROADBAND ANTENNAS

CONICAL HELIX

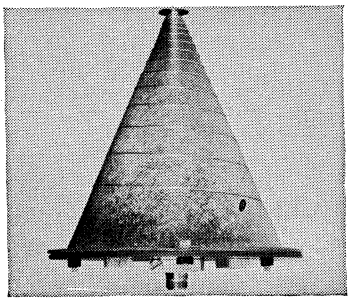
AEL has produced circularly polarized antennas of extremely broad RF bandwidths. Salient features of these antennas are:

- 1. Circular polarization—power axial ratio 3:1 or better
- 2. Broad RF Bandwidth—20:1
- 3. Operates without a ground plane—over 20 db front to back ratio
- 4. VSWR—3:1 or better when terminated in a 50 ohm line
- 5. High efficiency over effective frequency band
- 6. Gain approximately 5 db over a one half wave dipole
- 7. Gain and beamwidth approximately constant over entire band
- 8. Relatively small size
- 9. Built according to Mil. specs.



COLLAPSIBLE

- Standard frequency bands available. 50-1100 MC, 90-1100 MC. Other ranges built to customer specs.
- Easily collapsible—closes like an umbrella.
- Supplied with fibreglass mounting mast.



RIGID CONE

- Standard frequency bands available. 160-1100 MC, 900-4700 MC. Other ranges built to customer specs.
- Wound on rigid fibreglass cone
- Fittings available for mast mounting

For linear polarization Log Periodic antennas are also available. — Deliveries: from 4 to 8 weeks.

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See YELLOW SECTION for local offices, telephones, etc.

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MANUFACTURERS' DIRECTORY-SALES OFFICES	**YELLOW SECTION**
TRADE NAME DIRECTORY	**END OF YELLOW SECTION**

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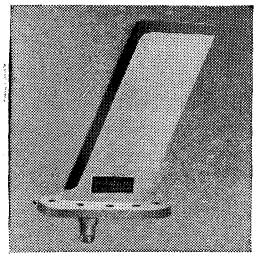
AIRBORNE ANTENNAS

Research . . . Development . . . Forward march! This is the spirit prevailing at DORNE & MARGOLIN. And the result . . . airborne antennas keyed to the changing times. Most of the units on this page represent families of antennas with varying characteristics which can be used "as is" or easily modified to meet specific requirements. You should have the DORNE & MARGOLIN catalog in your active file . . . write for it today!

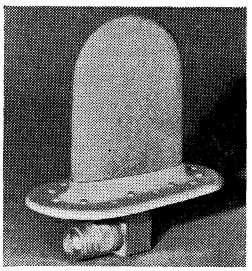


DM C7-2
High Speed UHF Blade

VSWR - 2.5:1.0 from 225 to 400 mc.

Low drag at supersonic speeds
Lateral load: Tested at 8 psi
Temperature: Tested at 400°F.
Mounting: Duplicates AT-256
Weight: 14 ounces

Equipment: ARC 27
ARC 34
ARC 52



DM N13
L-Band Antenna

VSWR under 1.5:1 from 900 to 1220 mc

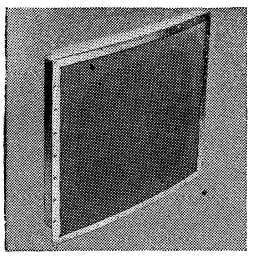
Max. VSWR 1.6:1 for special application with reflector

Connector available in either "HN" or "C" type

Mounting: External

Weight: 12 ounces. It is both lighter and smaller than AS-133

Equipment: ARN-21 and APX-6



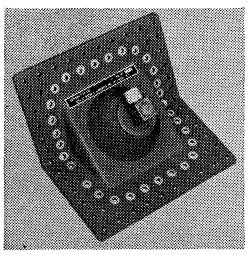
DM C1
UHF Annular Slot

VSWR - 2.4:1.0 from 225 to 400 mc.

Zero Drag—Flush Mounted. Contoured to fit any Mounting Surfaces from Flat to Approximately 30" radius.

Mounting: Flush Mounted with Minimum Interference to Existing Structure

Equipment: AN/ARC-27, ARC-52 UHF Communications
AN/ARC-34, Data Link Equipment



DM NI18
L-Band Annular Slot

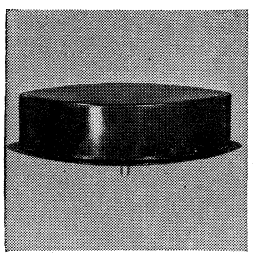
VSWR under 1.5:1 from 950 to 1220 mc.

Designed for "V"-shaped Keel—with either Type "HN" or "C" Connector.

Mounting: Flush Mounted

Environmentally Tested to MIL-T-5422C Specifications

Equipment: AN/ARN-21 and AN/APX-6



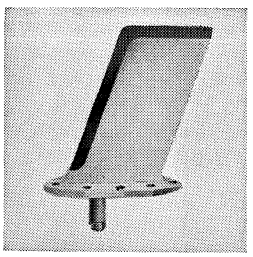
DM C3-2
UHF Stub

VSWR under 2.2:1 from 225 to 400 mc.

Designed for use on Helicopters and Other Low Speed Aircraft Where Small Ground Clearance Precludes Longer Conventional Type Blades

Mounting: Antenna is a Minimum Protrusion of 3½" from Skin

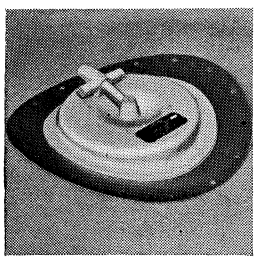
Equipment: U H F Communications Equipment



DM W2
High Speed Command Blade

VSWR - Max. 1.7:1 406 to 420 mc.

Low drag at supersonic speeds
Lateral load: Exceeds 8 psi
Temperature: Tested to 400°F.
Weight: 12 ounces
Mounting — Duplicates AT-256
DM W2-3 — Same as above with right angle connector.



DM NI7 (AT-571/A)
L-Band Annular Slot

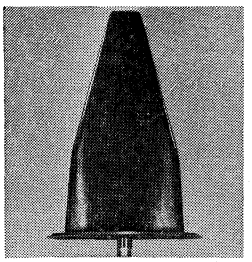
VSWR - 1.5:1 from 950 to 1220 mc.

Zero Drag—Flush Mounted

Tested in Accordance with MIL-T-5422C and 5272A

Available in Curvatures of 12, 13, 20, 24, 32, 71½, and 126 inches. Antenna not limited to Preceding Curvatures, Can be Modified to Fit any Curvature

Equipment: AN/ARN-21 and AN/APX-6



DM S1
Blade Antenna, Sonobuoy

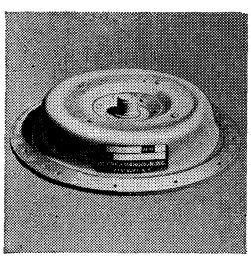
VSWR under 2.5:1 from 162.25 to 173.5 mc.

Mounting: External

Height: 10⅛"

Weight: 12 ounces

Equipment:
AN/ARR-26 Sonobuoy Receiver



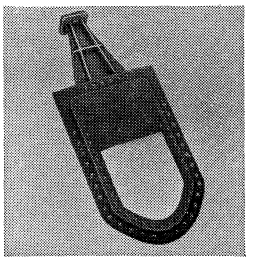
DM NI13 (AT-720/A)
L-Band Flat Annular Slot

VSWR - 1.8 from 950 to 1220 mc. and under 1.6 from 1000 to 1100 mc.

Mounting: Flush Mounted, Interchangeable with AT-234 Connector at Center

Equipment: AN/ARN-21 and AN/APX-6

DM NI6 (Same Type Antenna with Connector on the Side)



DM P1
X-Band Radar Antenna

VSWR - 1.3:1 from 9335 to 9415 mcs.

Mounting: Flush Mounted. Intended for Upper or Lower Surface of Nose Section

Equipment used with: AN/APG-30

Traveling Wave Type — Pattern of Medium Beam Width

DORNE AND MARGOLIN, INC.
East Coast: 29 New York Ave., Westbury, N. Y. • West Coast: 1434 Westwood Boulevard, Los Angeles 24, Calif.

Order from Local Electronic Parts Distributors or Write for List.

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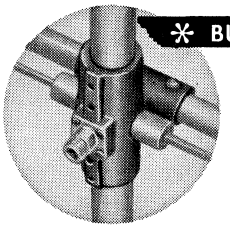
UHF • VHF — Complete Antenna Coverage —

Precision Industrial Antennas by SCALA

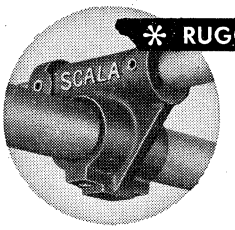
Why you get better performance with Scala Antennas–



✻ BUILT-IN BALUN

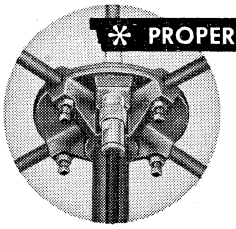
(pat. pending)

Provides a balanced feed system assuring equal distribution of current to the driven element, greater electrical and mechanical stability. The balun allows the driven element to be supported by metal and eliminates the necessity of using the insulator as a mechanical support.



✻ RUGGED CONSTRUCTION

Elements are supported by machined castings providing a larger support area, damping vibrations and reducing the concentration of stress and metal fatigue. Mechanical splices are never used. All units are available in metals other than aluminum if desired.



✻ PROPER STRUCTURAL DESIGN

A machined casting, webbed for extra strength and structural support is used to hold parasitic elements in the ground plane antenna. Set screws and lock nuts provide simple assembly and easy installation.

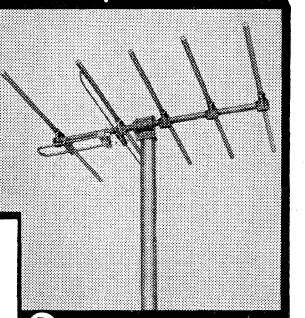
✻ BUILT-IN HEATER

Most of the antennas described below can be obtained with a 24 volt heating system for maximum weather protection and assured winter operation.

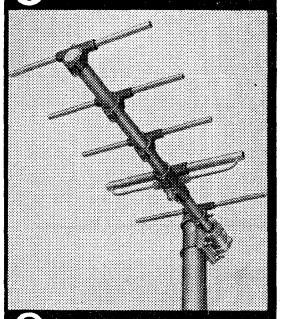
✻ TESTING AND INSPECTION

Each antenna is tested twice for impedance match—once during manufacture and again prior to dis-assembling for shipment. New models are field-tested for one year before released for production.

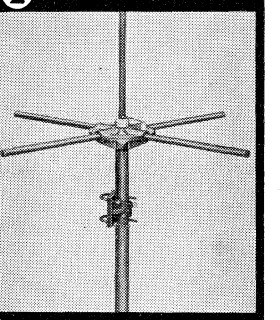
**Shipped complete—all U-bolt mounting clamps and brackets are included. Unit is ready for installation.*



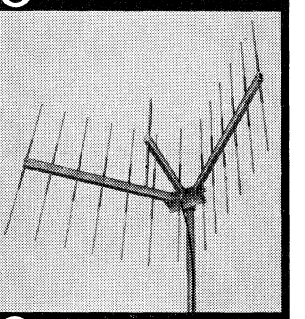
1 MODEL CA5-150



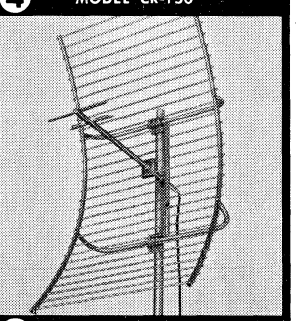
2 MODEL CA5-450



3 MODEL GPC-150



4 MODEL CR-150



5 MODEL PR-450

1 YAGI—VHF

The Scala Model CA5-150 is a 52-ohm 5 element yagi. Nine db gain on the major lobe is assured by careful design and Scala's exclusive feed system which eliminates radiation from the feed line and provides equal distribution of current to the driven element. The VSWR is less than 1.3 to 1. For complete weatherproofing and year-around operation, the boom can be provided with a 24 v heater. The unit is annodized and dichromate sealed.

2 YAGI—UHF

The Scala Model CA5-450 general communications antenna is a product of years of extensive research. Its construction is possible only because of developments in foam plastics and Teflon insulated cable. A Teflon insulated balun is located within a chamber filled with a special foam plastic for complete moisture and corrosion protection. High strength 7/16" solid aluminum rod is used for the parasitic elements. VSWR is less than 1.3 to 1. Gain is 10 db. Two units may be mounted in an array for an increase in gain up to 3 db and greater directivity. Shipped completely assembled, the unit is annodized and dichromate sealed.

3 GROUND-PLANE—40-170 MC

The Scala Model GPC-150 ground-plane antenna is ideal for non-directional, all weather communications. It is the first ground-plane antenna that can be obtained with 24 v heaters throughout — including the radial elements, providing a completely weatherproof and safe year-round operating antenna. Another version of this unit, comes equipped with a reflector and provides a cardioid radiation pattern with increased gain. In all cases the VSWR is less than 1.3 to 1. The unit is annodized and dichromate sealed.

4 CORNER REFLECTOR—140-170 MC

The Scala Model CR-150 corner reflector uses Scala's unique built-in balun to convert the unbalanced coaxial feed to the balanced load of the radiating dipole. This provides an excellent match and assures proper distribution of energy to the feed point. Featuring extreme ruggedness and ease of installation, the unit can be assembled in less than two minutes.

5 PARAFLECTOR®—350-1000 MC

The Scala Model PR-450 Paraflector® is a major contribution toward the improvement of antenna construction and performance in the 350 to 1000 mc range. Essentially, a parabolic section in one plane, the driver is positioned to approach a point source. Over the 350 to 1000 mc range, the Paraflector® is equal to a parabolic dish of the same aperture and has the advantage of lower cost, lighter weight, ease of assembly, installation and rugged construction.

EXACTING DESIGN—TESTED MATERIALS—PRECISION MANUFACTURE

In addition to the antennas described above, and other standard communications, telemetering and community systems, Scala maintains a complete engineering service to design and manufacture special antennas to your specific requirements.

Write for complete catalog on Scala antennas and engineering services. Address Dept. EM 58.

SCALA RADIO COMPANY

2814 - 19TH STREET • SAN FRANCISCO 10, CALIF.

Order from Local Electronic Parts Distributors or Write for List.

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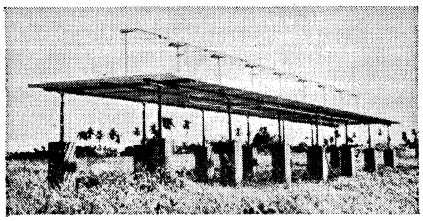
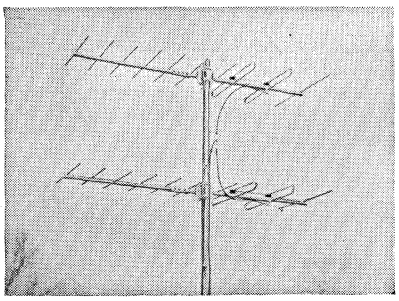
Antennas



MINITRACK ANTENNAS

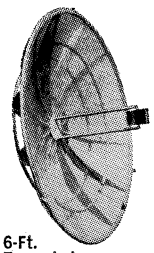
Horizontally or vertically mounted arrays similar to this MINITRACK antenna can be designed for individual beam requirements or you can select from a number of existing designs.

TACO offers unsurpassed facilities for the design, development and manufacture of military and commercial antenna systems. Mechanically, Taco is currently handling antenna arrays in the area of 2000' dimensions. Electrically, Taco is equipped and experienced in the design and manufacture of antennas from 30 MC to X-band. Modern laboratory and manufacturing facilities include long-range test sites, complete measuring and testing equipment, automatic constant potential welding equipment, and provision for competent field service and installation service anywhere.



RUGGEDIZED YAGI

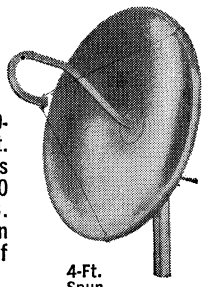
From 30 MC to 500 MC. Available as individual units or stacked systems.



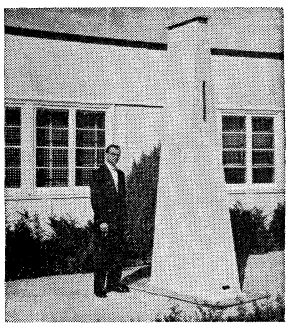
6-Ft. Expanded Aluminum Mesh

PARABOLIC ANTENNAS

Mesh sizes from 4-ft. to 19-ft. and spun sizes from 4-ft. to 6-ft. Frequency bands from 806-960 MC, 1700-2400 MC and 5925-7450 MC. Other bands available on special order. Variety of mountings.



4-Ft. Spun Aluminum



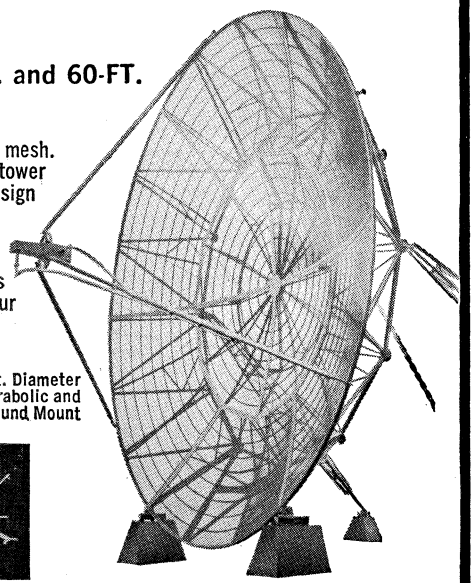
WAVE GUIDE COMPONENTS

Large Wave Guide Components for 10½" and 21" in the form of wave guide bends, feed horns, are available. Certified welders assure quality units fully tested to meet the most stringent electrical and mechanical requirements.

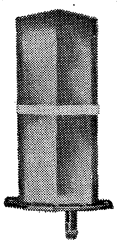
28-FT., 32-FT. and 60-FT. PARABOLICS

Expanded aluminum mesh. Ground mounted or tower mounted. Unique design allows rapid, simple erection.

Dual polarized horns supplied to meet your requirements at reasonable cost.



28-Ft. Diameter Parabolic and Ground Mount

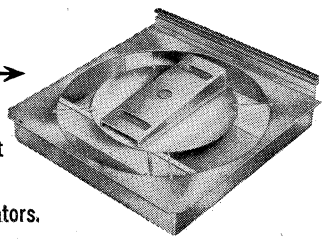


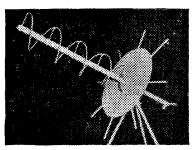
AIRBORNE ANTENNAS

←—— **Antenna AT-256-A/ARC** Type and Construction: Streamlined blade type antenna. Heat treated permanent mold aluminum castings with Teflon insulators.

Antenna G-833 ——→

Type and Construction: Flush mounted annular slot antenna for communication band. Sheet aluminum, spot welded construction per Air Force specifications. Fibreglas insulators.





HELICAL ANTENNAS and MOUNTS

Mechanical mount for azimuth and elevation. Electromechanical remote mounts also available. Helicals available in 4, 6, or 8 turns from 215-265 MC. Other frequencies on special order. Mount illustrated is H-M-1.

and the best TV antennas in the world...

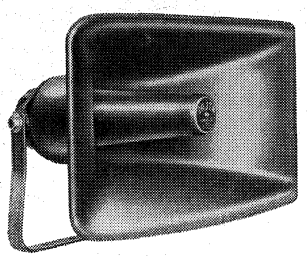
TACO ANTENNAS

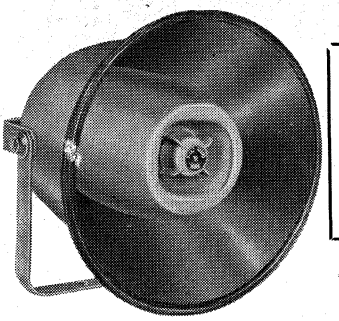
TACO

TECHNICAL APPLIANCE CORP.
SHERBURNE, N. Y.

In Canada: Hackbusch Electronics, Ltd., Toronto 4, Ont.

See YELLOW SECTION for Local Offices, Telephone, etc.





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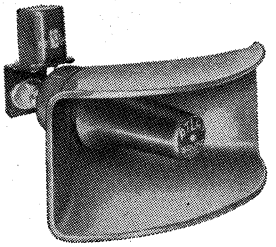
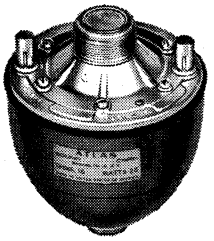
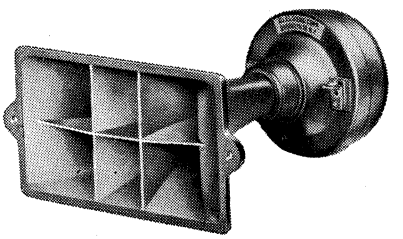
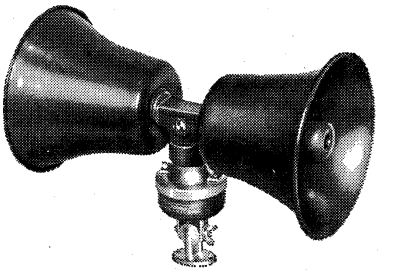


Public Address Loudspeakers

WEATHER-PROOF — EXPLOSION-PROOF
HIGH EFFICIENCY



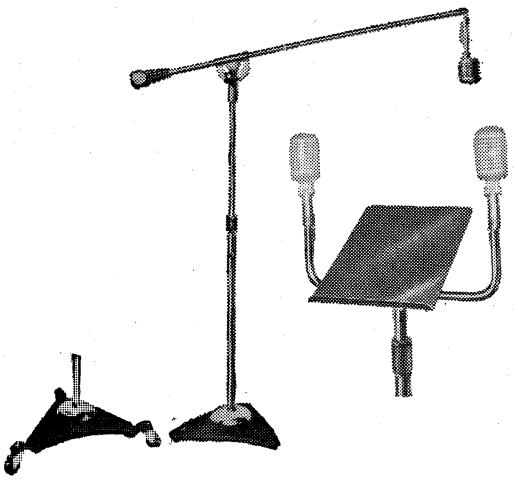


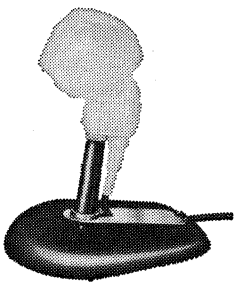


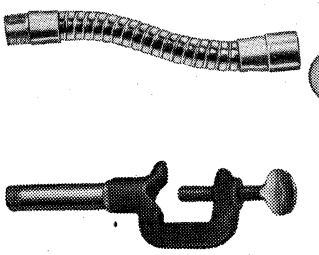
Microphone Stands — Booms

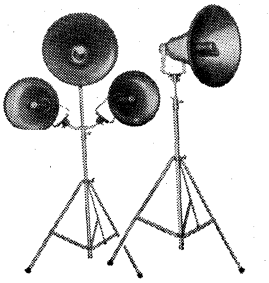
AND ACCESSORIES

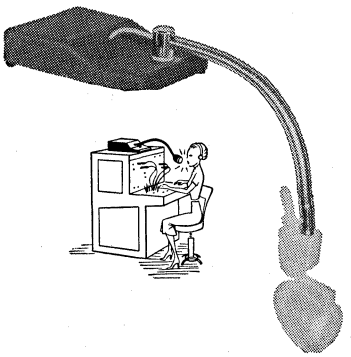
Special Stands and Mechanisms For All Purposes

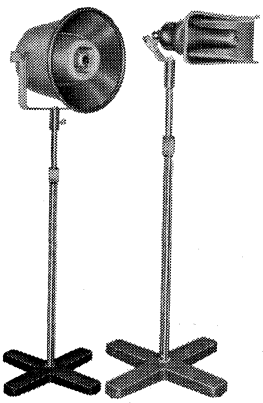












For complete descriptions, specifications, and additional illustrations on the complete Atlas line . . . please refer to this year's edition of the Radio-Electronic Master.

All Atlas items catalogued in the Radio-Electronic Master are stocked by electronic distributors throughout the country. Contact them for immediate delivery — or write to us for the name of your nearest distributor.

ATLAS SOUND CORPORATION

1447 - 39th STREET, BROOKLYN 18, NEW YORK

See YELLOW SECTION for local offices, telephones, etc.

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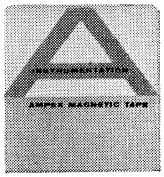


for maximum performance

AMPEX MAGNETIC TAPE

...from the leader in magnetic tape instrumentation

DIRECT RECORDING
FM-CARRIER
PULSE DURATION MODULATION
NRZ-DIGITAL

Whatever recording modes you use, a better tape, by itself, can significantly improve your equipment's performance. By selecting the correct Ampex precision tape from the types offered below, you assure the highest level of performance that the state of the art permits.

Coercivity and retentivity are carefully balanced on all Ampex tapes to give a squareness to the hysteresis loop. This optimized relationship in the B-H curve promises you what the tape delivers—uniformly higher output over the entire frequency spectrum.

Interchangeability

Output on each reel is uniform within ±0.20 db for low frequencies and ±0.80 for the highs. Carefully selected oxides and film backings, combined with efficient binders and solvents, give reel-to-reel uniformity as well, with consistent coating thicknesses, density, and the best possible dispersion. What this means to you is that since all Ampex precision tapes exhibit the same basic magnetic propertics, all may be used interchangeably without equalization or bias adjustments.

Ferro-Sheen smoothness

Adding durability and environmental resistance, the exclusive Ferro-Sheen process also makes Ampex the smoothest of all magnetic tapes. Surface smoothness is important because it allows closer tape-to-head contact starting with the very first run, which means less spurious noise and *consistently* high output in subsequent usage—unlike other tapes which may change characteristics, getting "hotter" only as the oxide coating wears smoother with use.

Functional packaging

Even the distinctively-styled but sensible Ampex packaging bespeaks the quality and care which go into each reel of Instrumentation Tape. Two plastic film bags preserve the dust-free environment of the plant where the tape is made and packed. Plastic foam wedges and a center hub-support protect the contents from damage inside tough, corrugated inner and outer sleeves. There are convenient write-in panels for titling. A full description of the tape itself, including catalog and batch numbers, appears on the package spine so tapes can be easily identified right on the shelf without removing the package.

Precision reels

Ampex Precision Reels are engineered from stress-relieved magnesium alloy to close minimal clearances between tape and flange. Small, staggered flange openings prevent propellor effects from whipping air into the tape pack, and rigidly-constructed concentric hubs withstand distortion under tape pressure, a weakness of ordinary reels in high-speed transports. These precision reels provide two *plus* benefits: more protection for your valuable recorded data, and increased accuracy.

More protection comes from greater flange rigidity and a better pack, which prevents loose tape edges from protruding to curl and fray—as when ordinary reel flanges are bent in handling. Accuracy also improves because better packing means consistent tension on the tape and therefore less likelihood of flutter.

Nationwide service

Ampex Instrumentation Tape is regularly available on hubs or NAB-type reels. Type designations, base thicknesses and materials, tape widths, reel diameters, standard lengths and carton packaging are shown in the tables below. An Ampex tape specialist will be glad to help you make the correct selection for your needs.

Competent help and assistance in solving your data recording problems is part of the obligation of leadership which Ampex is pleased to accept. Ampex tape specialists offer a network of technical service and consultation facilities throughout the U. S. and Canada, based on the greatest total experience in magnetic tape instrumentation.

AMPEX INSTRUMENTATION TAPES

Type designation	M 1	M 2	A 1	A 2
Base material	Mylar*	Mylar	Acetate	Acetate
Base thickness (mils)	1.0	1.5	1.0	1.5

*DU PONT TRADEMARK

AMPEX STANDARD TAPE LENGTHS (feet)

REEL DIAMETERS (inches)	BASE THICKNESS	
	1.0 mils	1.5 mils
7"	1800'	1250'
10½"	3600'	2500'
14"	7200'	5000'

AMPEX STANDARD CARTONS (reels/carton)

REEL DIAMETERS (inches)	STANDARD TAPE WIDTHS*		
	¼-inch	½-inch	1-inch
7"	10	10	5
10½"	10	5	5
14"	5		

*⅝" and ¾" tape also available on 10½" reels packed 5 per carton.

Ampex also offers a complete line of quality accessories, including leaders, splicing tape, Edivue tape "developing" kits, reel labels, and plastic reel containers.

For full information and prices, call or write the Ampex tape specialist at the office nearest you.

AMPEX MAGNETIC TAPE
934 CHARTER ST., REDWOOD CITY, CALIF.

For a complete list of Ampex District Offices, see the Ampex ad on another page of this Catalog.

See YELLOW SECTION for Local Offices, Telephone, etc.

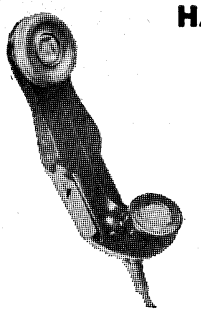
*AUDIOSEARS

ELECTRONIC COMMUNICATION EQUIPMENT

***TRADEMARK FOR...**
ADVANCED DESIGN, DEVELOPMENT, PRODUCTION — TO SPECIFICATION

REPRESENTATIVE ITEMS REGULARLY PRODUCED TO CURRENT MIL-SPECIFICATIONS

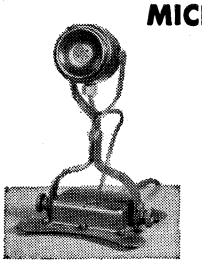
HANDSETS



H-33(E)/PT — MIL-H-11134B
H-67(A)/GT — MIL-H-13253B
TS-10 — MIL-T-15514B

OTHERS INCLUDE SOUNDPOWER PROMPTLY TO ORDER

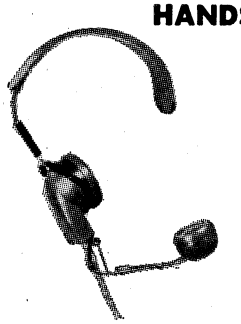
MICROPHONES



M-3A/A	— MIL-M-005793B
M-6A/UR	— MIL-M-5794A
M-15( )/UR	— MIL-C-6629
M-29( )/U	— MIL-M-11193B
M-35( )/U	— MIL-M-11095A
M-51/UR	— MIL-M-5794A
M-52( )/U	— MIL-M-11193B
M-53/U	— MIL-H-12930
M-54/U	— MIL-H-12930
T-45-( )	— MIL-M-11703A

OTHER CARBON AND DYNAMICS AVAILABLE

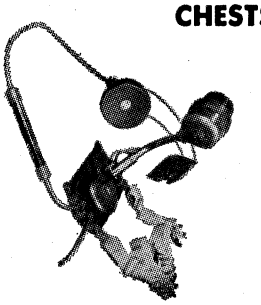
HANDSET-HEADSETS



H-81(A)/U — MIL-H-12576A
H-108(A)/U — MIL-H-26827
H-144( )/U — MIL-H-12576A
53AW — COMMERCIAL

OTHERS TO SPECIAL ORDER

CHESTSETS



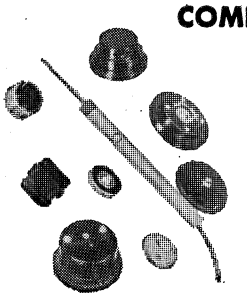
H-18( )/GT — MIL-C-13064A
HS-25C — MIL-H-12930
H-164/U — MIL-H-12930

HEADSETS

NT-49507B — MIL-H-3679
NT-49985A — MIL-E-17884A
HS-32 — MIL-T-12899
HS-33A — MIL-H-005795B
H3ARR3 — MIL-H-5589A

OTHER IMPEDANCES WOUND TO ORDER

COMPONENTS



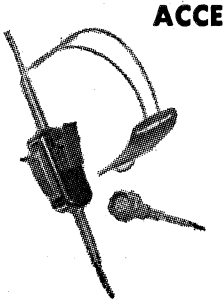
ELEMENTS FOR INCORPORATION IN MANUFACTURERS OWN PRODUCTS . . . COORDINATING ENGINEERING IF DESIRED

HEADSET-MICROPHONES

H-46A/UR — MIL-H-005795B
H-63( )/U — MIL-H-11190A
H-163( )/U — MIL-H-9697 / MIL-E-4158B

ALSO OTHER COMBINATIONS FOR HELMET MOUNTING

ACCESSORIES



SWITCHING AND CONNECTING CABLES — TEST SETS — CORDAGE — FOR CUSTOM ITEMS

AUDIOSEARS, WITH INDEPENDENTLY OWNED AND OPERATED TOOLING AND A SUBSTANTIAL STOCK OF RAW MATERIALS, IS YOUR MOST ECONOMICAL EQUIPMENT SOURCE

Our modern well equipped laboratory and plant is located at the source of the Delaware River, secure from metropolitan hazards. Competent and experienced employees guarantee repeatedly outstanding performance in both products and deliveries. Our stock is geared to give SERVICE.

*AUDIOSEARS CORPORATION
ROXBURY, NEW YORK
DELAWARE COUNTY

See YELLOW SECTION for Local Offices, Telephone, etc.

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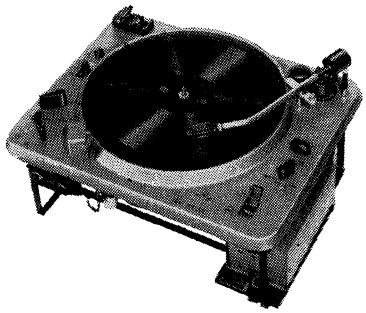
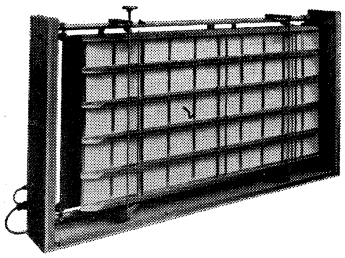
PRECISION COMPONENT, INSTRUMENTATION & EQUIPMENT FOR BROADCAST & INDUSTRY



EMT MODEL 930—STEREO & MONO COMPACT TURNTABLES

1. Preselection and cue of syllables
2. Remote switching operation
3. Line level output (active pre-amp)
4. All equalization US and Foreign
5. Continuously variable needle-noise filter
6. Tone-arm raise/lower mechanism
7. Exceeds NARTB standards for wow/flutter/ speed stability/signal to noise.
8. Built-in speed strobe and vernier adjust
9. 78/45/33.33/16.6 rpm.

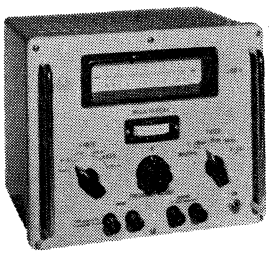
A group of EMT 930's can be cued up in advance in seconds, and played back on the syllable in any combination, from a remote point.



EMT MODEL 140 REVERBERATION UNIT

1. The first true echo generator—true echo characteristics from 0.8 to 6 seconds instantly selectable
2. Remote control available
3. Echo range 30-12000 cycles
4. Mobile, no location problems
5. Non-sensitive to environment
6. Vibrating plate (Dr. Kuhl design) and electronic assembly robust and trouble-free
7. *No coloration of original sound*
8. Line level input/output

EMT 140 can be effectively used to brighten up "dead" pickups or older releases. Unit shown with side cover removed.



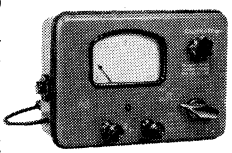
EMT MODELS 414 and 418 WOW & FLUTTER TEST SETS

1. Instrument and Oscilloscope presentation
2. 3000 and 5000 cycle standards
3. FM and AM readings
4. Standards for comparison in manufacturing
5. Disc, film, tape applications
6. Wide measuring ranges
7. Calibration incorporated
8. Extensive built-in filters simplify fault determination (interference frequencies a function of r.p.m.)

Quality stations should check their recording equipment on a weekly schedule. How long since you checked your film, tape, or disc equipment for wow & flutter?

EMT 321 OHMMETER WIDE RANGE, PORTABLE

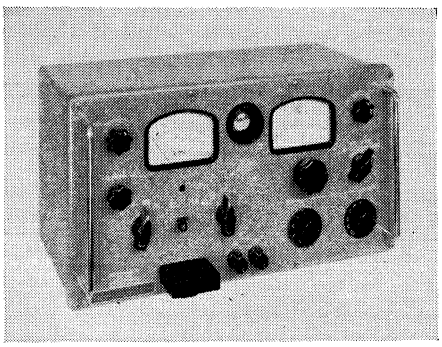
1. 10 milliohms through 100 megohms
2. Extremely low test object loading (millivolts)
3. 7 decaded ranges
4. Most useful in semi-conductor testing



EMT 325 MICROOHMETER FOR EXTREME LOW RANGES

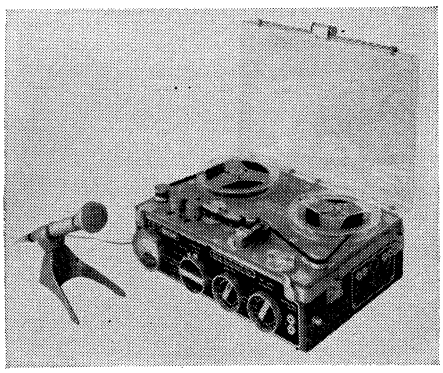
SCHOMANDL PRECISION FREQUENCY METERS & SYNTHESIZERS

For active/passive measurements from 100 kc through 10,000 mc. Model FD1, shown, is portable high-accuracy unit for field applications. With attached converter FDM1, the FD1 measures frequencies between 1 kilocycle and 900 megacycles!



EMT 533/543 CAPACITANCE BRIDGES

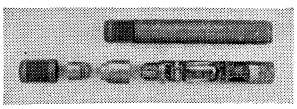
1. Precision measurement of capacity and loss angle of electrolytics from 1 to 100,000 MFD
2. Test frequencies 60/120 cycles
3. Polarizing voltage adjustable from 0-750 volts
4. Direct reading leakage currents (also available: Winding Limit, Tolerance Bridges/High Voltage test sets.)



NAGRA MODEL IIIB PORTABLE TAPE RECORDER

1. Studio quality in a transistorized 12 lb. unit
2. 3 speeds servo controlled (Model B)
3. Complete independence from mains power
4. Monitoring head and panel loudspeaker
5. Volume level indicator
6. Line level outputs
7. Stabilized, printed circuit
8. Swiss, precision manufacture

EMT 28 CONDENSER MICROPHONE GROUP



1. Smooth low frequency characteristic
2. High front to back ratio
3. High output
4. Cardiod or omni directional

OTHER COMPONENTS FOR APPLICATION

1. Bausenhart Precision Resistors
2. Berger Electrostatic Voltmeters
3. Special Double Shielded Audio Cables
4. Capacitor winding limit bridge. Write for special folders.

ELECTRONIC APPLICATIONS INC., 194 Richmond Hill Ave., Stamford, Conn.

GET FULL DATA TODAY — WRITE OR PHONE VINCENT J. SKEE — **DAvis 5-1574/5**
SOLE U.S. DISTRIBUTOR — COMPLETE FACTORY SERVICE, PARTS & CALIBRATION

See YELLOW SECTION for local offices, telephones, etc.

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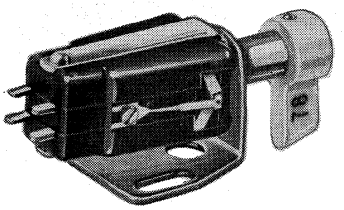
FEDTRO

STEREO PERFECTIONIST

COMPATIBLE TURNOVER STEREO CARTRIDGE

PERFECTED PERFORMANCE at the LOWEST PRICES in the INDUSTRY!



PERFECTIONIST • Model STC - 1

With its 4-pin connections, the PERFECTIONIST not only virtually eliminates hum, but in addition removes shock hazards when used with AC/DC amplifiers.

The PERFECTIONIST is a STEREO cartridge of the turnover type, developed and perfected through many years of intensive research and expert knowledge in the field of acoustics. This superior cartridge of the latest modern design, faithfully reproduces STEREO, LP, and 78 RPM discs. Every effort has been made, including extensive laboratory tests, to assure you of a product of optimum performance. As a result of our exclusive process utilizing the newest ANTI-HYDROSCOPIC materials available, the PERFECTIONIST will outperform other types of stereo cartridges, even when high humidity and extreme temperature changes are normally a problem. Representative samples of the STC-1 have been exposed to atmospheric tests of 40 degrees Centigrade at 90% humidity, for a constant period of 500 hours. After such severe exposure, the dielectric strength did not vary ½ of 1% of the original measurements.

The recommended STYLUS PRESSURE of the PERFECTIONIST is 5 to 7 grams, which can be further reduced as low as 4 grams when used with a professional tone arm. This LOW STYLUS PRESSURE is indicative of the HIGH COMPLIANCE of the PERFECTIONIST, since high compliance is directly related to stylus pressure. It is obvious therefore, that the excellent compliance of the STC-1 exceeds that of other stereo cartridges selling for considerably more. In addition, the HIGH COMPLIANCE of the PERFECTIONIST increases the life of STEREO records and reduces the latent possibility of expensive record damage.

SPECIFICATIONS:

FREQUENCY RESPONSE
Smooth from 20 to 12,000 cycles with gradual rolloff beyond
OUTPUT VOLTAGE
0.4 volt for STEREO & LP
0.5 volt for 78 RPM
RECOMMENDED LOAD
2 megohms
STROKE (CHANNEL SEPARATION)
In excess of 20 db.
STYLUS TRACKING PRESSURE
4 grams (with professional tone arm)
5 to 7 grams (standard changers)
STYLUS
.7-mil microgroove (No. STC-1-MG)
3-mil 78 RPM (No. STC-1-78)
MOUNTING DIMENSIONS
Standard 7/16 to 1/2 inch centers
AVAILABILITY
From stock
PRICE
Lowest in the industry

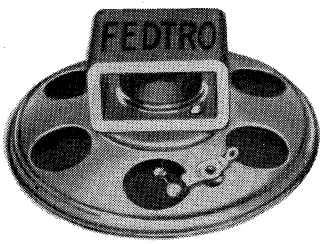
See Fedtro's EEM listing in Sections:
2100 (Jacks) 1500 (Capacitors)
1300 (Earphones, Speakers)
3900 (Pilot Lites) 4700 (L-Pads)

FEDTRO
"QUALITY ELECTRONIC PRODUCTS"

FEDTRO

MINI-VOX SPEAKERS

Designed for TRANSISTOR and PORTABLE RADIOS
SUPERIOR PERFORMANCE at the Lowest Prices in the Industry!



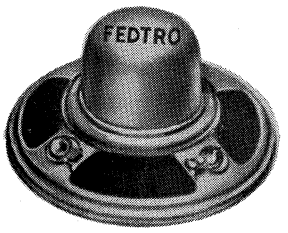
TRS-275

QUALITY PERMANENT MAGNET SPEAKERS FOR:

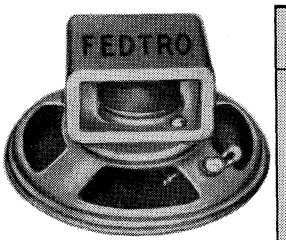
- TRANSISTOR RADIOS
- PORTABLE & TABLE RADIOS
- INTERCOMS • PHONOGRAPHS
- REMOTE SPEAKER DEVICES

and all other Electro-Acoustic miniature speaker applications

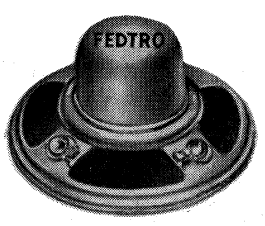
Mini-Vox Speakers are outstanding in performance and superior in all Electro-Acoustic applications which require optimum quality in limited space. They are ruggedly constructed of the finest materials assuring trouble-free performance in the field. Special rubberized periphery cushioning eliminates rattle and sound distortion.



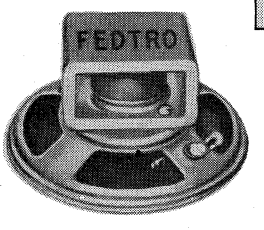
TRS-225R



TRS-225

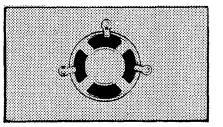


TRS-200R



TRS-200

Model No.	Size	Magnet Weight	Voice Coil Imp.	Frequency Response (cps)	Flux Density (gauss)	Gross Weight
TRS-200	2 in.	.68 oz.	8 ohms	280-7000	8000	2.47 oz.
TRS-200R	2 in.	.68 oz.	8 ohms	280-7000	7500	2.47 oz.
TRS-225	2¼ in.	.68 oz.	8 ohms	250-7000	8000	2.47 oz.
TRS-225R	2¼ in.	.68 oz.	8 ohms	250-7000	7500	2.54 oz.
TRS-275	2¾ in.	.68 oz.	8 ohms	200-7500	8000	2.82 oz.



QUICK MOUNTING

ALL FEDTRO MINI-VOX SPEAKERS ARE SUPPLIED WITH 3 QUICK-MOUNT CLIPS PROVIDING A SIMPLE EFFICIENT SECURE INSTALLATION.

AVAILABILITY: As per your production requirements.
PRICES: Lowest in the industry.

MEMBER PACE PRODUCERS OF ASSOCIATED COMPONENTS FOR ELECTRONICS, INC.

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DIVISION OF FEDTRO INC.
Federal Electronics Building, Rockville Centre, N. Y.
IN CANADA: Atlas Radio Corp. Ltd., Toronto

See Fedtro's EEM listing in Sections:
2100 (Jacks) 1500 (Capacitors)
1300 (Earphones, Speakers)
3900 (Pilot Lites) 4700 (L-Pads)

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THE WORLD'S LEADING SUPPLIER OF TRANSISTOR RADIO EARPHONES

Superlative Performance at the LOWEST PRICES in the Industry!

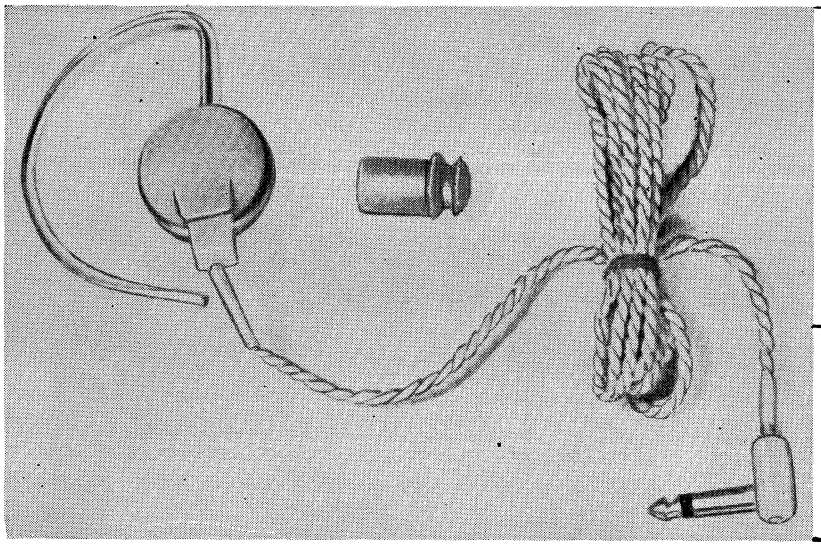
QUALITY

MAGNETIC EARPHONES
CABLES • ACCESSORIES
JACKS • PLUGS

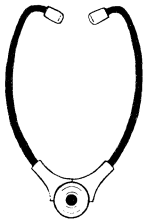
for

PORTABLE and TABLE RADIOS • DICTATING and BUSINESS MACHINES • MONITORING DEVICES • AIRCRAFT TV PRIVATE LISTENING • HEARING AIDS and all other ELECTRO-ACOUSTIC APPLICATIONS

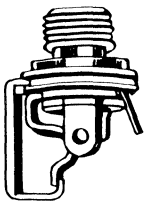
ALL FEDTRO EARPHONES UNCONDITIONALLY GUARANTEED FOR 5 YEARS



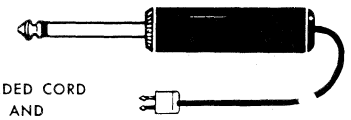
ACTUAL SIZE



STETHOSCOPE ATTACHMENT



MINI-JACKS (See EEM Sec. 2100)



MOLDED CORD AND PLUG SETS

EARPHONES	Complete selection of all standard impedances
ACCESSORIES	Largest stock assortment of standard and special cables, plugs, jacks, stethoscopes, etc.
PRICES	Lowest in the industry
AVAILABILITY	Immediately from New York stock
PACKAGING	Complete private label services
ENGINEERING SERVICE	Advise us of your needs and applications. Our complete engineering service and huge supply of stock moulds and accessories will save you needless efforts and money. In large quantities, special cables, plugs and attachments can be made to your specifications at tremendous savings. We will be pleased to offer our suggestions, samples and quotations.

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DIVISION OF FEDTRO INC.
Federal Electronics Building, Rockville Centre, N. Y.
IN CANADA: Atlas Radio Corp. Ltd., Toronto

See Fedtros listings in EEM for:

Sub-Miniature Electrolytic Capacitors (Sec. 1500)
Sub-Miniature Jacks (Sec. 2100)
Portable Radio Loudspeakers and Stereo Cartridges (Opposite Page)
Jiffy Mount Pilot Lites (Sec. 3900)
L-Pads and Level Controls (Sec. 4700)

FEDTRO
QUALITY ELECTRONICS PRODUCTS

See YELLOW SECTION for Local Offices, Telephone, etc.

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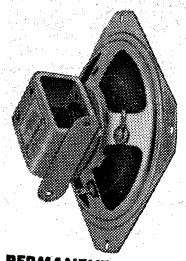
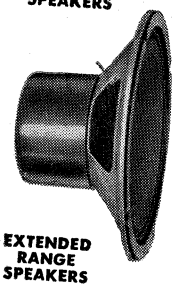
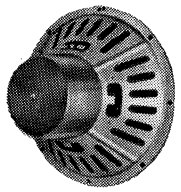


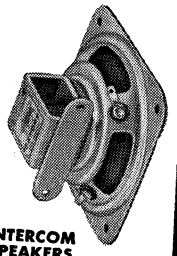
PERMANENT MAGNET SPEAKERS



EXTENDED RANGE SPEAKERS



FULL RANGE SPEAKERS



INTERCOM SPEAKERS

PERMANENT MAGNET SPEAKERS

Size	Model No.	Mag. Wt.	V. C. Size	V. C. Imp.	Watts
2" Square	2AMS	.68 oz.	9/16"	3.2 Ohm	1-2
2" Square	2CMS	1.47	9/16"	3.2	1-2
2½"x10" Rect.	2510CMS	1.47	9/16"	3.2	2-4
2¾" Round	27ATS	.68	9/16"	12	.25
3" Square	3AMS	.68	9/16"	3.2	2-3
3" Square	3CMS	1.47	9/16"	3.2	2-3
4" Square	4AMS	.68	9/16"	3.2	2-3
4" Square	4BMS	1.00	9/16"	3.2	2-3
4" Square	4CMS	1.47	9/16"	3.2	2-3
5" Round	5AMS	.68	9/16"	3.2	2-4
5" Round	5BMS	1.00	9/16"	3.2	2-4
5" Round	5CMS	1.47	9/16"	3.2	2-4
5" Round	5ECS	2.15	9/16"	3.2	2-4
5" Pin Cushion	5PAMS	.68	9/16"	3.2	2-4
5" Pin Cushion	5PBMS	1.00	9/16"	3.2	2-4
5" Pin Cushion	5PCMS	1.47	9/16"	3.2	2-4
5¼" Pin Cush.	52AMS	.68	9/16"	3.2	2-4
5¼" Pin Cush.	52BMS	1.00	9/16"	3.2	2-4
5¼" Pin Cush.	52CMS	1.47	9/16"	3.2	2-4
5¼" Square	55CMS	1.47	9/16"	3.2	2-4
6" Pin Cushion	6AMS	.68	9/16"	3.2	3-5
6" Pin Cushion	6BMS	1.00	9/16"	3.2	3-5
6" Pin Cushion	6CMS	1.47	9/16"	3.2	3-5
6" Pin Cushion	6CVS	1.47	3/4"	3.2	4-6
6" Pin Cushion	6EVS	2.15	3/4"	3.2	4-6
6" Pin Cushion	6FOS	3.16	3/4"	3.2	4-6
7" Pin Cushion	7CVS	1.47	3/4"	3.2	4-6
7½" Pin Cush.	82CVS	1.47	3/4"	3.2	4-6
8" Round	8CMS	1.47	9/16"	3.2	3-5
8" Round	8CVS	1.47	3/4"	3.2	4-6
8" Round	8EVS	2.15	3/4"	3.2	4-6
8" Round	8FOS	3.16	3/4"	3.2	4-6
8" Round	8HBS	4.64	1"	3.2	6-8
8" Round	8JBS	6.80	1"	3.2	6-8
10" Round	10CVS	1.47	3/4"	3.2	4-6
10" Round	10EVS	2.15	3/4"	3.2	4-6
10" Round	10FOS	3.16	3/4"	3.2	4-6
10" Round	10HBS	4.64	1"	3.2	8-10
10" Round	10JBS	6.80	1"	3.2	8-10
12" Round	12CVS	1.47	3/4"	3.2	4-6
12" Round	12EVS	2.15	3/4"	3.2	4-6
12" Round	12FOS	3.16	3/4"	3.2	4-6
12" Round	12HBS	4.64	1"	3.2	8-10
12" Round	12JBS	6.80	1"	3.2	8-10
4"x6" Elliptical	46AMS	.68	9/16"	3.2	2-4
4"x6" Elliptical	46BMS	1.00	9/16"	3.2	2-4
4"x6" Elliptical	46CMS	1.47	9/16"	3.2	2-4
5"x7" Elliptical	57CMS	1.47	9/16"	3.2	3-5
5"x7" Elliptical	57EVS	2.15	3/4"	3.2	4-6
5"x7" Elliptical	57FOS	3.16	3/4"	3.2	4-6
6"x9" Elliptical	69CVS	1.47	3/4"	3.2	4-6
6"x9" Elliptical	69EVS	2.15	3/4"	3.2	4-6
6"x9" Elliptical	69FOS	3.16	3/4"	3.2	6-8

when you think of speakers... think of

OXFORD

the world's most complete line of Standard Speakers for all applications

BUY your speakers where more original equipment manufacturers do . . . from OXFORD . . . high standards of speaker manufacturing for over thirty years.

EXTENDED RANGE SPEAKERS

Size	Model No.	Mag. Wt. Oz.	V.C. Size	V.C. Imp. Ohms	Watts	Frequency Range C.P.S.
8" Round	HF8JB	6.8	1"	8	10	50-12,000
10" Round	HF10JB	6.8	1"	8	10	50-10,000
12" Round	HF12JB	6.8	1"	8	10	50-10,000
12" Round	HF12LN	14	1-1/2"	8	25	40- 9,000
15" Round	HF15LN	14	1-1/2"	8	25	30- 7,000

WEATHERPROOF SPEAKERS

Size	Model No.	Mag. Wt. Oz.	V.C. Size	V.C. Imp. Ohms	Watts
3" Square	3CMWS	1.47	9/16"	3.2	2-3
4" Square	4AM-65	.68	9/16"	3.2	2-3
4" Square	4CM-27	1.47	9/16"	3.2	2-3
5" Round	5BA-3	.68	9/16"	3.2	2-4
5" Round	5CM-51	1.47	9/16"	3.2	2-4
6" Pin Cushion	6CMWS	1.47	9/16"	3.2	3-5

FULL RANGE SPEAKERS

Size	Model No.	Mag. Wt. Oz.	V.C. Size	V.C. Imp. Ohms	Watts
3" Round	T3C208	1.47	$\frac{9}{16}$"	8	3-5
5" Round	T5C208	1.47	$\frac{9}{16}$"	8	3-5
8" Round	F8J408	6.80	1"	8	15
12" Round	F12J408	6.80	1"	8	15
12" Round	F12L608	14.70	1½"	8	25

PUBLIC ADDRESS SPEAKERS

Size	Model No.	Mag. Wt. Oz.	V.C. Size	V.C. Imp. Ohms	Watts
8" Round	8JBS-7	6.80	1"	6-8	6-8
10" Round	10JBS-7	6.80	1"	6-8	8-10
12" Round	12JBS-7	6.80	1"	6.8	8-10

INTERCOM SPEAKERS

Size	Model No.	Mag. Wt. Oz.	V.C. Size	V.C. Imp. Ohms	Watts
3" Square	3BM-S45	1.00	9/16"	45	2-3
4" Square	4BM-S45	1.00	9/16"	45	2-3
5" Round	5BM-S45	1.00	9/16"	45	2-4
8" Round	8EV-S45	2.15	3/4"	45	4-6

COAXIAL SPEAKERS

Model No.	Size	Mag. Wt. Oz.	V.C. Size	V.C. Imp. Ohms	Total Watts
C12J408	Woofer 12"	6.80	1"	8	15
	Tweeter 3"	1.47	9/16"	8	
C15L608	Woofer 15"	14.70	1-1/2"	8	25
	Tweeter 5"	1.47	9/16"	8	

OXFORD Components, Inc.

556 West Monroe Street • Chicago 6, Illinois

In Canada: Atlas Radio Corp., Ltd., Toronto *Export:* Roburn Agencies, New York City

Consult your Radio-Electronic MASTER for more complete listing of stock models

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PLASTIC MOLD & ENGINEERING CO.

ELECTRO-ACOUSTIC MINIATURES

The Ultimate In Sound Reproduction

MINIATURE MAGNETIC EARPHONES

For dictating machines, broadcast radios and special applications.

700 series—Plastic with aluminum cap—for dictating machines

800 series—All plastic—for broadcast radios.

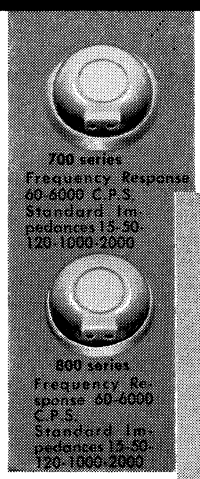
900 series—All plastic with center tap for special applications.

New internal construction* makes these earphones lighter than any phone of comparable size.

Standard colors:
Flesh, Gray or Beige

Your company name or trademark molded in on special order.

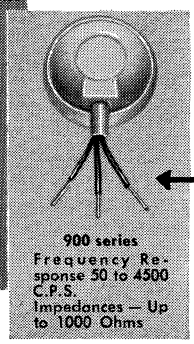
*Patents Applied For



700 series
Frequency Response 60-6000 C.P.S. Standard Impedances 15-50-120-1000-2000

800 series
Frequency Response 60-6000 C.P.S. Standard Impedances 15-50-120-1000-2000

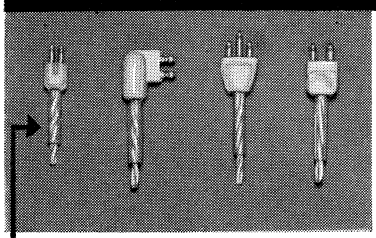
Center Tap Earphone Now Available For Special Applications. Replaces output transformers where circuit is push-pull.



900 series
Frequency Response 50 to 4500 C.P.S. Impedances — Up to 1000 Ohms

The Nation's Largest Hearing Aid Cord Set Manufacturer

MINIATURE CORD SETS



Specializing in Tinsel Wire with patented Terminal Wrap construction that guarantees the termination up to the breaking point of the wire.

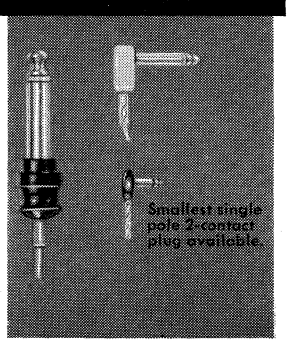
Standard earphone plugs available to fit any earphone of domestic or foreign manufacture.

We solicit custom tooling for unique terminations on a variety of wires: twisted pair and flat or round parallel wire.

The Pioneer In Injection Molded Miniature Hearing Aid Cords

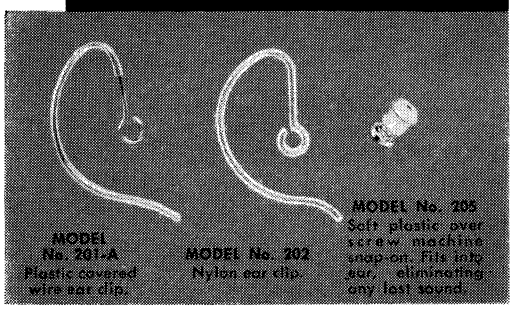
MINIATURE RADIO JACK PLUGS

Standard plugs to fit any standard jack. We are equipped with standard molds to give you any reference length, regardless of jack positioning.



Smallest single pole 2-contact plug available

EARPHONE HOLDERS



MODEL No. 201-A Plastic covered wire ear clip.

MODEL No. 202 Nylon ear clip.

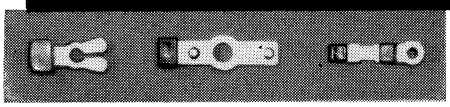
MODEL No. 205 Soft plastic over screw machine snap-on. Fits into ear, eliminating any lost sound.

Model No. 201-A—Plastic covered wire ear clip holds earphone firmly in place. Bends easily for comfortable fit. Adaptable for left or right ear.

Model No. 202—Inexpensive soft nylon ear clip holds earphone firmly in place. Light weight and comfortable.

Model No. 205—For insertion directly into either ear. Gives hearer full benefit of earphone broadcast.

MINIATURE MOLDINGS



Specializing in miniature plastic moldings around inserts.

We have our own completely equipped tool room facilities for mold making, metal stamping and screw machine production facilities plus a battery of small injection molding machines and a skill borne of many years of successful experience.

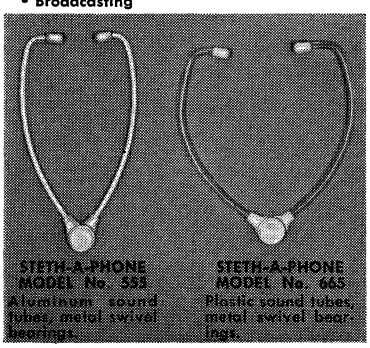
Miniature moldings illustrated are actual size.

PLAYBACK STETH-A-PHONES

STETH-A-PHONE MODELS Nos. 555 and 665

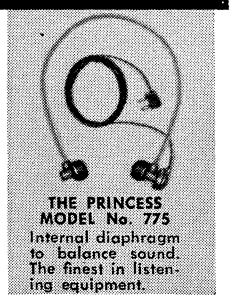
Features:
- Anodized aluminum sound tubes (Model No. 555)
- Plastic sound tubes (Model No. 665)
- Detachable earphone
- Extremely light — 1.1 ounces
- Frequency response 100-6000 C.P.S.
- Available with any standard impedance earphone and cord set
- Removable ear tips for easy replacement

Applications:
- Dictating machine playback
- Listening systems
- Radio and record listening
- Broadcasting



STETH-A-PHONE MODEL No. 555 Aluminum sound tubes, metal swivel bearings.

STETH-A-PHONE MODEL No. 665 Plastic sound tubes, metal swivel bearings.



THE PRINCESS MODEL No. 775
Internal diaphragm to balance sound. The finest in listening equipment.

The Princess Model No. 775, with its internal diaphragm, has a one millisecond time lag creating Hi-Fi sound reproduction.

Features: The Princess Model #775
- Internal diaphragm creates Hi-Fi sound reproduction
- Feather light — ½ ounce
- Available with any standard impedance Earphone and Cord Set
- Replaceable ear muffs

Applications:
- Secretaries
- Order Board Operators
- Monitoring

ILLUSTRATED IS ONLY A SMALL PORTION OF OUR COMPLETE LINE. FOR FURTHER INFORMATION WRITE TO:

PLASTIC MOLD & ENGINEERING CO. • PROVIDENCE, RHODE ISLAND

See YELLOW SECTION for Local Offices, Telephone, etc.

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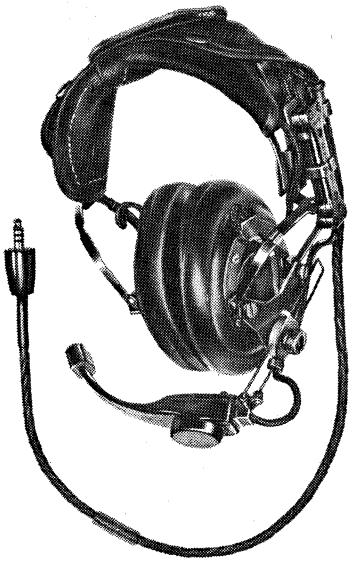
Roanwell COMMUNICATIONS TERMINAL APPARATUS

HANDSETS · HEADSETS · MICROPHONES · FOR COMMERCIAL OR MILITARY EQUIPMENT



DYNAMIC HEADSET-MICROPHONES

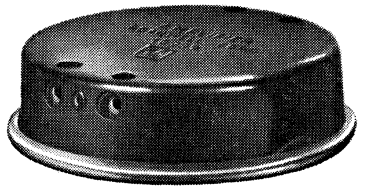
Model RH-78 (above) incorporates the latest type dynamic receiver elements and noise cancelling dynamic microphone. Produced to current military specifications, and can be obtained with a transistor amplifier for use in systems originally designed for carbon microphones.

SPECIAL AND GENERAL PURPOSE HANDSETS

Available for various applications. Roanwell handsets can be equipped with various receiver, transmitter or cordage combinations to fit your specific requirement. Roanwell also designs and manufactures the "Confidencer," NOISE CANCELLING telephone transmitter element. "Confidencers" are available from Bell and independent telephone companies for subscribers' use — and directly from Roanwell for special applications.

TELEPHONE OPERATORS' HEADSETS

Available in several versions: Models R-52AW, BW, CW, DW, EW and FRW. In addition to the R-52 headset variations, Roanwell manufactures ruggedized operators' handset-headsets presently used in military communications. Headsets, such as the H-81 and the H-108 types, can be furnished to include single or double headbands and various ear-cushions or receiver combinations.



TRANSISTOR AUDIO AMPLIFIERS for use in conjunction with handsets, headset-microphone assemblies, or microphones. Transistor amplifiers can be supplied as component parts of handsets, headsets or microphones, or as separate parts to be used in conjunction with the above. Transistorized amplifiers are the solution to the problem of converting from carbon microphones to dynamic microphones without modifying the equipment. Also useful for correcting line loss problems.

ROANWELL CORPORATION, 180 VARICK STREET, NEW YORK 14, N. Y.

Some typical military equipment designed and/or manufactured by Roanwell Corp.

HANDSETS	HEADSETS	HANDSET-HEADSETS		HEADSET-MICROPHONES	
H-33E/PT	*H-70C/AIC	H-81A/U	H-108B/U	H-46A/UR	*H-78C/AIC
H-90	*H-75C/AIC	H-91A/U	H-114/GTA-6	RECEIVER ELEMENTS	
NT-51007A	HS-33A	H-92/U	H-114	*H-79/AIC	*H-143/AIC
	NT-49507A	H-108A/U	H-144/U	ANB-H-1	

MICROPHONES: •M-15, •M-19, *•M-22, *•M-33 and M-33A, M-35, *M-6A, *•M-81, *M-80, *•M-87 Type, T-17-F

* Dynamic • Noise Cancelling

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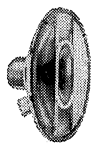
QUICKEST MONOPHONIC REPLACEMENT... EASIEST STEREO CONVERSION—

Sonotone
CERAMIC CARTRIDGES

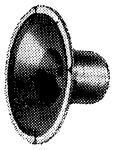
Sonotone ceramic cartridges simplify the job! Sonotone is the industry standard—used in over one-half of all the quality phonographs made today. Here's why:

Sonotone ceramics combine high compliance with rugged, dependable service. No need for pre-amplification and equalization. And Sonotone's low price means quick turnover, big profits.

Sonotone's "8T" and "10T" cartridges play both monophonic and stereo discs. Allow consumers to get ready for stereo, even if they can't convert completely. And prices of Sonotone stereo cartridges start at only $6.45 (including mounting brackets). Choose from a complete line of cartridge models in Radio-Electronic MASTER, pages E-206 and 207.



CA-12A—12"



WR-8—8"

Give customers high quality stereo at a budget-price with Sonotone Speakers

Sonotone speakers are the ideal supplementary units for stereo. The all-new CA-12A coaxial gives astonishing performance, at an amazing low price. The 8-inch WR-8 surpasses all others in its price class for fine quality reproduction.

Sonotone® CORP.

Electronic Applications Division Dept. CCC-39

ELMSFORD, N. Y.

Leading makers of fine ceramic cartridges, speakers, microphones, tape heads, electron tubes

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Reeves Instrument
Shell Oil
Univ. of Maryland
Western Electric
Westinghouse
White Sands Pvg. Gr.
U.S.A. Sig. Supply
U.S. Central Intell.
U.S.N. Test Station

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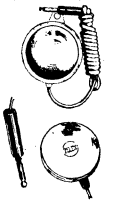
TELEX

Where dependability is essential, you can rely on

TELEX electronic sub-assemblies and components

Complete facilities for fabrication and testing of electronic assemblies make Telex your reliable manufacturer's manufacturer. Facilities and experience include encapsulation, plastic molding, metal stamping, tool and die, coil winding and many more—with quality control and quality assurance. The plant has more than 60,000 square feet of modern, air-conditioned production space, including dehumidified assembly areas. Write, wire or call for Telex facilities brochure . . . "blue-chip" references listed.

MINI-MIKE—SPEAKER MICROPHONE—A miniature electro-acoustic transducer. A dynamic speaker and microphone housed in a case 1" x 1" x ¾" weighing 1½ oz. Impedance is 10 ohms. Sensitivity as mic. is 52 db below 1 volt per dyne per sq. cm. of sound pressure (with match. xfmr.). Sensitivity as speaker is 124 db with 10 milliwatts of power input. Mini-Mike, with matching xformer available.



PILLOW SPEAKERS—Dynamic and magnetic. Dynamic features stainless steel housing with a hanger. Weighs 4 oz. and measures 3¾" x 1⅛". Comes with 5' cord and standard phone plug. Magnetic type has unit-molded maroon case. Copper diaphragm is nickel plated and hermetically sealed. Can be sterilized by submerging in alcohol. Weighs 2.6 oz. and measures 2¼" x ⅝". Comes with 5' cord and standard plug. Miniature plug available. Dynamic 3.2 ohm or 10 M-ohm speaker . . . or magnetic 128 or 2000 ohm speaker with or without cord or volume control cord.

TRANSISTOR RECEIVER—Designed for miniature audio applications. Sensitivity is 118 db above .0002 dynes per sq. cm. at 1 milliwatt of power at 1000 cps. Maximum power recommended is 25 mw. Weighs ¼ oz. Measures ⅓" x 13/16". Various impedances available to your specifications.

SUB-MINIATURE TRANSFORMERS—Designed for transistorized circuits in radios, paging units, hearing aids, and other audio applications. High permeability cores and light weight. Series A weighs 4.5 grams, measures ½" x 7/16" .Series B weighs 2.4 grams, measures ⅛" x 5/16". Series C weighs 4.5 grams, measures 9/16" x ⅛". Input, Interstage, Output, Reactor, Chokes available. Write for complete representative listing.

SPECIAL TRANSFORMERS—Telex manufactures encapsulated transformers for use with printed circuits for audio, ultrasonic, pulse and other military and industrial applications. This is a custom Telex service . . . Talk to Telex about miniature transformers.

TOROIDAL COILS—Coil winding facilities and special packaging experience enable Telex to produce superior quality toroidal coils and transformers, cupcore inductors, reactors and other special components to meet customer or military specifications. Talk To Telex.

MINIATURE JACKS AND PLUGS—Miniature phone plugs and jacks, ½ the size of standard models, are ideal for applications where space or weight is a problem, as well as for nearly every industrial use. Available in open or closed circuit panel or chassis mount jacks . . . straight plugs.

BOOM-MIKE HEADSET—Three-and-one-half-ounce single cord two-way headset. Sensitivity is 120 db above .0002 dynes per sq. cm. per milliwatt of input. Frequency responce range to 5000 cycles. Receiver impedance, 500 ohms; carbon mike impedance, 50 ohms. Headsets available with double or single receiver, split phones, special mikes including noise cancelling characteristics.

TWINSET—Standard aircraft equipment . . . blocks out background noises, no fatigue. Weighs 1.6 oz. and has 5' cord and standard phone plug. Sensitivity is 101 db above .0002 dynes per sq. cm. for 10 microwatts input. Available in impedances of 64 ohms and 1000 ohms (CAA approved) and with or w/o cord or built-in miniature volume control.

TELE-FI—Gives "depth of sound" and intelligibility through controlled lag to second receiver. One-half ounce unit comes with standard phone plug and 5' cord. Comfortable listening at 1 milliwatt input . . . frequency response from 60 to 6000 cycles. Available in 15, 128, and 2000 ohm impedances.

CORDS—Telex cords are flex and time tested for durability and service. Volume control cords are available for all Headsets and Pillow Speakers. Extension cords are available for Earsets.

Write today for Telex Electro-Acoustic Division catalog.

TELEX

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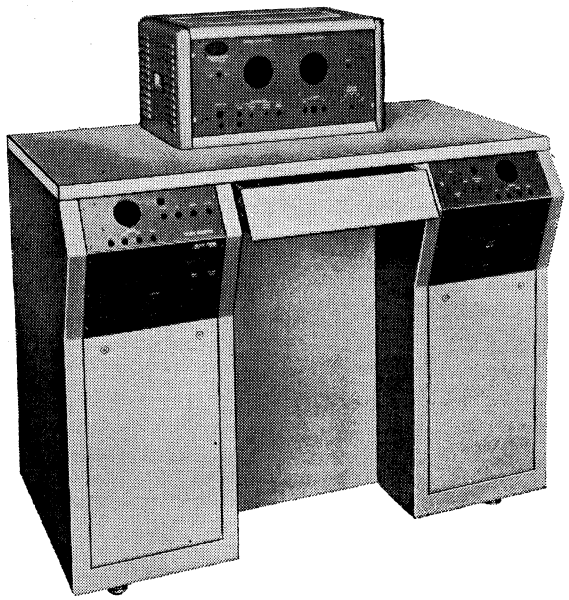

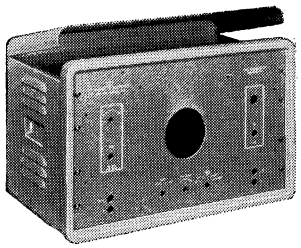

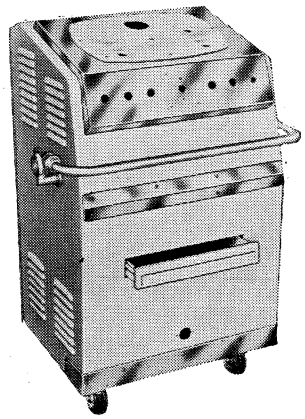

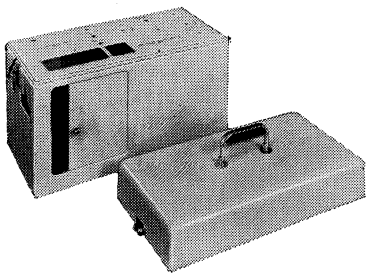

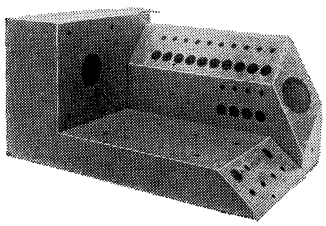

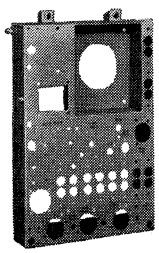

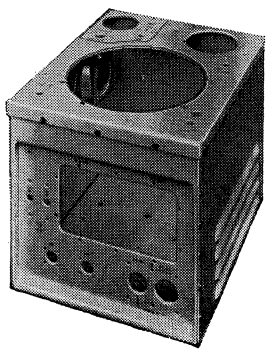

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CABINET— CHASSIS— CONSOLE—

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See YELLOW SECTION for Local Offices, Telephone, etc.

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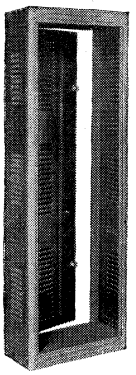
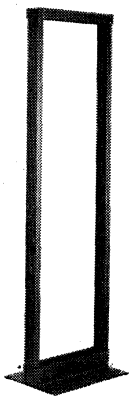
SHEET METAL HOUSINGS

Standard Sheet Metal Products

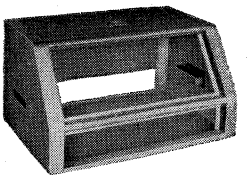
For complete details concerning these products see Section "K", Pages K-504 through K-523 in The *Radio-Electronic* MASTER.



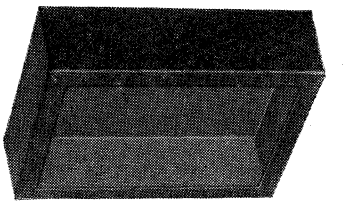
Deluxe Relay Racks



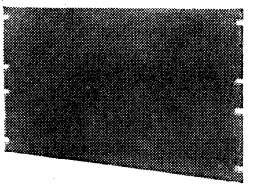
Telephone Type Relay Racks



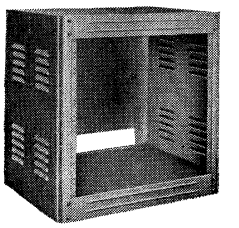
Sloping Panel "Prestige" Cabinets



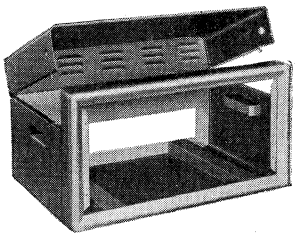
Steel and Aluminum Chassis



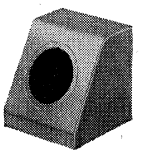
Relay Rack Panels



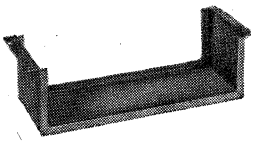
Deluxe Cabinet Racks



Standard "Prestige" Cabinets



Universal Meter Cases



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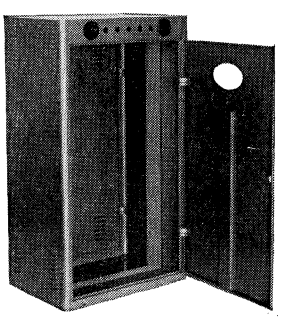
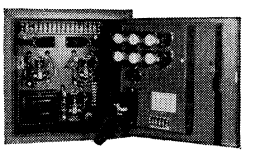
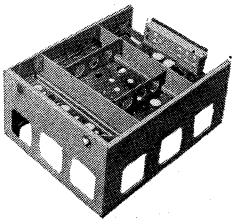
Whether your needs are for large or small quantities — simple or intricate designs — in steel or aluminum, you can save time and money by consulting Bud on all your requirements. Our extensive facilities, skilled workmanship and production "know-how" assure you of quality products, economically and efficiently. In addition, our experienced engineering staff is always available for consultation and advice. Illustrated are some examples of specially fabricated sheet metal products. Bud can handle all your problems. Send us your blueprints for estimate or consult your nearest Bud jobber.







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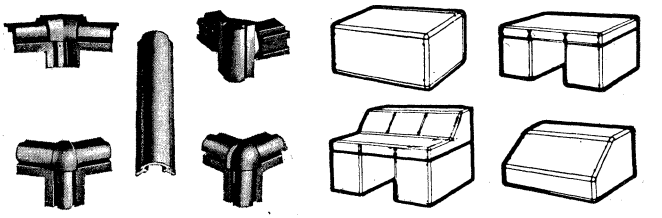
you can assemble precision cases, cabinets and racks

WITHOUT TOOLING COSTS



The IMLOK system of metal cabinet construction is ideal for research and prototype work. More than 50 different styles of connectors and extrusions are readily locked together to form the framework of any type of housing which is enclosed by standard gauge aluminum panels. The Bud Imlok system will quickly and economically solve your special housing needs. Write for Bulletin 1858 for complete details.

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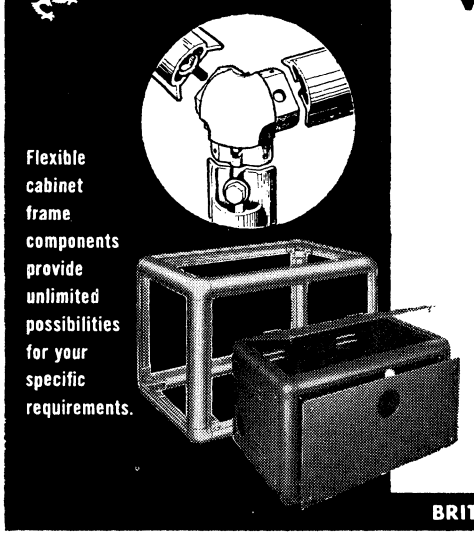

Flexible cabinet frame components provide unlimited possibilities for your specific requirements.

The Widney Dorlec Cabinet System consists of prefabricated cabinet frame components that fit together quickly. Assembly is flexible and simple without the need for machinery, drilling or special tools. Completed frame is extremely rigid and will support heavy chassis and instruments.

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Widney Dorlec Cabinet Systems are available in three gauges (radii): The Standard Gauge 1 3/16" radius and the Small Gauge 13/16" radius are of die-cast dural corners and extruded dural main frame sections. The Miniature Gauge 7/16" radius, employs corners and main frame sections of Mild Steel. Reinforcing hardware and supports are cadmium plated steel. In addition, a full line of cabinet handles and fittings is available.

Learn more about this flexible system of custom cabinet assembly. Complete information available. Address your inquiries to Dept. YY1299.

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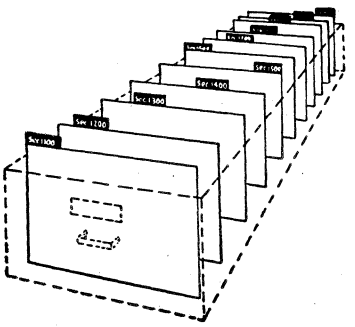

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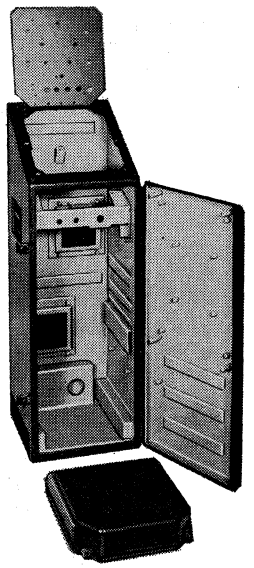

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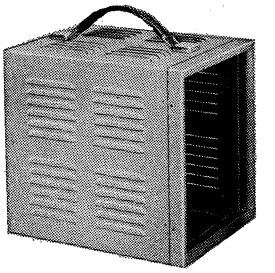

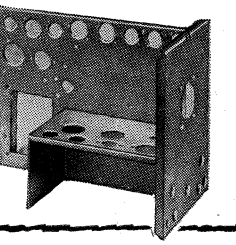

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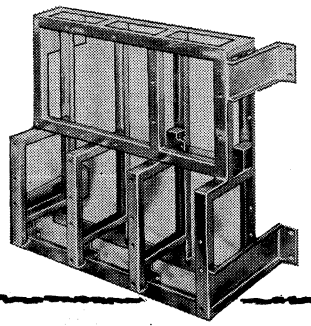

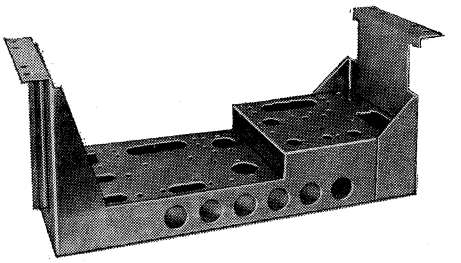

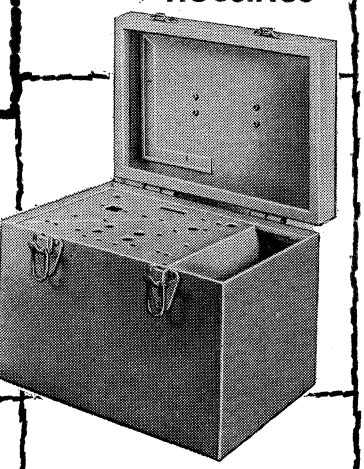

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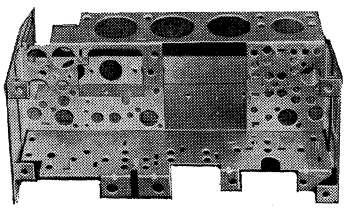

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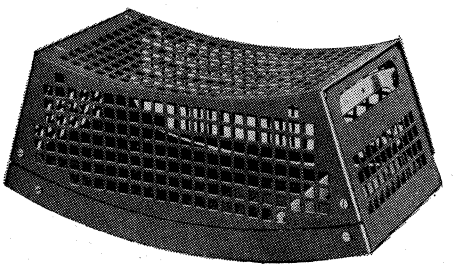

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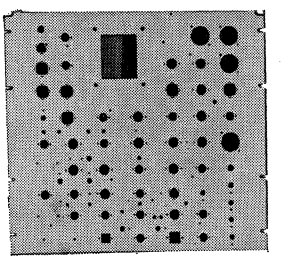

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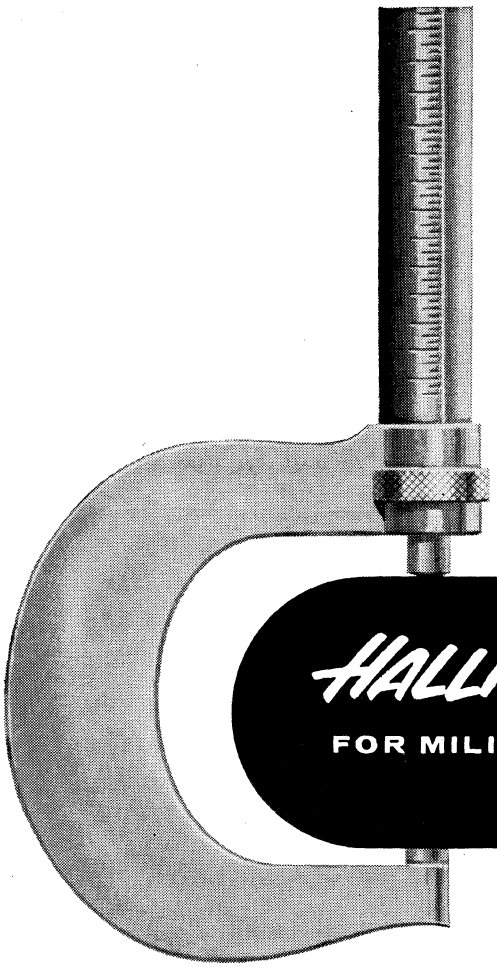

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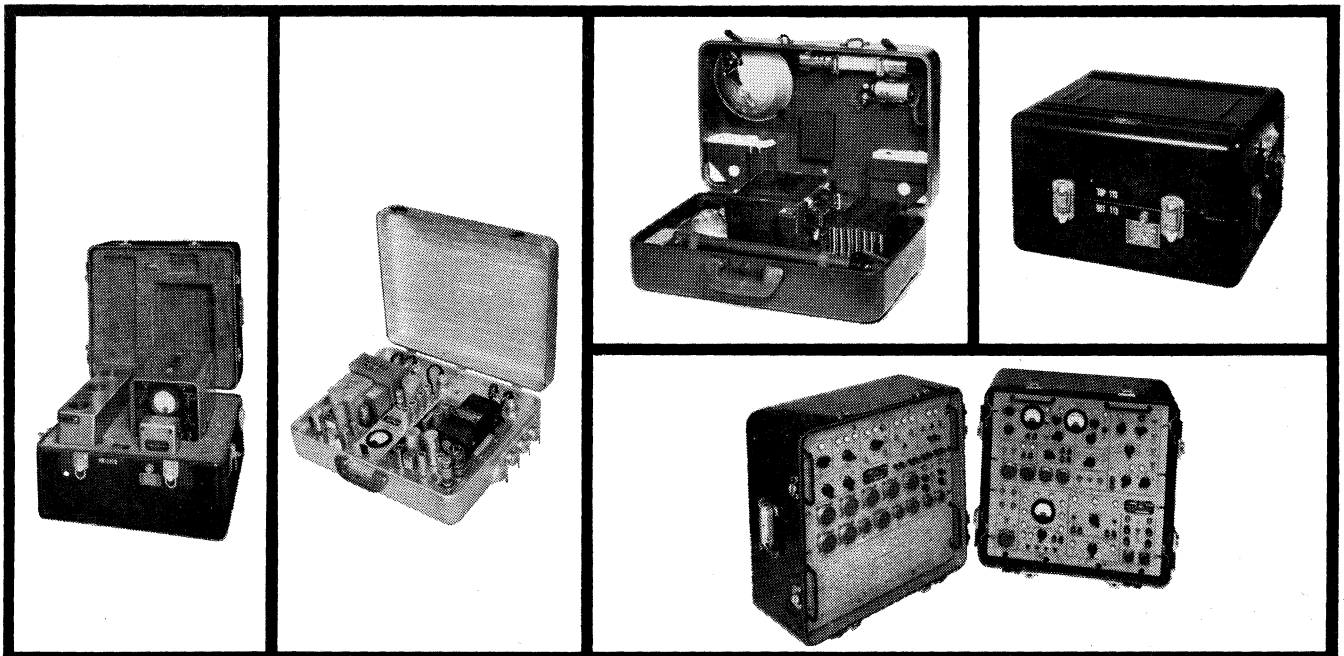

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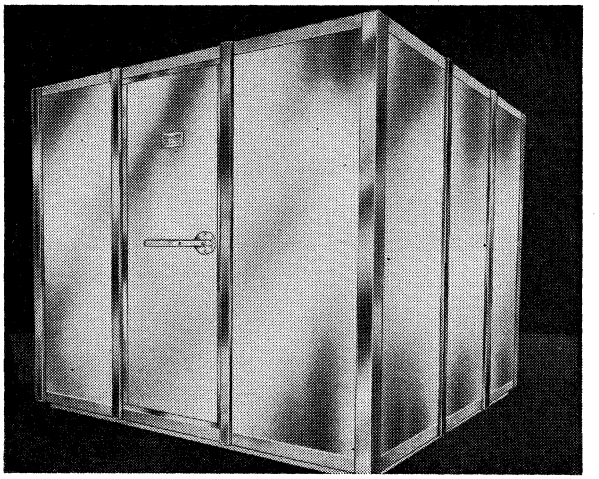

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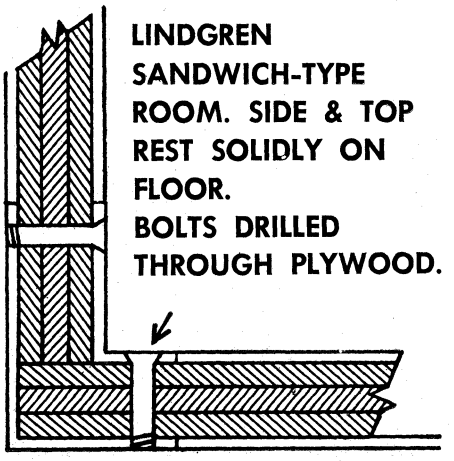

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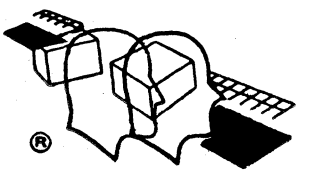

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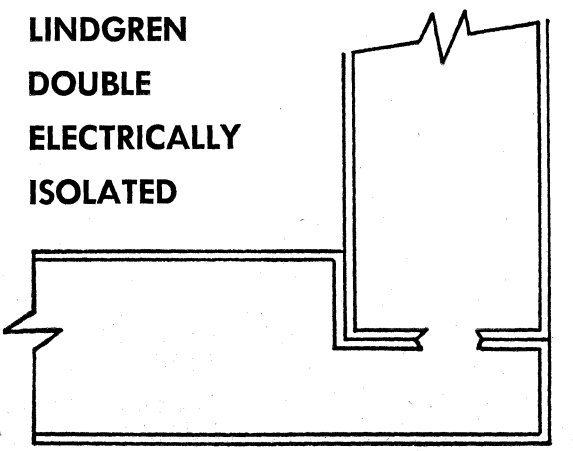

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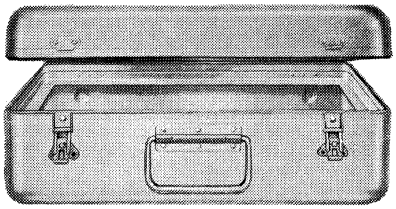

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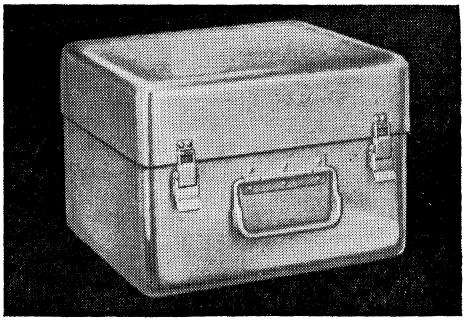
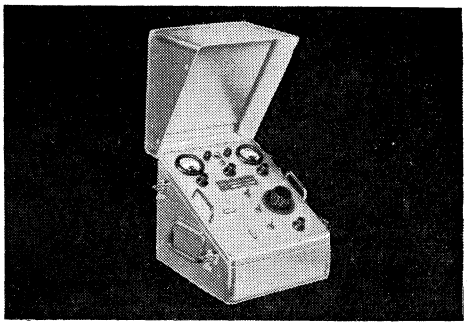
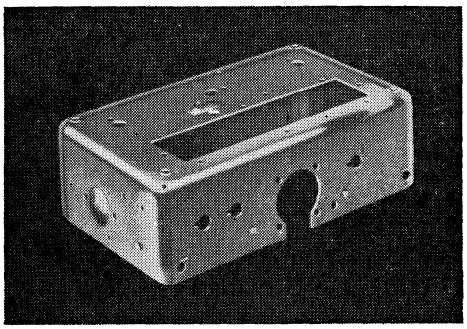


military cases



portable cases



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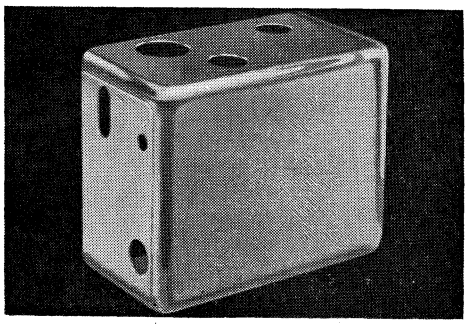

housings

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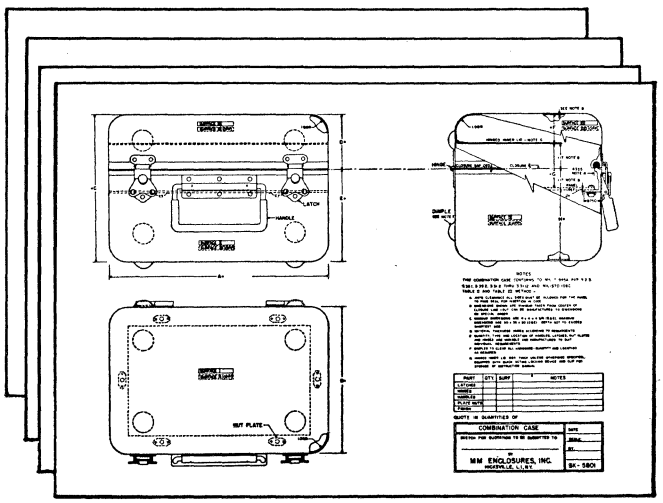

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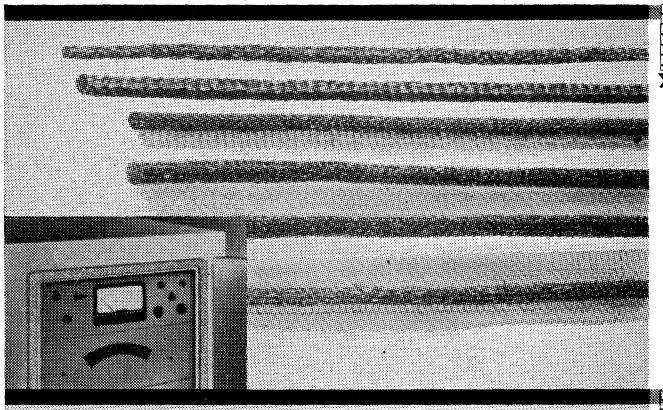

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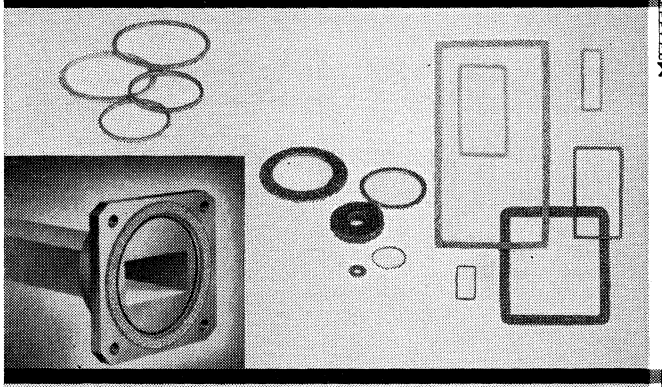

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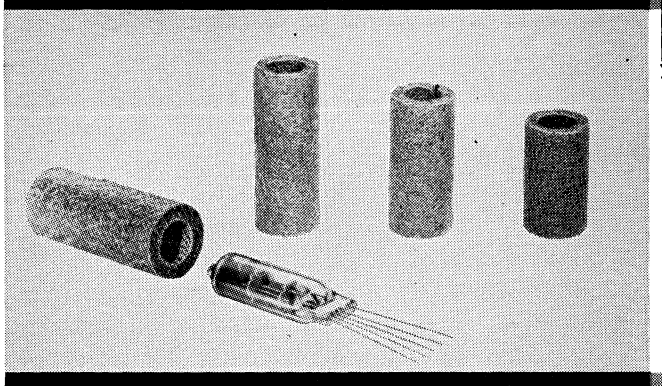

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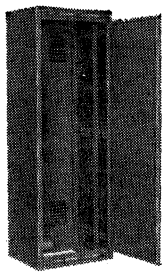

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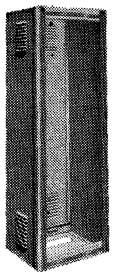

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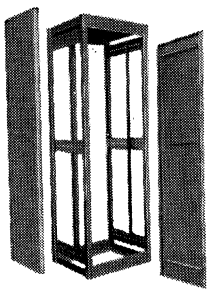
FOR 19" - 24" and 30" PANELS



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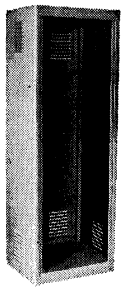

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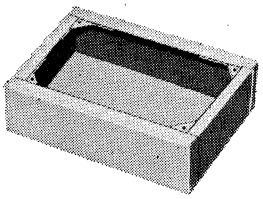
R Series



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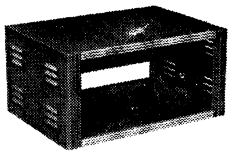
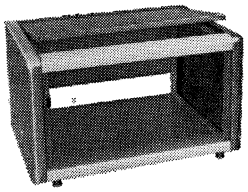
BLANK CHASSIS
CH and ACH Series



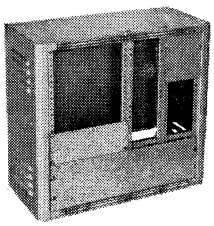
DESK CABINET RACKS
DCR Series

PREMIER METAL PRODUCTS CO.

PREMIER
Standard
RACKS • PANELS
CHASSIS • CABINETS

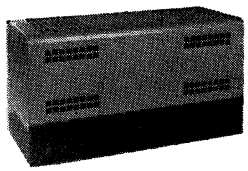


PREM-O-RAK
DESK CABINETS POR Series

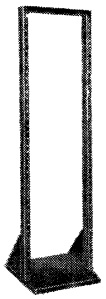


MODU-RAK
DESK CABINETS MDK Series

SEE OUR 13 CATALOG PAGES K-525 THRU K-537 IN The 1959 *Radio-Electronic* MASTER FOR COMPLETE DESCRIPTIONS



AMPLIFIER FOUNDATIONS
AF Series

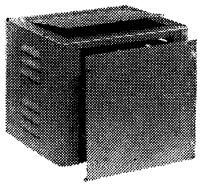


CHANNEL RELAY RACKS
RR Series

Shown here are only a few of the many PREMIER STANDARD METAL HOUSINGS which are stocked by the leading distributors throughout the country.

MODIFICATIONS OF OUR STANDARD UNITS are available upon request; such as colors, handles, holes and cut-outs, ventilation and hardware.

CONTACT YOUR LOCAL DISTRIBUTOR or WRITE FOR LATEST COPY OF THE PREMIER CATALOG



HINGED TOP CABINETS
HTC Series

SLOPING FRONT CABINETS
SFC Series

PREMIER
METAL PRODUCTS COMPANY
337 MANIDA ST., NEW YORK 59, N. Y.
WYandotte 1-6600

WESTERN SALES OFFICE:
1485 Bayshore Blvd., San Francisco 24, Cal. Tel. JUniper 7-8700

EXPORT DEPARTMENT:
EMEC 127 Grace Street, Plainview, N. Y. Tel. WEIls 1-3701

IN CANADA:
MUSIMART of CANADA, Ltd. 901 Bleury St., Montreal

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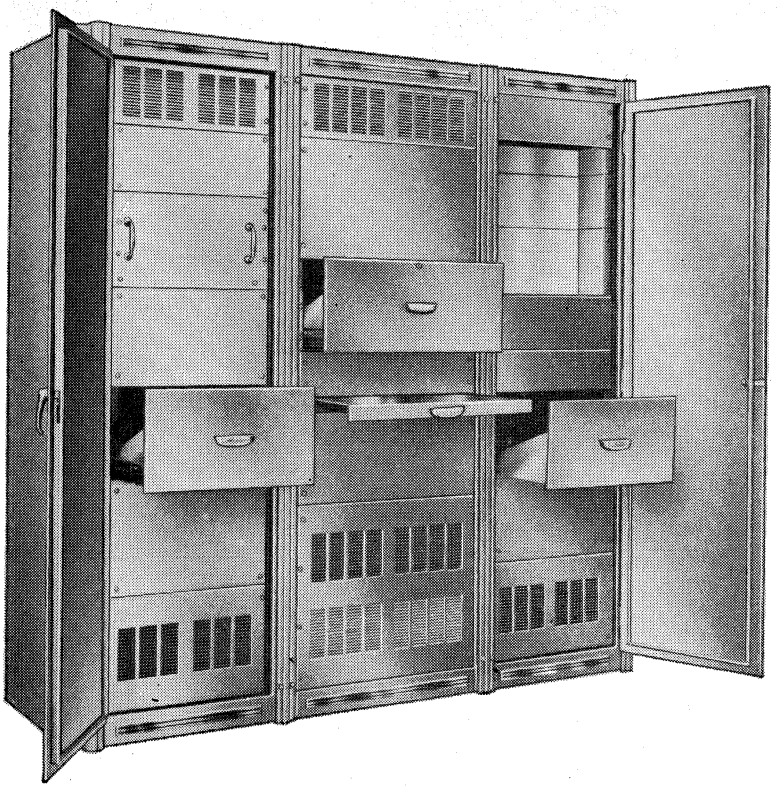
PAR-METAL UNIVERSAL CABINET RACKS



For over two decades we have made various types of enclosed relay racks, differing in styling, specifications, and size. In presenting our new series of *UNIVERSAL CABINET RACKS* we now offer *SIXTY* different sizes of cabinet racks utilizing two basic types of construction. Both types combine the utmost in *FLEXIBILITY* of exterior and interior arrangement, *RUGGED DESIGN*, that is above all functional and based on the latest in metal construction techniques, and *OVERALL ECONOMY* as compared with costly custom made enclosures.

Their design allows ease in the arrangement and rearrangement of a complete line of interior fittings (stationary and sliding shelves, chassis brackets and supports, equipment drawers, etc.) which we can supply, as well as ease in the installation of equipment by your engineers. The net result is the adaptability of the rack to the changing requirements of your electronic equipment.

See our catalog pages in this year's edition of
The *Radio-Electronic* MASTER

The advantages of UNIVERSAL CABINET RACKS may be summarized as follows:

DIMENSIONS: Racks are available for 19″, 24″, or 30″ wide panels. Cabinet heights are 48⅛″, 67⅜″, 77⅛″ and 83⅛″; depths available are 18″ or 24″.

DESIGN: All sizes listed may be obtained with conventional solid side walls, or with open side walls and detachable side panels. Side shields for use between racks listed.

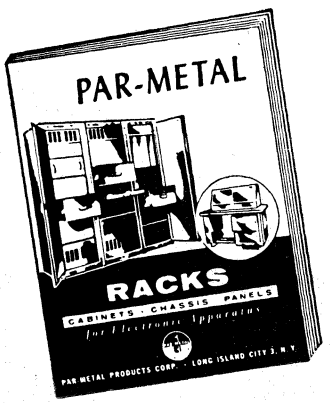
DOORS: All sizes listed may be ordered with rear doors only; or with matching front and rear doors.

GROUPING: All racks of the same height may be set up in "gangs" or rows; racks with 19″, 24″ or 30″ wide panels may be intermixed; racks with or without front doors may also be intermixed.

SLIDING SHELVES AND DRAWERS: Several models are shown in the rack assembly shown above. There are basic slides, phono and storage drawer slide assemblies, and desk shelf assemblies. They are all mounted on the front of racks in the same way as regular panels.

MID-RAIL MOUNTING OF PANELS: The panel mounting angles or "strips" are fully adjustable on all racks, and may be positioned at any location from front to back. Additional panel mounting angles may be easily inserted where needed for mounting terminal boards, etc.

VERTICAL SIDE SUPPORTS: These supports provide a new method for supporting chassis and other equipment in the racks. Installing brackets or shelves is now a simple procedure; the means of attaching such brackets is fully adjustable so that chassis may be accurately lined up with the front panels. No drilling or other fabrication is required. The chassis may then be installed or removed with a minimum of effort. The vertical slide supports also facilitate the installation of special sliding devices obtainable from slide manufacturers.



FINISHES: All racks may be obtained in any of the following finishes: **GREY RIPPLE ENAMEL, BLACK RIPPLE ENAMEL, GREY HAMMERTONE ENAMEL, GREY METALLIC ENAMEL, and PRIMER COAT ONLY.** It is essential that the finish required be specified on your order to avoid subsequent inquiry and delay.

WRITE FOR YOUR COPY OF OUR CATALOG 59 TODAY! It contains information on how PAR-METAL RACKS, Rack Accessories, Fittings, and Utility Desk Assemblies will save you money! If you have a specific housing problem for your equipment, please send us the details since we have the answers you require.

PAR-METAL PRODUCTS CORPORATION

32-48 — 49th STREET • LONG ISLAND CITY 3, N. Y. • Telephone: AStoria 8-8905

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POSITIVE * RADIO FREQUENCY INTERFERENCE SHIELDING

END RFI* SHIELDING PROBLEMS with SCHUYLERNIT® Standard RFI* Shielding Strips . . .

• • • available in continuous lengths to meet the requirements of most RFI* gasketing problems. For other than Standard RFI* Shielding Strips call on SCHUYLERNIT® TECHNICAL SERVICE for engineering assistance. These RFI* shielding strips are made of a resilient metallic structure with maximum conductivity for continuous contact between uneven mating surfaces. The part numbers for SCHUYLERNIT® STANDARD RFI* SHIELDING STRIPS in various metals are listed in the following tables.

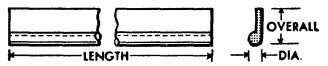
RECTANGULAR SECTION

Width	Height	Monel	Aluminum	Sil. Plate Brass
1/16"	1/16"	110202	120202	130202
3/32"	3/32"	110303	120303	130303
1/8"	1/16"	110402	120402	130402
1/8"	3/32"	110403	120403	130403
1/8"	1/8"	110404	120404	130404
1/8"	5/32"	110405	120405	130405
3/16"	1/16"	110602	120602	130602
3/16"	3/32"	110603	120603	130603
3/16"	1/8"	110604	120604	130604
3/16"	3/16"	110606	120606	130606
1/4"	1/16"	110802	120802	130802
1/4"	3/32"	110803	120803	130803
1/4"	1/8"	110804	120804	130804
1/4"	3/16"	110806	120806	130806
1/4"	1/4"	110808	120808	130808
5/16"	1/16"	111002	121002	131002
5/16"	3/32"	111003	121003	131003
5/16"	1/8"	111004	121004	131004
5/16"	3/16"	111006	121006	131006
5/16"	1/4"	111008	121008	131008
5/16"	5/16"	111010	121010	131010
3/8"	1/16"	111202	121202	131202
3/8"	3/32"	111203	121203	131203
3/8"	1/8"	111204	121204	131204
3/8"	3/16"	111206	121206	131206
3/8"	1/4"	111208	121208	131208

ROUND SECTION

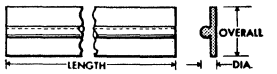
Diameter	Monel	Aluminum	Sil. Plate Brass
1/16"	2102	2202	2302
3/32"	2103	2203	2303
1/8"	2104	2204	2304
5/32"	2105	2205	2305
3/16"	2106	2206	2306
1/4"	2108	2208	2308
5/16"	2110	2210	2310
3/8"	2112	2212	2312
7/16"	2114	2214	2314
1/2"	2116	2216	2316

SINGLE FIN



Dia.	O.A.	Monel	Aluminum	Sil. Plate Brass
1/16"	3/8"	310212	320212	330212
1/16"	1/2"	310216	320216	330216
1/16"	5/8"	310220	320220	330220
1/16"	3/4"	310224	320224	330224
3/32"	3/8"	310312	320312	330312
3/32"	1/2"	310316	320316	330316
3/32"	3/4"	310324	320324	330324
1/8"	3/8"	310412	320412	330412
1/8"	7/16"	310414	320414	330414
1/8"	1/2"	310416	320416	330416
1/8"	9/16"	310418	320418	330418
1/8"	5/8"	310420	320420	330420
1/8"	3/4"	310424	320424	330424
5/32"	1/2"	310516	320516	330516
5/32"	5/8"	310520	320520	330520
5/32"	3/4"	310524	320524	330524
3/16"	7/16"	310614	320614	330614
3/16"	1/2"	310616	320616	330616
3/16"	5/8"	310620	320620	330620
3/16"	3/4"	310624	320624	330624
3/16"	7/8"	310628	320628	330628
1/4"	1/2"	310816	320816	330816
1/4"	5/8"	310820	320820	330820
1/4"	3/4"	310824	320824	330824
1/4"	7/8"	310828	320828	330828
1/4"	1"	310832	320832	330832
5/16"	5/8"	311020	321020	331020
5/16"	3/4"	311024	321024	331024
5/16"	7/8"	311028	321028	331028
3/8"	5/8"	311220	321220	331220
3/8"	3/4"	311224	321224	331224
3/8"	7/8"	311228	321228	331228
3/8"	1"	311232	321232	331232
7/16"	3/4"	311424	321424	331424
7/16"	7/8"	311428	321428	331428
7/16"	1"	311432	321432	331432
1/2"	3/4"	311624	321624	331624
1/2"	7/8"	311628	321628	331628
1/2"	1"	311632	321632	331632

DOUBLE FIN



Dia.	O.A.	Monel	Aluminum	Sil. Plate Brass
1/16"	5/8"	410220	420220	430220
1/16"	3/4"	410224	420224	430224
1/8"	5/8"	410420	420420	430420
1/8"	3/4"	410424	420424	430424
1/8"	1"	410432	420432	430432
1/8"	1 1/4"	410440	420440	430440
3/16"	3/4"	410624	420624	430624
3/16"	1"	410632	420632	430632
3/16"	1 1/4"	410640	420640	430640
1/4"	3/4"	410824	420824	430824
1/4"	1"	410832	420832	430832
1/4"	1 1/4"	410840	420840	430840
5/16"	1"	411032	421032	431032
5/16"	1 1/4"	411040	421040	431040
3/8"	1"	411232	421232	431232
3/8"	1 1/4"	411240	421240	431240
1/2"	1"	411632	421632	431632
1/2"	1 1/4"	411640	421640	431640

DOUBLE ROUND With CENTER FIN

Dia.	O.A.	Monel	Aluminum	Sil. Plate Brass
1/16"	1/2"	510216	520216	530216
1/16"	5/8"	510220	520220	530220
1/16"	3/4"	510224	520224	530224
1/16"	7/8"	510228	520228	530228
1/8"	1/2"	510416	520416	530416
1/8"	5/8"	510420	520420	530420
1/8"	3/4"	510424	520424	530424
1/8"	7/8"	510428	520428	530428
1/8"	1"	510432	520432	530432
3/16"	5/8"	510620	520620	530620
3/16"	3/4"	510624	520624	530624
3/16"	7/8"	510628	520628	530628
3/16"	1"	510632	520632	530632
1/4"	3/4"	510824	520824	530824
1/4"	7/8"	510828	520828	530828
1/4"	1"	510832	520832	530832
3/8"	1"	511232	521232	531232
3/8"	1 1/4"	511240	521240	531240

GASKETS — WAVEGUIDE CHOKE FLANGES

SCHUYLERNIT® gaskets for standard WAVE GUIDE CHOKE FLANGES are designed to stop RF leakage and assure RF tight flange joints.

ASESA Flange No.	Schuylernit® Part No.	Gasket Material	Reference Waveguide		
			ASESA No.	Nominal O.D.	Material
UG-40/U	61040	Monel	RG-52/U	1x1/2"	Brass
UG-40A/U	61040	Monel	RG-52/U	1x1/2"	Brass
UG-42/U	61042	Monel	RG-51/U	1 1/4x5/8"	Brass
UG-52A/U	61052	Monel	RG-51/U	1 1/4x5/8"	Brass
UG-54A/U	61054	Monel	RG-48/U	3x1 1/2"	Brass
UG-136/U	62040	Aluminum	RG-67/U	1x1/2"	Aluminum
UG-136A/U	62040	Aluminum	RG-67/U	1x1/2"	Aluminum
UG-137A/U	62052	Aluminum	RG-68/U	1 1/4x5/8"	Aluminum
UG-148B/U	61148	Monel	RG-49/U	2x1"	Brass
UG-343A/U	61343	Monel	RG-50/U	1 1/2x3/4"	Brass
UG-406A/U	62148	Aluminum	RG-95/U	2x1"	Aluminum
UG-440A/U	62343	Aluminum	RG-106/U	1 1/2x3/4"	Aluminum
UG-541A/U	61541	Monel	RG-91/U	.702x.391	Brass
UG-541A/U	61541	Monel	RG-107/U	.702x.391	Silver
UG-585/U	62054	Aluminum	RG-75/U	3x1 1/2"	Aluminum

HEAT DISSIPATING TUBE SHIELDS

P/N	Tube Envelope	Height
7232	T3-1, T3-6, T3-7	1"
7242	T3-2, T3-5, T3-8	1 5/16"
7248	T3-3	1 1/2"
7254	T3-4	1 11/16"

Send today for SCHUYLERNIT® complete illustrated RFI* Shielding Manual.

specialists in RFI shielding*

SCHUYLER

MANUFACTURING CORP., NO. ARLINGTON, N. J.
WYMAN 1-2094 TWX KEARNY NJ 671

See YELLOW SECTION for Local Offices, Telephone, etc.

TECKNIT® RFI*

Now—from Technical Wire Products, Inc. comes a wide selection of gasketing materials designed to solve the problem of radiated RFI. Also available are heat-dissipating shields for sub-miniature tubes.

If your requirements cannot be met by the standard materials listed here, call on Tecknit Design Service for assistance. Tecknit offers the services of qualified engineers to make complete recommendations on specific problems. No charge or obligation, of course!

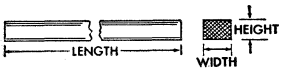
TECKNIT® Standard RFI Strips

Tecknit Standard RFI Strips are made of resilient, conductive knitted wire mesh that is effective in gasketing all types of joints. These strips are made to the following tolerances:

Height & width of rectangular strips†	
1/16 to 3/16 incl.	+ 1/64 − 0
over 3/16 to 3/8 incl.	+ 1/32 − 0
All diameters†	
1/16 to 1/8 incl.	+ 1/64 − 0
over 1/8 to 3/16 incl.	+ 1/32 − 0
over 3/16 to 3/8 incl.	+ 3/64 − 0
over 3/8 to 1/2 incl.	+ 1/16 − 0
Overall width of single fin, double fin and double core	± 1/16

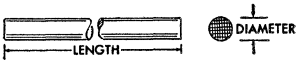
†Measured under 4 oz. load with ¾" anvils. (Federal Products Model 22P Hand Snap Gage or equivalent)

RECTANGULAR CROSSECTION



WIDTH	HEIGHT	MONEL	ALUMINUM	SILVER PLATED BRASS
1/16	1/16	10105	20105	30105
3/32	3/32	10107	20107	30107
1/8	1/16	10104	20104	30104
1/8	3/32	10110	20110	30110
1/8	1/8	10101	20101	30101
1/8	3/32	10102	20102	30102
3/16	1/16	10111	20111	30111
3/16	3/32	10112	20112	30112
3/16	1/8	10113	20113	30113
3/16	3/16	10114	20114	30114
1/4	1/16	10115	20115	30115
1/4	3/32	10116	20116	30116
1/4	1/8	10117	20117	30117
1/4	3/16	10118	20118	30118
1/4	1/4	10119	20119	30119
5/16	1/16	10120	20120	30120
5/16	3/32	10121	20121	30121
5/16	1/8	10122	20122	30122
5/16	3/16	10123	20123	30123
5/16	1/4	10124	20124	30124
5/16	5/16	10125	20125	30125
3/8	1/16	10126	20126	30126
3/8	3/32	10127	20127	30127
3/8	1/8	10128	20128	30128
3/8	3/16	10129	20129	30129
3/8	1/4	10130	20130	30130
3/8	3/8	10131	20131	30131

ROUND CROSSECTION



DIAMETER	MONEL	ALUMINUM	SILVER PLATED BRASS
1/16	11110	21110	31110
3/32	11111	21111	31111
1/8	11101	21101	31101
5/32	11112	21112	31112
3/16	11102	21102	31102
1/4	11103	21103	31103
5/16	11113	21113	31113
3/8	11114	21114	31114
7/16	11115	21115	31115
1/2	11116	21116	31116

ASESA FLANGE NO.	TECKNIT PART NO.	GASKET MATERIAL	REFERENCE WAVEGUIDE ASESA NO.	NOMINAL O.D.	MATERIAL
UG-40/U	110040	Monel	RG-52/U	1 × ½	Brass
UG-40A/U	110040	Monel	RG-52/U	1 × ½	Brass
UG-42/U	110042	Monel	RG-51/U	1¼ × ⅝	Brass
UG-52A/U	110052	Monel	RG-51/U	1¼ × ⅝	Brass
UG-54A/U	110054	Monel	RG-48/U	3 × 1½	Brass
UG-136/U	210040	Aluminum	RG-67/U	1 × ½	Aluminum
UG-136A/U	210040	Aluminum	RG-67/U	1 × ½	Aluminum
UG-137A/U	210052	Aluminum	RG-68/U	1¼ × ⅝	Aluminum
UG-148B/U	110148	Monel	RG-49/U	2 × 1	Brass
UG-343A/U	110343	Monel	RG-50/U	1½ × ¾	Brass
UG-406A/U	210148	Aluminum	RG-95/U	2 × 1	Aluminum
UG-440A/U	210343	Aluminum	RG-106/U	1½ × ¾	Aluminum
UG-541A/U	110541	Monel	RG-91/U	.702 × .391	Brass
UG-541A/U	110541	Monel	RG-107/U	.702 × .391	Silver
UG-585/U	210054	Aluminum	RG-75/U	3 × 1½	Aluminum

TECKNIT® Standard RFI Formed Gaskets

Tecknit offers off-the-shelf delivery of this complete line of gaskets for waveguide choke flanges. They are designed to fit the "O" ring slots in these flanges and supplement the choke in making the joint RF tight.

See YELLOW SECTION for Local Offices, Telephone, etc.

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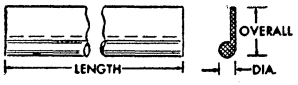
DESIGNERS DATA

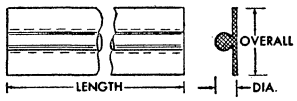
SINGLE FIN



DIAMETER	O/A	MONEL	ALUMINUM	SILVER PLATED BRASS
1/16	3/8	12111	22111	32111
1/16	1/2	12112	22112	32112
1/16	5/8	12113	22113	32113
1/16	3/4	12114	22114	32114
3/32	3/8	12115	22115	32115
3/32	1/2	12116	22116	32116
3/32	3/4	12117	22117	32117
1/8	3/8	12101	22101	32101
1/8	7/16	12118	22118	32118
1/8	1/2	12119	22119	32119
1/8	9/16	12120	22120	32120
1/8	5/8	12102	22102	32102
1/8	3/4	12121	22121	32121
5/32	1/2	12122	22122	32122
5/32	5/8	12123	22123	32123
5/32	3/4	12124	22124	32124
3/16	7/16	12125	22125	32125
3/16	1/2	12126	22126	32126
3/16	5/8	12103	22103	32103
3/16	3/4	12127	22127	32127
3/16	7/8	12128	22128	32128
1/4	1/2	12129	22129	32129
1/4	5/8	12104	22104	32104
1/4	3/4	12105	22105	32105
1/4	7/8	12130	22130	32130
1/4	1	12131	22131	32131
5/16	5/8	12132	22132	32132
5/16	3/4	12133	22133	32133
5/16	7/8	12134	22134	32134
5/16	5/8	12135	22135	32135
3/8	3/4	12136	22136	32136
3/8	7/8	12137	22137	32137
3/8	1	12138	22138	32138
7/16	3/4	12139	22139	32139
7/16	7/8	12140	22140	32140
7/16	1	12141	22141	32141
1/2	3/4	12142	22142	32142
1/2	7/8	12143	22143	32143
1/2	1	12144	22144	32144

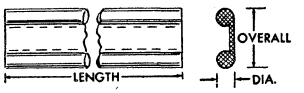
*Radio Frequency Interference

DOUBLE FIN



DIAMETER	O/A	MONEL	ALUMINUM	SILVER PLATED BRASS
1/16	5/8	14101	24101	34101
1/16	3/4	14102	24102	34102
1/8	5/8	14103	24103	34103
1/8	3/4	14104	24104	34104
1/8	1	14105	24105	34105
1/8	1 1/4	14106	24106	34106
3/16	3/4	14107	24107	34107
3/16	1	14108	24108	34108
3/16	1 1/4	14109	24109	34109
1/4	3/4	14110	24110	34110
1/4	1	14111	24111	34111
1/4	1 1/4	14112	24112	34112
5/16	1	14113	24113	34113
5/16	1 1/4	14114	24114	34114
3/8	1	14115	24115	34115
3/8	1 1/4	14116	24116	34116

DOUBLE CORE



DIAMETER	O/A	MONEL	ALUMINUM	SILVER PLATED BRASS
1/16	1/2	15103	25103	35103
1/16	5/8	15104	25104	35104
1/16	3/4	15106	25106	35106
1/16	7/8	15107	25107	35107
1/8	1/2	15108	25108	35108
1/8	5/8	15101	25101	35101
1/8	3/4	15109	25109	35109
1/8	7/8	15110	25110	35110
1/8	1	15111	25111	35111
3/16	5/8	15112	25112	35112
3/16	3/4	15113	25113	35113
3/16	7/8	15114	25114	35114
3/16	1	15115	25115	35115
1/4	3/4	15116	25116	35116
1/4	7/8	15117	25117	35117
1/4	1	15118	25118	35118
3/8	1	15119	25119	35119
3/8	1 1/4	15120	25120	35120

TECKNIT® Standard Heat Dissipating Tube Shields

Tecknit Tube Shields are made of a resilient knitted aluminum wire mesh formed to provide a practical and efficient method of conducting heat from the tube envelope directly to the heat sink, increasing the effective life of the tube.

Tecknit Part No.	Tube Envelope	Height
211264	T3-1, T3-6, T3-7	1"
213204	T3-2, T3-5, T3-8	1-5/16"
210204	T3-3	1-1/2"
214204	T3-4	1-11/16"

TECKNIT®

Technical Wire Products, Inc.

48 BROWN AVENUE, SPRINGFIELD, NEW JERSEY
Phone DRexel 6-3010 TWX Millburn, N. J. 40
Local Representatives Listed in Manufacturer's Directory Section

P9-509

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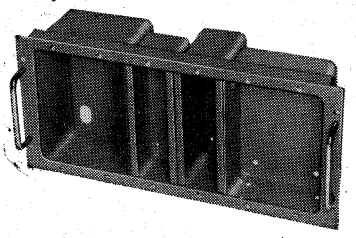
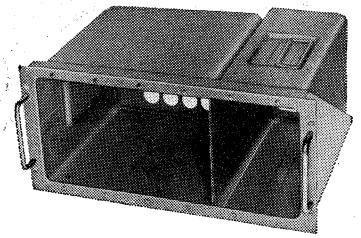
MODULAR HARDWARE

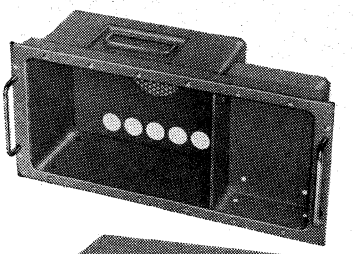


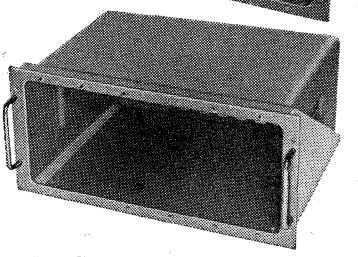


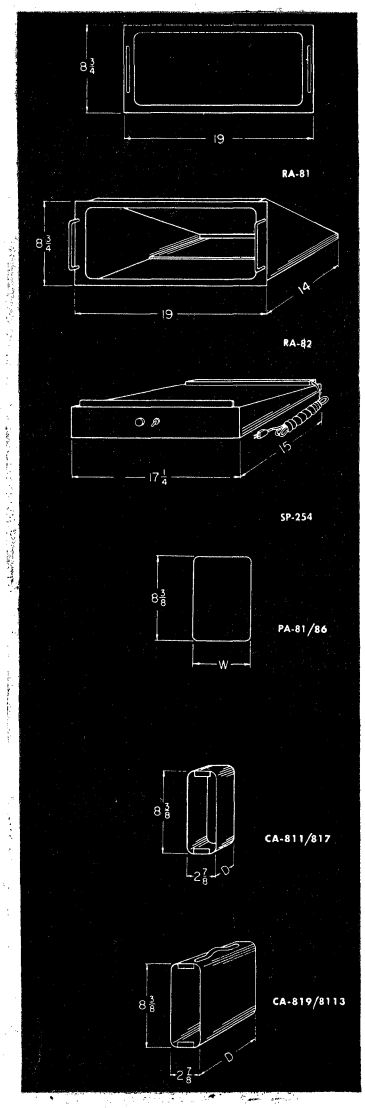
RACK OR PANEL MOUNTED

IN VARIOUS COMBINATIONS

Designed in 1/6, 1/3 and 2/3 increments and full size relay rack widths to simplify your packaging of "Black Boxes." Especially useful for rack or console combinations of equipment. Match TLI Modular Instruments.







MODULAR HARDWARE

RACK ADAPTER PANELS

RA-81	Adapter Panel	$21.50
RA-82	Adapter Panel with support shelf (recommended for cases over 6" deep)	39.50

STACK PEDESTAL

SP-254	Price includes power strip, switch, fuse, pilot light and one each locking strip and top strip. Additional locking strips priced 6 for $10.00.	$45.00

INSTRUMENT PANELS

MODEL	MODULAR SIZE	WIDTH	PRICE
PA-81	1/6	2⅞"	$5.90
PA-82	1/3	5¾"	6.20
PA-84	2/3	11½"	7.25
PA-86	Full	17¼"	9.55

MODULAR INSTRUMENT CASES

1/6 MODULAR WIDTH . . . . . 2⅞"

MODEL	D	PRICE
CA-811	1½"	$ 8.95
CA-813	3"	9.30
CA-814	4½"	10.35
CA-816	6"	10.65
CA-817	7½"	11.45
CA-819	9"	13.85
CA-8110	10½"	14.20
CA-8112	12"	14.65
CA-8113	13½"	15.00

1/3 MODULAR WIDTH . . . . . 5¾"

MODEL	D	PRICE
CA-823	3"	$14.85
CA-824	4½"	15.75
CA-826	6"	16.20
CA-827	7½"	16.55
CA-829	9"	17.10
CA-8210	10½"	17.65
CA-8212	12"	18.30
CA-8213	13½"	18.95

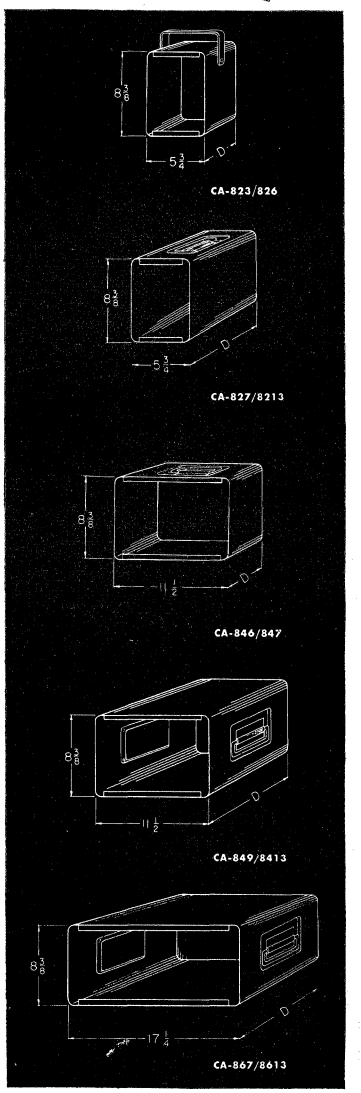
2/3 MODULAR WIDTH . . . . . 11½"

MODEL	D	PRICE
CA-846	6"	$21.20
CA-847	7½"	22.10
CA-849	9"	24.75
CA-8410	10½"	25.75
CA-8412	12"	26.55
CA-8413	13½"	27.50

FULL SIZE MODULAR WIDTH . . . . . 17¼"

MODEL	D	PRICE
CA-867	7½"	$31.25
CA-869	9"	32.05
CA-8610	10½"	32.90
CA-8612	12"	33.55
CA-8613	13½"	34.60

NOTE: Prices include handles as indicated plus panel mounting screws and rubber feet.



QUANTITY DISCOUNTS ON REQUEST

RACK STACK CARRY ©TLI MODULAR INSTRUMENTATION

TL TELETRONICS LABORATORY, INC. 54 KINKEL STREET WESTBURY, L. I., N. Y.

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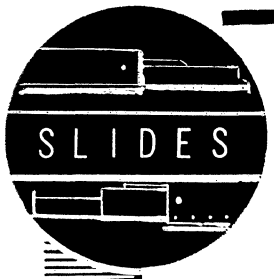
WATSON

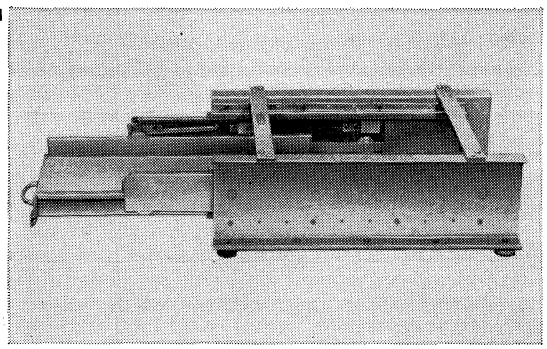
METAL SPECIALTIES DIVISION

Specialists in custom design and fabrication for your particular requirements

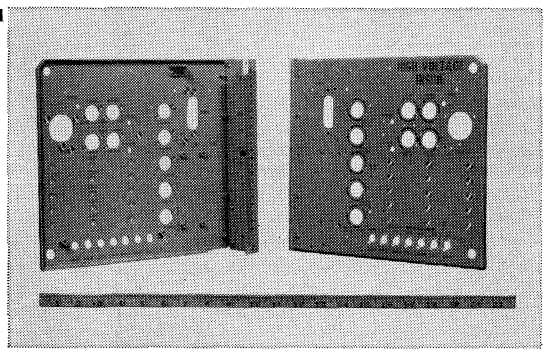


Light and heavy duty slides approved for rigid military requirements. Our patented slide device operates quietly on ball bearings easily supporting 300 lbs. under rigorous conditions.

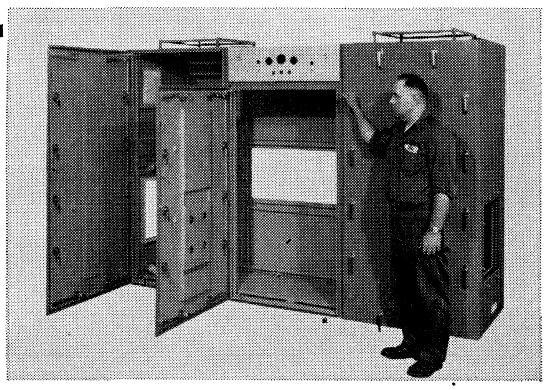
Write for special brochure of Watson industrial slides and their application.



Fabrication, hole spacing, and squareness is held to a very rigid tolerance in the production of the many types of chassis Watson makes for industrial and military use. This particular chassis passed a severe paint gloss and adhesion test.



All equipment can be fabricated in any type of metal finish. Facilities are available for applying plating processes to form protective surfaces and decorative effects. Large enclosures held to close tolerances.



COMPLETE UNIT: SLIDES CHASSIS and CABINET

WATSON
JAMESTOWN, N.Y. U.S.A.

Investigate how Watson men and equipment can help you. Ask for information on your special requirements.

Control Cabinets	Suspensions	Console Assemblies
Transmitter Cabinets	Frame Assemblies	Pressure Tanks
Radar Chassis	Shield Assemblies	Shock Mount Assemblies
Power Supply Units	Indicator Cabinets	Enclosure Cases
Mounting Plates	Modulator Cabinets	Computer Cabinets

WATSON MANUFACTURING COMPANY INC.

OFFICE & FACTORIES—4800 TAYLOR ST., JAMESTOWN, NEW YORK

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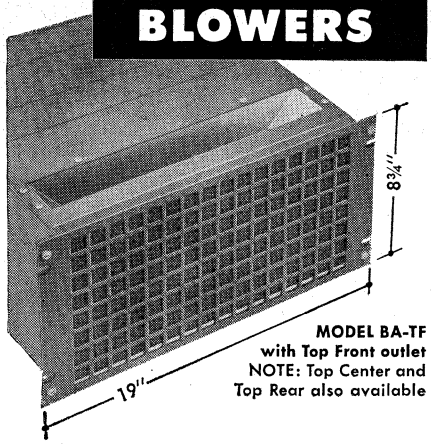
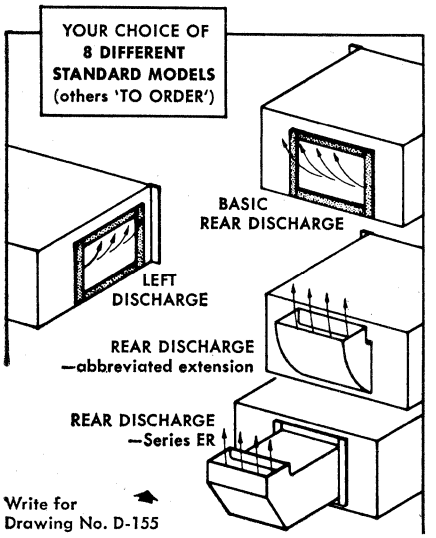
PANEL MOUNTING BLOWERS



MODEL BA-TF
with Top Front outlet
NOTE: Top Center and Top Rear also available

- **MIL SPEC QUALITY**
  Meet radio interference requirements of MIL-I-16910A
- **LARGE COOLING CAPACITY**
  600—1200 CFM output
- **COMPACT SIZE**
  Mount as standard 8¾" RETMA panel—15" front-to-back
- **CLEANABLE FILTER**
- **AIR DISCHARGE AREAS**

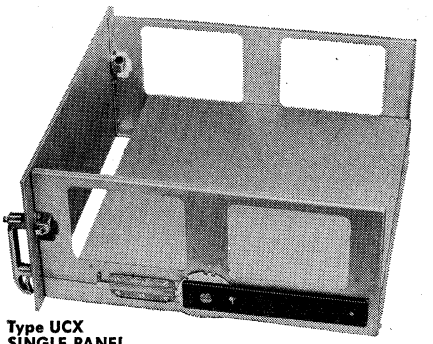
TO SUIT NUMEROUS APPLICATIONS:
Vertical Printed Circuit Cards, Horizontal-mount Chassis, Vertical-mount Chassis, etc.



Write for Drawing No. D-155

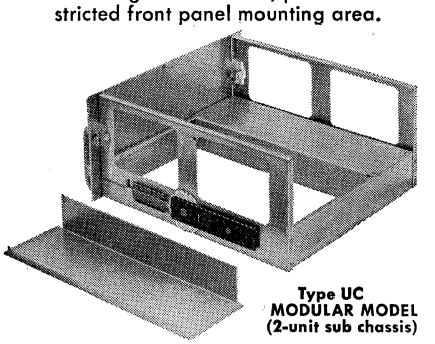
UNIVERSAL CHASSIS

Available in two types: full chassis plate or modular sub chassis.



Type UCX
SINGLE PANEL
CHASSIS PLATE MODEL—with push-button panel lock, trigger 'Detent' tilt control and 'Chassis-Trak' tilt-lock section.

Flat chassis plate is readily punched or drilled, permits fore-and-aft or cross-mounting of assemblies, provides unrestricted front panel mounting area.



Type UC
MODULAR MODEL
(2-unit sub chassis)

This series permits fore-and-aft mounting, superior cooling of assemblies.

• Maximum-height side frames give rigid equipment-protection in any position • Steel or aluminum—⅛" or 3/16" front panels, .062" side frames • All parts drilled for assembly • Panel drilled for handles and chassis drilled for slide mounting ('Chassis-Trak') if desired • Customer may specify all dimensions and materials • Fast delivery

HANDLES:
These features are offered individually or in combination: blank handles, push-button panel locks, trigger for tilt lock, positive screw-down clamp type for extreme shock or vibration.

Write for Drawing No. D-300

VENTILATED RELAY RACK CABINETS

MIL Spec Quality

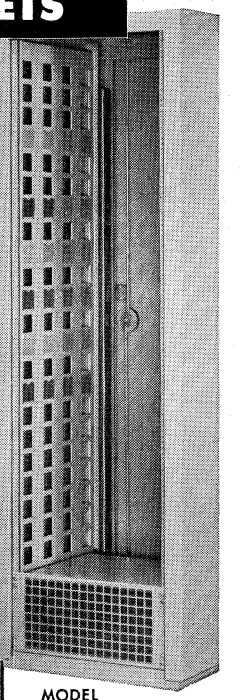
Complete Package Modular Construction

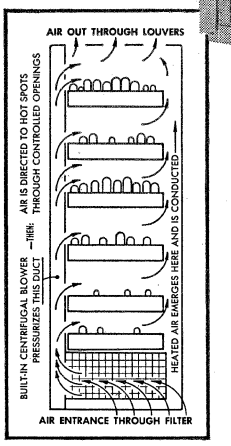
Fully Controlled built-in Cross-ventilation System

Cool Exactly Where Needed

Cool Heat Load of 2—3 KW Input

Proven in 4 Years' Operation in Government Laboratories





MODEL
FC1-24V-68¼H

Dolly Optional

STANDARD UNITS:
19" to 24" Panels
18" to 36" Deep

Matching Consoles Available

OTHERS TO YOUR SPECIFICATIONS

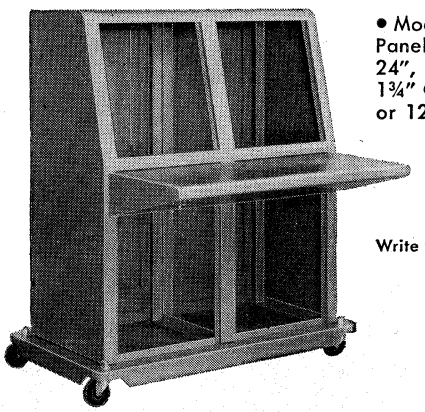
NOTE:
Adjustable air-flow pattern to your exact needs is effected by snap-in closures—no 'chimney' effect

• Available in cabinets or consoles —with 12-gauge or 3/16" steel frame • Adjustable interior rails afford ready mounting for chassis slides • Front and rear doors with glass panels or cutouts • Paint finish to customer requirements

Write for Drawing No. D-157

MODULAR VENTILATED CONSOLES

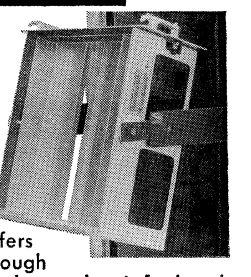
COMPLETELY to CUSTOMER SPECIFICATIONS ... SPECIFY the FOLLOWING:



• Modular Shapes: 'U' or 'L' floor plan available • Panel Angle: 15°, 30°, 45°, 60° • O.A. Depth: 24", 30" or 36" • Panel Spaces: any multiple of 1¾" • Frame: 12 gauge or 3/16" steel tapped 10-32 or 12-24 • Skin and Doors: steel or aluminum • Type Doors: hinged, lift-out or bolt-on • Slide: mountings built in for 'Chassis-Trak' • Mounting: channel base, casters or dolly with casters • Finish: any commercial or Military spec

Write for Drawing No. D-156

'CHASSIS-TRAK'



The IDEAL SLIDE for READY ACCESS to ENTIRE CHASSIS

• Ultra thin—mount 17" chassis in 17¾" opening • Extra strong • 'Basic' model tilts 120° above horizontal • 'Detent' model offers 7 locked positions through 210° • Finger touch releases chassis for bench work • 10"—24" long • Double extension • Finish approved for Military installations

Roller Types Available

ONE SOURCE...

for VENTILATED RELAY RACK CABINETS, CONTROL CONSOLES, BLOWERS, CHASSIS, 'CHASSIS-TRAK'*, RELATED COMPONENTS

OREgon 8-7827

WESTERN DEVICES, INC.

600 W. FLORENCE AVE., INGLEWOOD, CAL.

*For Inquiries on 'Chassis-Trak,' East of Rockies: Chassis-Trak Corp., 525 S. Webster Ave., Indianapolis

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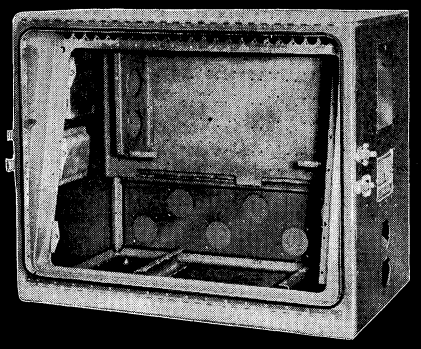
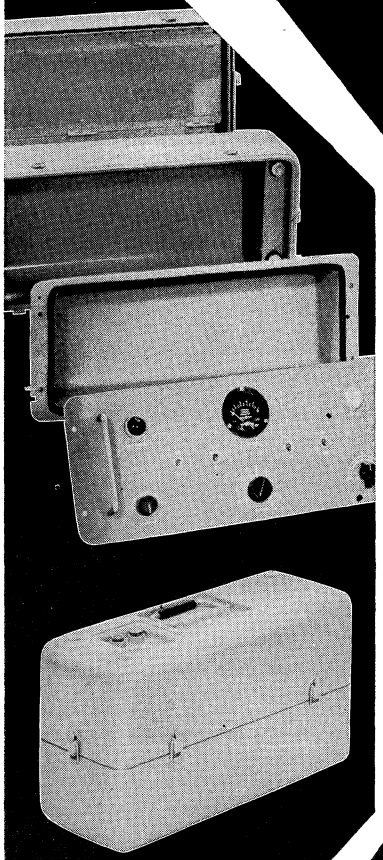
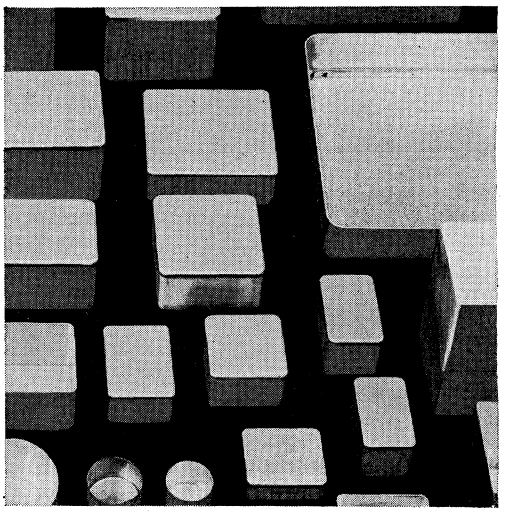
fabricated enclosures and chassis

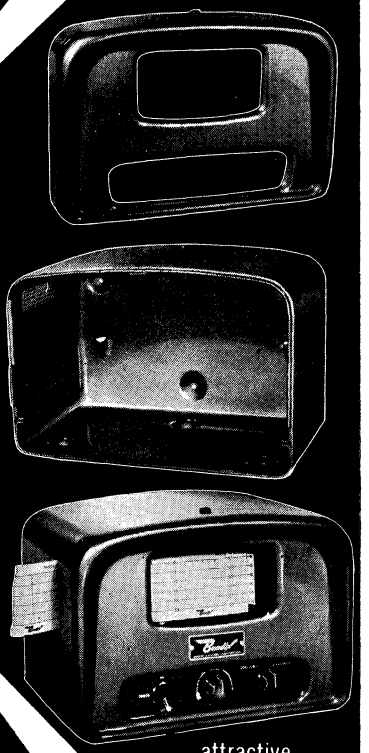




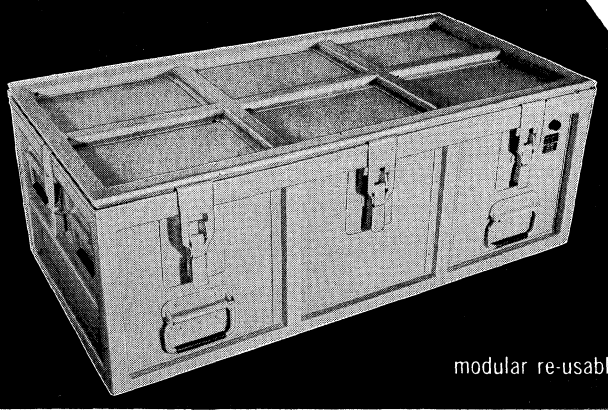
military transit/ instrument/ combination cases



stock deep drawn aluminum boxes and covers



attractive instrument housings



modular re-usable shipping containers

Let Zero Solve Your Packaging Problem . . .

Zero has just one business . . . designing and producing packages for commercial and military use. Zero's "One-Source" concept is unique . . . provides you with everything you need in packaging, from basic design and engineering through all processes of finishing and testing. Every operation performed under one roof with one responsibility . . . at the lowest possible cost. Contact your Zero Representative on your next packaging job, or send your specifications direct to the factory.

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ZERO MANUFACTURING CO.
1121 Chestnut Street, Burbank, California
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Zero sales representatives are located in 26 cities to serve you.

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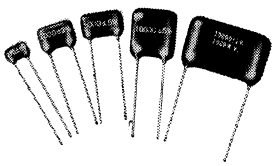
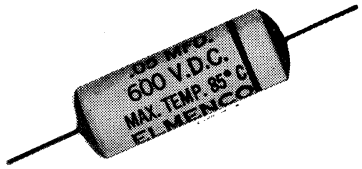
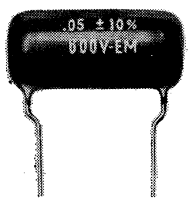
Silvered
and Foil
CM-Type



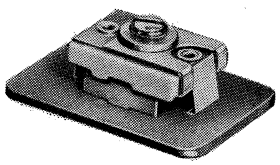
DUR-MICA
DM-Type



STEATITE
TUBULARS
CP-Type



dp
TUBULARS



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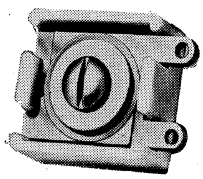
and
Printed
Circuit



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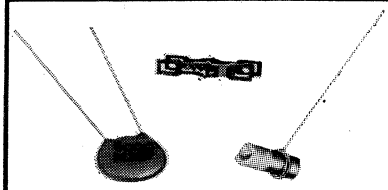
and
Dual



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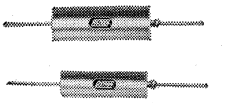
TYPE TES (ACTUAL SIZE)

SOLID TANTALUM

Subminiature, (⅛" x ¼") hermetically sealed metal case . . .
Temperature range —80° to +85° C
Maximum capacity variation averages less than ±5%
Indefinite shelf life, meets environmental requirements MIL-C-3965



TYPE TES (ACTUAL SIZE)

TYPE RLR

METALLIZED MYLAR*

Type RQL in a hermetically sealed case is designed to meet electrical and environmental requirements of MIL-C-18312 (U.S.N.)
Type RLR is an uncased unit . . . tough protective mylar* wrap and epoxy end seal
Both have a temperature range of —55° C to +125° C without derating

TYPE RQL

TYPE XPR

MYLAR* DIELECTRIC

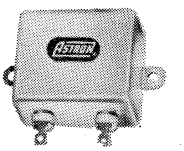
Round (XPR) and flat (XPF) miniature capacitors
Temperature range of —55° to +125° C
Units employ an outer mylar* polyester tape wrap and ends sealed with a plastic thermosetting resin to afford excellent protection against moisture.

TYPE XPF

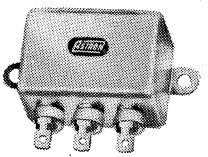
TYPES AQ-TQ

MIL-C-25A PAPER

Temperature range to +125° C . . . Hermetically sealed miniature tubulars and bathtub cans with ratings up to and including 1000 volts . . . Variety of types and mounting styles available.



TYPE ADM

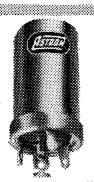


TYPE MDL

METALLIZED PAPER

With self healing characteristics
Miniature glass-to-metal sealed tubulars
Metal cased and uncased units
Conform to MIL tests for moisture resistance, thermocycle immersion and vibration . . .
To +125° C operation.

TYPE MQL

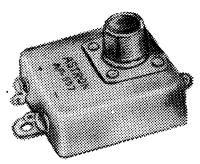


TYPES EX-EZ

SAFETY MARGIN** ELECTROLYTIC

Astron Electrolytics with high purity foil, special stable electrolytes and precision assembly provide long life, exceptionally low leakage and resistance to corrosive elements. Designed for use in transistorized and printed circuits in all military, industrial and commercial applications.

TYPE EK



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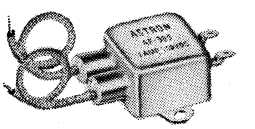

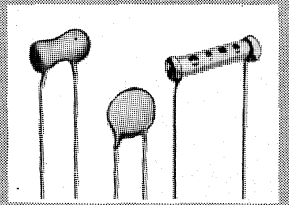

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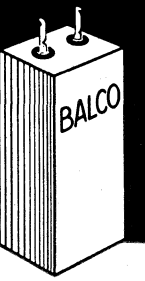
BALCO high temperature plastic film capacitors offer these features . . . high stability, high insulation resistance, low temperature co-efficient, low absorption, and low dissipation factor. Available in Teflon,* Mylar* (clear or metallized,) and Polystyrene.



BALCO HIGH TEMPERATURE CAPACITOR TYPES AND CHARACTERISTICS

Performance Characteristics	Type QTM-1 Metallized Mylar*	Type PT-1 Polystyrene	Types: LV-4 and LZ-4 Processed Teflon*	Type HT-2 Processed Teflon*	Type HTM-1 Metallized Teflon*
TEMPERATURE (Without derating) Max.	150°C (75% Vtg. Derated) 125°C (50% Vtg. Derated) 100°C (without Derating)	85°C	Reg. 175°C Extended 250°C	Reg. 200°C Extended 250°C	Reg. 200°C Extended 250°C
Min.	—55°C	—55°C	—70°C	—70°C	—70°C
APPLICATIONS	Military & Civilian	Military & Civilian	Military & Civilian	Military & Civilian	Military & Civilian
SIZE	Sub-Miniature	Miniature	Sub-Miniature	Miniature	Sub-Miniature
INSULATION RESISTANCE (In Ohms to 1.0) (Mfd. or Ohms x) Min. (Mfd. above 1.0) (approx. (Mfd.)	5×10^{10} at 25°C 5×10^{9} at 85° 10^{8} at 125°C 5×10^{7} at 150°C	5×10^{11} at 25°C 10^{11} at 85°C	10^{12} at 25°C 10^{12} at 125°C 10^{11} at 150°C 10^{9} at 175°C	10^{12} at 25°C 10^{12} at 125°C 10^{11} at 150°C 10^{9} at 200°C	10^{10} at 25°C 10^{10} at 125°C 10^{9} at 150°C 10^{9} at 200°C
DISSIPATION FACTOR (In %) Approx.	1%	.02 to .05	Stnd. 0.1 Specls. .02 to .05	Stnd. 0.1 Specls. .02 to .05	Stnd. 0.1 Specls. .02 to .05
TEMPERATURE COEFFICIENT (or Capacity Variation) Approx.	+6%, 25 to 85°C +15%, 25 to 125°C —6%, 25 to —55°C	—100 PPM	—100 PPM	—100 PPM	—100 PPM
DIELECTRIC ABSORPTION Approx.	—	0.1%	0.01%	0.01%	0.01%
LIFE TEST (At temp. and % Rated Vtg. shown)	Above 250 hrs. 100°C, 140% Rated Vtg.	Above 1,000 hrs. 85°C, 140% Rated Vtg.	Above 1,000 hrs. 175°C or 250°C, 140%	Above 1,000 hrs. 200°C or 250°C, 140%	Above 1,000 hrs. 200°C or 250°C, 140%
DIELECTRIC STRENGTH (Times, Rated Vtg.)	175%	200%	175%	200%	175%
CONSTRUCTION Type 1 (Reg.)	Very Rugged Hermetically Sealed Metal Cased;	Very Rugged Hermetically Sealed Metal Cased;	Very Rugged Hermetically Sealed Metal Cased;	Very Rugged Hermetically Sealed Metal Cased;	Very Rugged Hermetically Sealed Metal Cased;
Type 2 (Spcl.) Type 3 (Spcl.)	Film Wrapped—Epoxy Dipped	Film Wrapped—Epoxy Dipped	Film Wrapped—Epoxy Dipped	Film Wrapped—Epoxy Dipped	Film Wrapped—Epoxy Dipped
TOLERANCE Standard	±20%	±20%	±20%	±20%	±20%
Specials to	±½%	±¼%	±¼%	±¼%	±¼%

IMPROVED AND SPECIAL CHARACTERISTICS FOR BALCO'S HT AND LV SERIES CAPACITORS

SPEC. CHAR. NO.	COMBINES CHAR. OF:	DESCRIPTIONS OF SPECIAL CHARACTERISTICS INCLUDED OVER BASIC CHARACTERISTICS OF HT, HTM, LV and LZ CAPACITORS	SPECIAL DESIGNATIONS			
			Series	Series	Series	Series
Basic	Basic only.	Basic capacitor.	HT-2	HTM-1	LV-4	LZ-4
3	Highest Insul. Resist. plus Basic	10 to 100 times higher insulation resistance over basic capacitor	HT-3	HTM-3	...	...
4	Reduced size plus Basic	25 to 40% smaller than basic capacitor (at reduced voltage)	HT-4	HTM-4	LV-4	LZ-4
5	#4 plus #3	Combination of reduced size and high insulation resistance.	HT-5	HTM-5	LV-5	LZ-5
6	High stability plus low temp. coeff.	Stability approximately (0.2%) and temp. coeff. approximately 50 PPM/°C.	HT-6	HTM-6	LV-6*	LZ-6**
7	#6 plus #3	Combination of high stability and high insulation resistance.	HT-7	HTM-7	LV-7	LZ-7
8	#6 plus #4	Combination of high stability and reduced size (at reduced voltage).	HT-8	HTM-8	LV-8	LZ-8
9	#6 plus #4 plus #3	Combination of high stability plus reduced size, plus high insulation resistance.	HT-9	HTM-9	LV-9	LZ-9

*LV-6 = LV-8
**LZ-6 = LZ-8

NOW! 250°C. MAXIMUM OPERATING TEMPERATURE RANGE: Available in most of HT and LV Series Capacitors; also in most of HTM-1 Series.

Add suffix T-1 for LV and LZ series only, maximum continuous operating temperature, without derating, to 200°C.

Add suffix T-2 for HT, HTM, LV and LZ series, maximum continuous operating temperature, without derating, to 250°C.

For example: LV-4-T-1 (LV-4 for 200°C.) LV-6-T-2 (LV-6 for 250°C.) HT-9-T-2 (HT-9 for 250°C.) HTM-1-T-2 (HTM-1 for 250°C.)

NOW! STAINLESS STEEL, HERMETICALLY SEALED CASES: Available for virtually all types of all Series. Excellent for severe environmental or corrosive atmospheric conditions. Add suffix S for stainless steel:

Examples: HT-9-S (HT-9 with stainless steel case) HT-9-T-2-S (HT-9 for 250°C with stainless steel case) HTM-1-T-2-S (HTM-1 for 250°C with stainless steel case)

BALCO CAPACITORS

49-53 Edison Place, Newark, New Jersey
Mitchell 3-5200

*Du Pont Reg. Trade Mark

See YELLOW SECTION for Local Offices, Telephone, etc.

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HT-2 AND HT-3 Dimensions**

Mfd.	200 WVDC Dia.	200 WVDC Lgth.	400 WVDC Dia.	400 WVDC Lgth.	600 WVDC Dia.	600 WVDC Lgth.
.0005	.190	3/4	.190	3/4	.190	3/4
.0010	.235	3/4	.235	3/4	.235	3/4
.0033	.235	7/8	.312	7/8	.312	7/8
.010	.312	13/16	.400	7/8	.400	7/8
.022	.400	1 1/16	.500	1 1/16	.500	1 1/16
.050	.500	1 1/8	.562	1 1/16	.562	1 1/16
.068	.562	1 1/8	.670	1 1/16	.670	1 1/16
.10	.670	1 1/8	.750	1 1/16	1.0	1 7/8
.25	.750	1 7/8	1.0	1 7/8	1.375	1 7/8
.50	1.0	1 7/8	1.375	1 7/8	1 3/8	2 1/2 x 2
1.0	2 x 2	1 1/8	1 3/8	2 1/2 x 2	* * *	
2.0	* * *		* * *		* * *	
5.0	* * *		* * *		* * *	

LZ-4, LV-4 AND HT-4 Dimensions**

Mfd.	LZ-4 15 WVDC Dia.	LZ-4 15 WVDC Lgth.	LV-4 30 WVDC Dia.	LV-4 30 WVDC Lgth.	HT-4 100 WVDC Dia.	HT-4 100 WVDC Lghth.
.0005	.170	1 1/16	.170	13/16	.170	15/16
.0010	.170	1 1/16	.170	13/16	.190	15/16
.006	.170	1 1/16	.190	13/16	.235	7/8
.010	.170	1 1/16	.190	1 3/8	.312	13/16
.015	.190	15/16	.235	7/8	.312	13/16
.022	.235	3/4	.312	13/16	.312	1 1/16
.050	.312	13/16	.312	1	.312	1 3/8
.10	.312	1 3/8	.400	1	.400	1 3/8
.25	.400	1 3/8	.500	1 5/16	.562	1 9/16

PT-1 Dimensions**

Mfd.	100 WVDC Dia.	100 WVDC Lgth.	200 WVDC Dia.	200 WVDC Lgth.	400 WVDC Dia.	400 WVDC Lgth.	600 WVDC Dia.	600 WVDC Lgth.
.0005	.170	13/16	.170	15/16	.190	3/4	.190	3/4
.0010	.170	13/16	.190	15/16	.235	3/4	.235	3/4
.0033	.190	13/16	.190	1 3/8	.235	7/8	.235	7/8
.006	.190	13/16	.235	7/8	.312	13/16	.312	13/16
.010	.190	1 3/8	.312	13/16	.312	13/16	.312	1
.015	.235	7/8	.312	1 1/16	.312	1 1/16	.400	1
.022	.312	13/16	.312	1 1/16	.400	1	.400	1 1/8
.050	.312	1	.312	1 3/8	.500	1 1/8	.562	1 5/16
.10	.400	1	.400	1 3/8	.562	1 7/16	.670	1 9/16
.25	.500	1 5/16	.562	1 9/16	.750	1 7/8	1.00	1 7/8
.50	.670	1 5/16	.750	1 7/8	1.00	1 7/8	2 x 2	1 1/8
1.0	.750	1 7/8	1.00	1 7/8	2 x 2	1 1/8	2 x 2	2 1/16
2.0	1.00	1 7/8	2 x 2	1 1/8	2 x 2	2 1/16	* * *	
4.0	2 x 2	1 1/8	2 x 2	2 1/4	* * *		* * *	
5.0	* * *		* * *		* * *		* * *	

QTM-1 Dimensions**

Mfd.	200 WVDC Dia.	200 WVDC Lgth.	300 WVDC Dia.	300 WVDC Lgth.	400 WVDC Dia.	400 WVDC Lgth.	600 WVDC Dia.	600 WVDC Lgth.
.01	* * *		* * *		* * *		.235	3/4
.015	* * *		* * *		* * *		.312	7/8
.02	* * *		* * *		.235	3/4	.312	7/8
.03	* * *		* * *		.312	7/8	.400	7/8
.05	* * *		.235	3/4	.312	7/8	.400	1 1/8
.07	.235	3/4	.312	7/8	.400	7/8	.400	1 1/8
.10	.312	7/8	.312	7/8	.400	7/8	.500	1 1/8
.25	.400	7/8	.400	1 1/8	.500	1 5/16	.562	1 7/8
.50	.400	1 1/8	.500	1 1/8	.562	1 7/8	.670	1 7/8
1.0	.500	1 5/16	.562	1 5/16	.670	1 7/8	1.0	1 7/8
1.5	.562	1 7/8	.562	1 7/8	1.0	1 7/8	* * *	
2.0	.562	1 7/8	.670	1 7/8	* * *		* * *	
4.0	.670	1 7/8	1.0	1 7/8	* * *		* * *	
5.0	.750	1 7/8	1.25	1 7/8	* * *		* * *	
8.0	1.0	1 7/8	* * *		* * *		* * *	

HTM-1 Dimensions**

Mfd.	200 WVDC Dia.	200 WVDC Lgth.	400 WVDC Dia.	400 WVDC Lgth.
0.1	.400	1 3/8	.500	1 3/8
0.15	.500	1 3/8	.562	1 3/8
0.25	.562	1 3/8	.670	1 3/8
0.5	.750	1 3/8	.750	1 15/16
1.0	.875	1 15/16	1.00	1 15/16
2.0	1.25	1 15/16	* * *	
4.0	1 3/32 x 2 x 2 1/2		* * *	

**All dimensions shown are for extended foil, metal cased, hermetically sealed, floating can construction, type 1, (see other page).
***Intermediate and larger capacitance values, and other voltage, available on request.

BALCO REGULAR AND HI - TEMP CAPACITORS

Balco's capacitor division offers a variety of quality capacitor types for conventional and HI-TEMPERATURE application, manufactured under the most rigid standards of the industry.

Balco's Hi-Temp capacitors are noted for their exceptional performance at high temperatures, for example, most of the important characteristics at 200°C and 250°C exceed the performance of conventional capacitors at room temperature.

Balco capacitors are the results of our pioneering and leadership in the research and development of HI-TEMPERATURE capacitors since 1946. A large part of this work has been supported by a nearly continuous series of R & D capacitor contracts with the Military.

Note: This catalog reflects a number of size reductions and some size changes versus those capacitors carrying the same series designations in previous catalogs. To insure exact size desired specify the particular catalog number used. The above sizes are for this catalog No. 59-1 only. Other values, voltages, tolerances and mechanical configurations can be made for your special application requirements.

CATALOG 59-1 MAR. 1959

BALCO CAPACITORS 49-53 Edison Place, Newark, New Jersey Mitchell 3-5200 *Du Pont Reg. Trade Mark

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Diamond

plastic film dielectric capacitors

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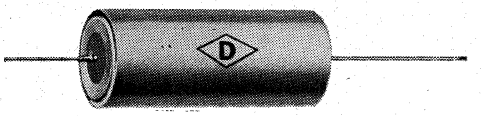
STANDARD Type P



POLYSTYRENE DIELECTRIC

CAPACITANCE .001 to 10.0 mfd.
VOLTAGE Up to 1200VDCW
TOLERANCE As close as ± 0.1% *
TEMP. RANGE -55° C. to + 85° C. (higher for special application)

and in addition, DIAMOND polystyrene dielectric capacitors are unmatched for combined excellence of electrical characteristics . . . power factor, dielectric absorption, stability, retrace, reliability. Write for complete specifications.

* For special application requiring optimum insulation resistance, peak reliability, and above all, super-stability, inquire about our Type S specially processed polystyrene line.

TYPE P POLYSTYRENES ARE AVAILABLE IN A WIDE VARIETY OF ENCLOSURES AND MOUNTING CONFIGURATIONS. THE PRINCIPLE OF THESE ARE:

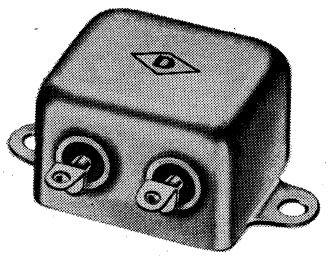
Type PSA Miniaturized units in polystyrene jackets. The exclusive DIAMOND technique of jacket enclosure affords substantial size saving with complete moisture protection and elimination of cost of hermetic seal.

Type PZA Hermetically sealed tubular units to meet all military environmental specifications.

Type PYA Hermetically sealed bathtub enclosure, particularly for upper capacitance and voltage ranges.

All Type PZA units exceed MIL-C-19978 specifications for Type P polystyrene dielectric capacitors.

FOR THE FIRST TIME . . .
UNIFORM ZERO TEMPERATURE COEFFICIENT from -55° C. to +85° C.



DIAMOND Type KYA Capacitors

CAPACITANCE RANGE .01 to 1.0 mfd.
VOLTAGE up to 1000VDCW
TEMPERATURE COEFFICIENT ZERO ± 10 ppm/° C. uniform from -55° C. to + 85° C.
STABILITY ± 0.05% long term.
POWER FACTOR Less than 0.1% at 25° C.
ENCLOSURE Hermetic Bathtub type affording the usual DIAMOND ruggedness of construction and reliability of operation.

DIAMOND ELECTRONICS CORP. specializes in design and production of capacitors to meet unique individual customer requirements. Your inquiry on any type of non-electrolytic capacitor problem is welcomed.

DIAMOND ELECTRONICS CORP., 64 White Street, New York 13, New York

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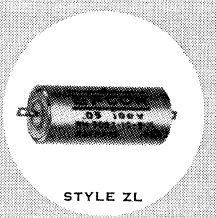
precision film capacitors

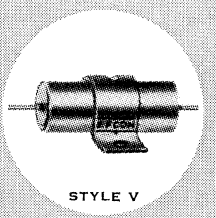
for all industrial, military and commercial applications

For economy . . . for quality . . . Specify EFCON plastic film capacitors. They have earned an enviable reputation for dependability and high level performance in filters, timing circuits, analog and digital computers . . . plus many other applications.

STYLE Z

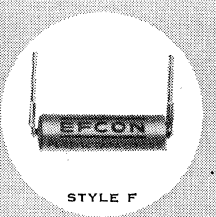

STYLE ZL

STYLE WL

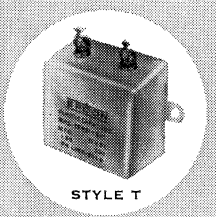


STYLE V

STYLE C



STYLE F


STYLE T

STYLE N

TYPE AG
STYLE S

HIGH STABILITY
TYPE RH

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682 Broadway
New York 12, N. Y.
SPring 7-4900

TYPE DESIGNATION

Symbol	Dielectric Material	Case Description	Temperature Range
MC	Mylar*	Impregnated Phenolic Tube	—60°C to +85°C
MD	Mylar*	Epoxy Encapsulated	—60°C to +150°C
MH	Mylar*	Hermetically Sealed	—60°C to +85°C
MHH	Mylar*	Hermetically Sealed	—60°C to +125°C
PC	Polystyrene	Impregnated Phenolic Tube	—65°C to +85°C
PH	Polystyrene	Hermetically Sealed	—65°C to +85°C
RH	Polystyrene	Hermetically Sealed	—55°C to +85°C
TH	Teflon	Hermetically Sealed	—65°C to +200°C
AG	Special Plastic	Glass Cased "Glasscon"®	—60°C to +125°C

* DuPont Trademark

STYLE AND DESCRIPTION

Capacitor Section Insulated From Case (Glass-to-Metal Terminal At Each End)	Capacitor Section Grounded To Case (Glass-to-Metal Terminal At One End)	Other Styles
Z — internally insulated (floating construction). V — with tangential soldered-on bracket. W — screw neck mounting type (minimum case diameter is .312"). F — parallel leads (for printed circuits). Y — internally insulated (floating construction) with plastic outer sleeve. O — internally insulated, parallel leads, one end with angle bracket for mounting. Q — as per Style Z, with double stud mounting on case body.	A — as per Style Z, with one end grounded. D — with tangential soldered-on bracket. C — screw neck mounting type (min. case diam. is .312"). B — as per Style A above, with plastic outer sleeve. M — axial stud at grounded end. K — as per Style Q, with one end grounded.	T — bathtub construction. N — upright rectangular container construction. P — internally insulated, parallel leads one end. S — axial screw studs ("Glasscon" only). R — epoxy end fill. Add "L" after the basic style designating letter for solder lug terminals instead of axial leads (except styles F, S and R and types MC, MD and PC).

EFCON's prime stock-in-trade lies in providing precise capacitance values for precise circuit applications . . . the closest tolerances in the industry . . . the highest reliability. Thanks to advanced engineering and special production techniques EFCON capacitors are consistently made to tolerances closer than ± 1% . . . and available in capacitance value from .001 mfd. to 10 mfd. EFCON capacitors feature the lowest dissipation factor of any film capacitors. They are tested at a D.C. voltage of at least 200 percent of rated voltage at 25°C.

You no longer need compromise circuit design because of unusual requirements in capacitance value, tolerance, case size or configuration. EFCON specializes in filling your "odd ball" design needs in single units or by the thousands . . . non-standard units costing no more than standard units.

INDUSTRY'S PRIME SOURCE FOR CLOSE TOLERANCE AND/OR NON-STANDARD VALUE CAPACITORS.

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SUB-MINIATURE ELECTROLYTIC CAPACITORS

Engineered for Transistorized Circuitry

OPTIMUM PERFORMANCE . . .

at the LOWEST PRICES in the Industry!

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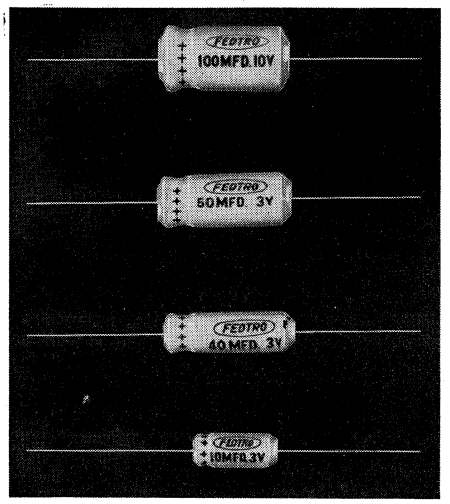

- TRANSISTOR RADIOS
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- TV CAMERAS
- ALL LOW VOLTAGE TRANSISTORIZED CIRCUITRY

Fedtro sub-minaiture Trans-Lytics feature extremely high stability and exceptionally low current leakage. Designed specifically for miniaturized low voltage transistorized circuitry where reliability must be assured and space and weight must be kept to a minimum. Utilizing the most advanced production techniques, these rugged units are metal-cased with a protective insulating sleeve of chemical and abrasive resistant plastic. Internally, etched plate of the highest purity aluminum is used. The leads are "solder-coated" to assure trouble-free use in dip-soldering production assemblies.

TEMPERATURE RANGE ..... —30° C to +65° C

TOLERANCE ..... at 25° C, —10%, +200%

MAXIMUM LEAKAGE ..... 15 microamperes/mfd/volt

STABILITY & RELIABILITY ..... complete life test report available (Report #182)

STANDARD STOCK SIZES
(Delivery as per your production requirements)

PART NO.	CAP. MFD.	WVDC	CASE SIZE - INCHES DIAM. x LENGTH
5M3	5	3	1/2 x 3/16
10M3	10	3	1/2 x 3/16
15M3*	15	3	3/4 x 7/32
40M3	40	3	3/4 x 7/32
50M3	50	3	3/4 x 5/16
2M10	2	10	1/2 x 3/16
5M10	5	10	1/2 x 3/16
10M10	10	10	3/4 x 7/32
25M10	25	10	3/4 x 7/32
40M10	40	10	3/4 x 5/16
50M10	50	10	3/4 x 13/32
80M10	80	10	3/4 x 13/32
100M10	100	10	3/4 x 13/32

NOTE: ALL LEADS STANDARD 2 INCH LENGTH

SEE FEDTRO'S LISTINGS IN EEM FOR:

Transistor Radio Earphones (Sec. 1300)
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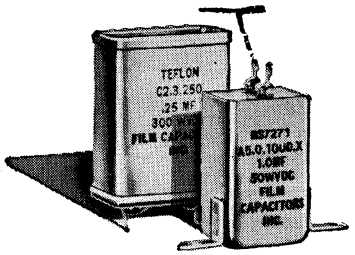
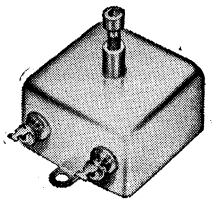


POLYSTYRENE AND TEFLON CAPACITORS

- Highest Insulation Resistance
- Lowest Dielectric Absorption ("Soakage")
- Lowest Power Factor
- Highest Capacitance Stability
- Low Temperature Coefficient
- Stable Operation Up to 85°C. (Polystyrene) and 200°C. (Teflon)



ADJUSTABLE CAPACITORS

- Large Capacitances at Close Tolerance
- Instantaneous Capacitance Changes without Drift Range
- Adjustment Range ±1% of Nominal Value
- Noninductive Winding for Minimum Power Factor and Soakage
- Same Electrical Characteristics as Above

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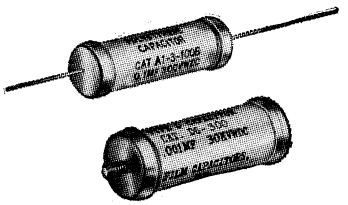

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- New "High-Breakdown" Plastic Film Dielectric
- Small Size—Light Weight—Low Price
- Operation Up to 125°C.
- Voltage Up to 60,000 V

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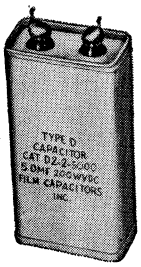
TYPE D CAPACITORS

- Small Size—Low Cost
- Very High Insulation Resistance
- Moderate Dielectric Absorption ("Soakage")
- Available in Styles CP04, CP53, CP70, and Ceramic Jacketed



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POWER SUPPLIES
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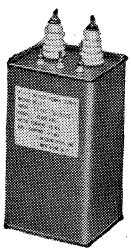

For detailed descriptions, engineering data, and prices please refer to
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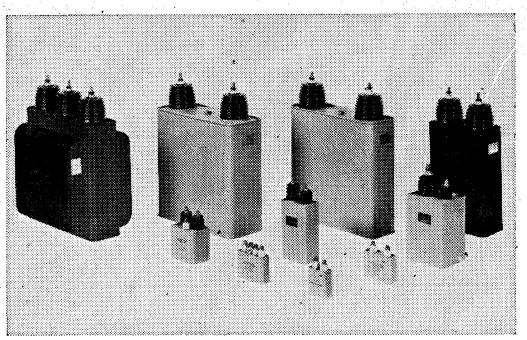
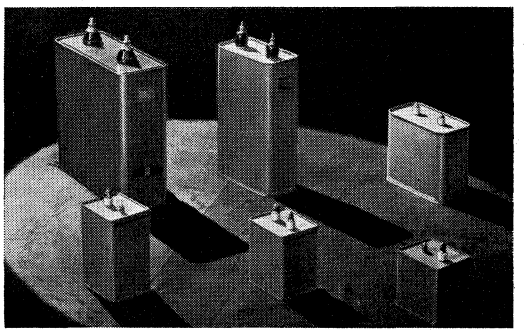
GENERAL ELECTRIC CAPACITORS



Pulse-forming Network Capacitors

Capacitor networks of one or more sections and a like number of inductance coils provide discharge pulses of a specified energy content and duration. They convert an a-c or d-c charging source into the approximately rectangular wave output required in generating the high-frequency power pulse for commercial and military radar equipment. Operating voltages for the network range from 500 to 132,000 volts at temperatures from —55 to +125 C.

Write for Bulletin GEA-4996

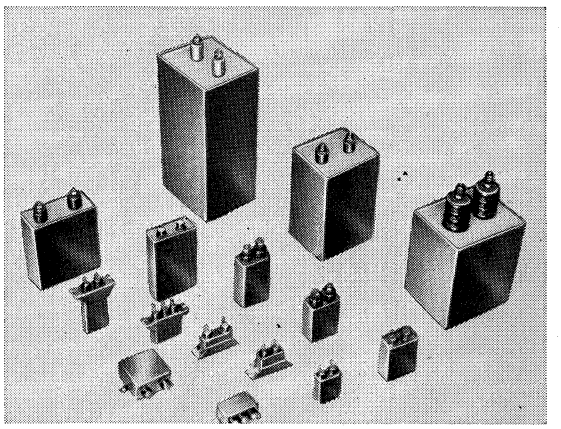


Energy-storage and Discharge Capacitors

General Electric energy-storage capacitors are made in a wide range of ratings for phototube and similar light-duty applications. Nonoscillatory voltage ratings up to 5000 volts provide up to 800 watt-seconds. These units will meet NEMA Class 2 standards at ambients up to 40 C, and have standard capacitance tolerance of ±10 per cent.

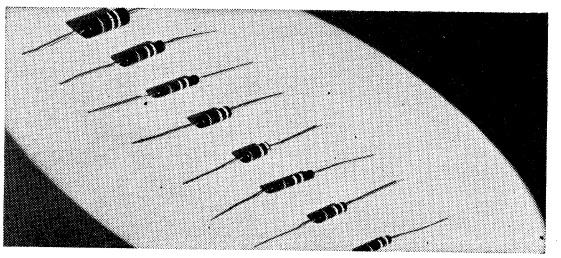
For heavy-duty service, single units and large banks are custom designed and engineered for each application. Voltage ratings up to 100 kv d-c provide up to 1500 watt-seconds with series resonant inductance values as low as 0.01 microhenries.

Write for Bulletins GEC-1357 & GEC-1521.



Mil-C-25A Capacitors

These capacitors are for filter, blocking and by-pass applications where the a-c component of the impressed voltage is small with respect to the d-c rating. General Electric is a qualified supplier of the following case styles: CP53, CP54, CP55, CP61, CP63, CP65, CP67, CP69, and CP70, meeting or exceeding MIL-C-25A requirements for characteristics D, E, F, K, L, M, and V. Voltages range from 100 to 12,500 volts d-c with capacitance values from 0.01 to 15 microfarads. Brackets are available for those units which the mounting bracket is not an integral part.



PVZ* Molded Tubular Capacitors

General Electric molded PVZ capacitors are fixed, paper-dielectric units having application in computers, missiles, telephone equipment and other high-grade military, commercial, and electronic equipment. Ratings: 100 to 400 volts d-c. They can be supplied from 0.00047 to 0.022 microfarads in the 400-volt range and from 0.00047 to 0.15 microfarads in the 100-volt range. Tolerances: ±5, ±10, ±20 per cent. Temperature range is from —55 to +125 C.

Write for Bulletin GEC-1452

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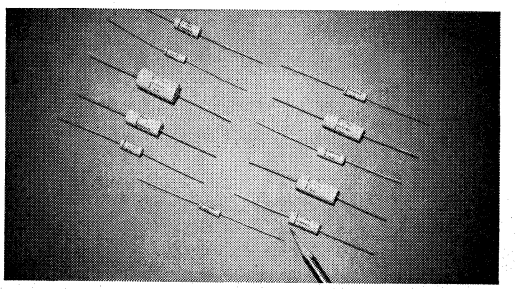

Lectrofilm†-B Tubular Capacitors

These nonmetallic cased tubular capacitors with Mylar‡ film dielectric offer extremely high reliability at temperatures up to 125 C for minimum cost. It is designed for 44,000-hour life at recommended voltage and temperature. Ratings: 100 to 600 volts d-c; 0.0010 to .68 microfarads. Tolerances as low as ±5 per cent. For use in missiles, radar, computers, and mobile communications.

Write for Bulletins GEC-1518 & GET-2904

†Trade-mark of General Electric Co.

‡Trade-mark of DuPont Co.

Complete information on all of the capacitors is available from your nearest G-E Apparatus Sales Office, or by writing to Section 640-496, General Electric Company, Schenectady 5, N. Y.

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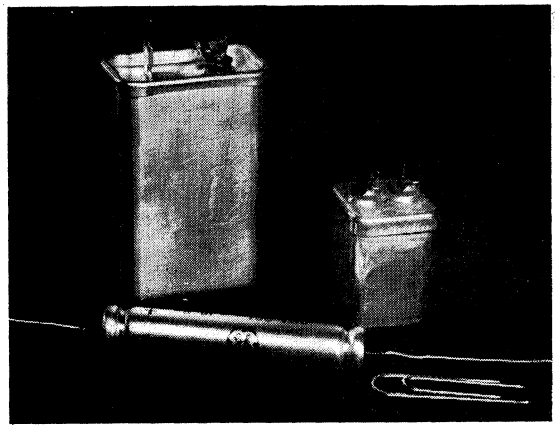
GENERAL ELECTRIC CAPACITORS



Tantalum Electrolytic Capacitors

General Electric Tantalytic* capacitors fill direct-current, low-voltage applications where superior performance and small size are essential. Foil types are available in cylindrical and rectangular cases for temperatures from —55 to +125 C. Voltage ratings up to 150 volts d-c and microfarad values from 0.25 to 580 are available. Plain and etched foils are available with polar or nonpolar construction. The KSR* Tantalytic unit provides up to 3500 microfarads in a single case. For low-voltage polar use, General Electric offers the solid electrolyte Tantalytic capacitor, a miniature unit with stable operation from —80 to +85 C. Micro-miniature capacitors for hearing aid and other transistor applications are also available.

Write for Bulletins GEC-808, GEA-6766, GEA-6258, & GEZ-2796

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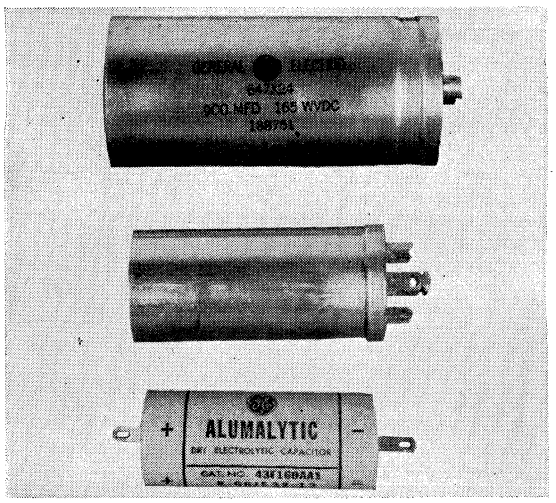

Aluminum Electrolytic Capacitors

For radio, TV and other communications equipment General Electric supplies Alumalytic† capacitors in the tubular and "twist-tab" styles. Units may be insulated or uninsulated, with a choice of leads and terminals. Voltages range from 30 to 450 with microfarad values up to 500 for service from 0 to +85 C. Also available is a computer-grade Alumalytic capacitor. This high reliability unit offers "bulk capacitance" ideal for computer power supplies. Microfarad ratings range to 150,000; voltages from 3 to 450 volts d-c, for operation in ambient temperatures of —20 to +65 C.

Write for Bulletins GEA-6819 & GEZ-1912.

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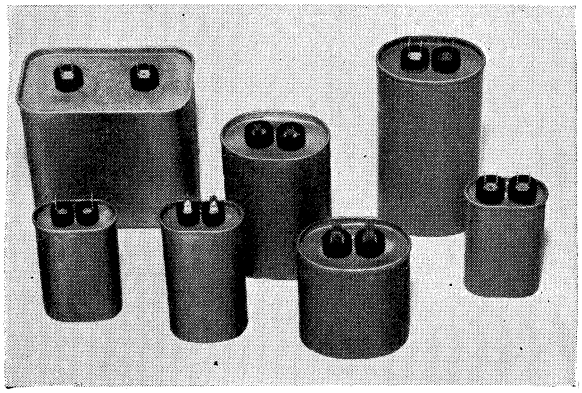
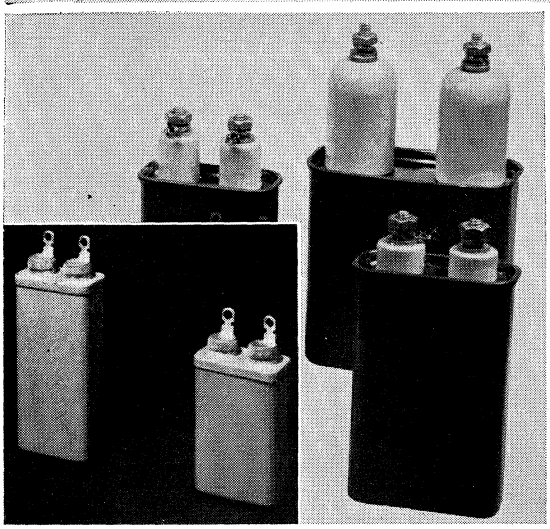


A-C Drawn Case Capacitors

These are fixed, paper-dielectric capacitors in drawn seamless containers with ratings from 1 to 50 microfarads at 165 to 440 volts a-c, designed for power factor correction in air-conditioning equipment, business machines, and industrial controls. The units are rated for maximum 70 C service with standard capacitance tolerance of 10 per cent. Both oval and rectangular cases have choice of terminals, terminal protection, and mounting brackets. An additional line of d-c ratings is available for commercial and military applications.

Write for Bulletin GEA-6789



Standard Commercial Capacitors

These are fixed, paper-Pyranol* liquid-dielectric capacitors for use in a-c/d-c commercial electronic applications such as blocking, by-pass, and power supply filters. Case Style 60 units are rated from 400 to 1500 volts d-c, and for 60-cycle service from 236 to 660 volts a-c, with derating above 40 C. Capacitance values range from 0.01 to 2.0 microfarads, with a standard tolerance of ±10 per cent. Case Style 70 units are rated from 400 to 100,000 volts d-c, and for 60-cycle service from 236 to 660 volts a-c, with derating above 40 C. Capacitance values range from 0.05 to 75 microfarads with a standard tolerance of ±10 per cent.

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Complete information on all of the capacitors is available from your nearest G-E Apparatus Sales Office, or by writing to Section 640-496, General Electric Company, Schenectady 5, N. Y.

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HOPKINS CAPACITORS

PAPER CAPACITORS

HY-THERM

Sub-minature paper capacitors. Hermetically sealed. Approved to MIL-C-25A. Standard units have non-inductive extended foil construction—rated to 125°C. Tolerance ±10%. All other mountings, case styles, tolerances, etc. available.

100 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1K1102K	.001	.175 x ¾
1K1472K	.0047	.175 x ¾
1K1103K	.01	.235 x ¾
1K1223K	.022	.312 x ⅞
1K1473K	.047	.312 x ⅞
1K1104K	.1	.400 x ⅞
1K1474K	.47	.562 x 1⅜
1K1105K	1.0	.670 x 1⅝

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1K2102K	.001	.235 x ¾
1K2222K	.0022	.235 x ¾
1K2472K	.0047	.235 x ¾
1K2682K	.0068	.235 x ¾
1K2103K	.01	.235 x ¾
1K2223K	.022	.312 x ⅞
1K2473K	.047	.400 x ⅞
1K2683K	.068	.400 x ⅞
1K2104K	.1	.400 x 1⅛
1K2224K	.22	.562 x 1⅛
1K2474K	.47	.562 x 1⅝
1K2684K	.68	.670 x 1⅝
1K2105K	1.0	.750 x 2⅛

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1K4102K	.001	.235 x ¾
1K4472K	.0047	.312 x ⅞
1K4103K	.01	.312 x ⅞
1K4223K	.022	.400 x ⅞
1K4473K	.047	.400 x 1⅛
1K4104K	.1	.562 x 1⅛
1K4474K	.47	.750 x 2⅛

600 WORKING VOLTS D. C.

PART NO.	MFD.	SIZE
1K6102K	.001	.235 x ¾
1K6222K	.0022	.235 x ¾
1K6472K	.0047	.312 x ⅞
1K6682K	.0068	.312 x ⅞
1K6103K	.01	.312 x ⅞
1K6223K	.022	.400 x ⅞
1K6473K	.047	.400 x 1⅜
1K6683K	.068	.562 x 1⅛
1K6104K	.1	.562 x 1⅜
1K6224K	.22	.670 x 1⅝
1K6334K	.33	.750 x 2⅛
1K6474K	.47	.750 x 2⅜

CO-THERM

Low cost, paper capacitors, steatite encased, epoxy sealed. Special solid impregnant prevents leakage. Ideal for commercial requirements. Standard tolerance ±20%.

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
W1R2102	.001	5/16 x 1
W1R2222	.0022	5/16 x 1
W1R2472	.0047	5/16 x 1
W1R2103	.01	5/16 x 1
W1R2223	.022	5/16 x 1
W1R2473	.047	3/8 x 1¼
W1R2104	.1	7/16 x 1¼
W1R2224	.22	11/16 x 1⅞
W1R2334	.33	11/16 x 1⅞
W1R2474	.47	11/16 x 1⅞

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
W1R4102	.001	5/16 x 1
W1R4222	.0022	5/16 x 1
W1R4472	.0047	5/16 x 1
W1R4103	.01	5/16 x 1
W1R4223	.022	3/8 x 1¼
W1R4473	.047	7/16 x 1¼
W1R4104	.1	½ x 1½
W1R4224	.22	11/16 x 1⅞
W1R4334	.33	¾ x 2
W1R4474	.47	15/16 x 2¼

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
W1R6102	.001	5/16 x 1
W1R6222	.0022	5/16 x 1
W1R6472	.0047	5/16 x 1
W1R6103	.01	3/8 x 1¼
W1R6223	.022	7/16 x 1¼
W1R6473	.047	½ x 1½
W1R6104	.1	11/16 x 1⅞
W1R6224	.22	15/16 x 2¼

1000 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
W1R10102	.001	5/16 x 1
W1R10222	.0022	5/16 x 1
W1R10472	.0047	3/8 x 1¼
W1R10103	.01	3/8 x 1¼
W1R10223	.022	½ x 1½
W1R10473	.047	11/16 x 1⅞
W1R10104	.1	¾ x 2

Metallized paper phenolic coated capacitors have self-healing characteristics against surge voltages. Impregnation in a high K thermosetting resin and a rectangular shape provides space saving advantages. Standard tolerance is ±20%.

200 WORKING VOLTS D.C.

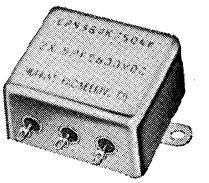
PART NO.	MFD.	SIZE
P0052D	.005	.110 x .180 x 3/8
P0072D	.077	.120 x .195 x 3/8
P012D	.01	.090 x .160 x ½
P0222D	.022	.125 x .190 x ½
P0332D	.033	.140 x .215 x ½
P0472D	.047	.155 x .230 x ½
P072D	.07	.150 x .220 x 5/8
P12D	.10	.170 x .260 x 5/8
P222D	.22	.220 x .290 x 5/8
P32D	.30	.260 x .335 x 5/8
P52DS	.50	.310 x .430 x 5/8
P752D	.75	.275 x .375 x 1⅛
1P2D	1.00	.300 x .425 x 1⅛
1P52D	1.50	.320 x .440 x 1⅝
2P2D	2.00	.360 x .475 x 1⅝
3P2DS	3.00	.580 x .730 x 1⅛
5P2D	5.00	.550 x .700 x 1⅝
8P2D	8.00	.725 x .950 x 1⅝
10P2D	10.00	.725 x 1.050 x 1⅝
20P2D	20.00	1.050 x 1.400 x 1⅝

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0054D	.005	.150 x .225 x 3/8
P014D	.01	.140 x .215 x ½
P0224D	.022	.200 x .270 x ½
P0474D	.047	.290 x .365 x ½
P14D	.10	.300 x .350 x 5/8
P224D	.22	.400 x .500 x 5/8
P54D	.50	.375 x .525 x 1⅛
P754D	.75	.375 x .500 x 1⅝
1P4D	1.00	.420 x .550 x 1⅝
1P54D	1.50	.620 x .720 x 1⅝
2P4D	2.00	.650 x .800 x 1⅝
3P4D	3.00	.875 x 1.050 x 1⅝

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0056D	.005	.110 x .180 x ½
P016D	.01	.150 x .230 x 5/8
P056D	.05	.275 x .400 x 5/8
P16D	.1	.350 x .475 x 5/8
P56D	.5	.400 x .500 x 1¾
1P6D	1.0	.625 x .800 x 1¾



CP-53 STYLE

Heavy duty MIL-C-25A Bathtub Capacitors. Hermetically sealed with high temperature oil in a rugged metal case. Rated at 125°C. Standard tolerance ±20%. All other styles, mountings and tolerances available.

200 WORKING VOLTS D.C.

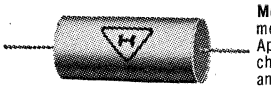
PART NO.	MFD.	SIZE
R1K2504	0.5	1 13/16 x 1 x ⅞
R1K2105	1.0	2 x 1¾ x ⅞
R1K2205	2.0	2 x 2 x 1

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
R1K4503	0.05	1 13/16 x 1 x ¾
R1K4104	0.1	1 13/16 x 1 x ¾
R1K4254	0.25	1 13/16 x 1 x ¾
R1K4504	0.5	1 13/16 x 1 x ⅞
R1K4105	1.0	2 x 1¾ x ⅞
R1K4155	1.5	2 x 1¾ x 1
R1K4175	1.7	2 x 2 x 1
R1K4205	2.0	2 x 2 x 1
R5K4504	.5-.5-.5	2 x 2 x 1⅛

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
R1K6503	0.05	1 13/16 x 1 x ¾
R1K6104	0.1	1 13/16 x 1 x ¾
R1K6254	0.25	1 13/16 x 1 x ¾
R1K6504	0.5	1 13/16 x 1 x 1
R1K6105	1.0	2 x 1¾ x 1
R1K6205	2.0	2 x 2 x 1⅛
R4K6503	.05-.05	1 13/16 x 1 x ¾
R4K6104	0.1-0.1	1 13/16 x 1 x ¾
R4K6254	0.25-0.25	1 13/16 x 1 x 1
R4K6504	0.5-0.5	2 x 1¾ x 1
R4K6105	1.0-1.0	2 x 2 x 1⅛
R5K6503	.05-.05-.05	1 13/16 x 1 x ¾
R5K6104	0.1-0.1-0.1	1 13/16 x 1 x ⅞
R5K6254	.25-.25-.25	2 x 1¾ x ⅞
R5K6504	.5-.5-.5	2 x 2 x 1⅛



Metallized paper hermetically sealed capacitors in metal cases with glass-to-metal seal terminals. Approved to MIL-C-18312, units have self-healing characteristics under excessive voltage stresses, and high insulation resistance. Standard tolerance is ±20%.

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1G2502	.005	.175 x ½
1G2702	.007	.175 x ½
1G2103	.01	.175 x 5/8
1G2223	.022	.175 x 5/8
1G2333	.033	.195 x 5/8
1G2473	.047	.235 x 5/8
1G2703	.07	.235 x ¾
1G2104	.10	.312 x ⅞
1G2224	.22	.400 x ⅞
1G2304	.30	.400 x ⅞
1G2504	.50	.400 x 1⅛
1G2754	.75	.400 x 1⅜
1G2105	1.00	.500 x 1 5/16
1G2155	1.50	.562 x 1⅜
1G2205	2.00	.562 x 1⅞
1G2305	3.00	.670 x 1⅞
1G2405	4.00	.670 x 1⅞
1G2505	5.00	.750 x 1⅞
1G2805	8.00	1.000 x 1⅞
1G2106	10.00	1.000 x 2⅜

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1G4502	.005	.235 x ½
1G4103	.01	.195 x 5/8
1G4223	.022	.235 x 5/8
1G4473	.047	.312 x ⅞
1G4104	.10	.400 x ⅞
1G4224	.22	.500 x 1⅛
1G4504	.50	.562 x 1⅜
1G4754	.75	.562 x 1 13/16
1G4105	1.00	.670 x 1⅞
1G4155	1.50	.750 x 1⅞
1G4205	2.00	1.000 x 1⅞
1G4305	3.00	1.000 x 1⅞

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1G6502	.005	.195 x 5/8
1G6103	.01	.235 x ¾
1G6503	.05	.400 x ⅞
1G6104	.1	.400 x 1⅛
1G6504	.5	.670 x 1 13/16
1G6105	1.00	.750 x 2 5/16

MOLDED METALLIZED TYPE MPA

New metallized paper capacitor with compression molded blue plastic case. Unit has high heat and moisture resistance and is fully insulated. Copperweld lead wires withstand extreme vibration. Standard tolerance is ±20%.

200 WORKING VOLTS D.C.

MFD.	SIZE
.005	.225 x .30 x ½
.007	.225 x .30 x ½
.01	.225 x .30 x ½
.022	.250 x .30 x 5/8
.033	.250 x .30 x 5/8
.047	.250 x .30 x 5/8
.068	.250 x .35 x ¾
.10	.250 x .35 x ¾
.22	.325 x .40 x ¾
.33	.400 x .50 x ¾
.47	.400 x .50 x ¾
.68	.400 x .50 x 1¼
1.0	.400 x .50 x 1¼
1.5	.450 x .55 x 1¾
2.0	.450 x .55 x 1¾
3.0	.500 x .70 x 1¾

400 WORKING VOLTS D.C.

MFD.	SIZE
.005	.225 x .30 x ½
.01	.25 x .30 x 5/8
.022	.25 x .35 x ¾
.047	.325 x .40 x ¾
.1	.40 x .50 x ¾
.22	.40 x .50 x 1¼
.47	.45 x .55 x 1¾
1.0	.50 x .70 x 1¾

600 WORKING VOLTS D.C.

MFD.	SIZE
.005	.25 x .30 x 5/8
.01	.25 x .35 x ¾
.022	.325 x .40 x ¾
.047	.40 x .50 x ¾
.1	.40 x .50 x 1¼
.22	.45 x .55 x 1¾
.47	.50 x .70 x 1¾

*DUPONT'S trade name

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HOPKINS CAPACITORS

PLASTIC FILM CAPACITORS

MYLAR*—Hermetically Sealed. Extremely reliable units provide high insulation resistance with operating temperatures as high as 165°C. Units are of extended foil construction with glass-to-metal end seals. Standard tolerance ±20%.

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1M2102	.001	.195 x 3/4
1M2222	.0022	.195 x 3/4
1M2472	.0047	.195 x 3/4
1M2103	.01	.195 x 3/4
1M2223	.022	.195 x 3/4
1M2473	.047	.235 x 3/4
1M2104	.1	.312 x 7/8
1M2224	.22	.400 x 1 1/8
1M2474	.47	.562 x 1 1/8
1M2105	1.0	.562 x 1 5/8

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1M4102	.001	.195 x 3/4
1M4222	.0022	.195 x 3/4
1M4472	.0047	.195 x 3/4
1M4103	.01	.195 x 3/4
1M4223	.022	.312 x 7/8
1M4473	.047	.400 x 7/8
1M4104	.1	.400 x 1 3/8
1M4224	.22	.562 x 1 3/8
1M4474	.47	.670 x 1 7/8
1M4105	1.0	.750 x 2 3/8

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1M6102	.001	.195 x 3/4
1M6222	.0022	.195 x 3/4
1M6472	.0047	.195 x 3/4
1M6103	.01	.312 x 7/8
1M6223	.022	.400 x 7/8
1M6473	.047	.400 x 1 3/8
1M6104	.1	.562 x 1 1/8
1M6224	.22	.562 x 1 7/8
1M6474	.47	.750 x 2 1/8
1M6105	1.0	1.0 x 2 3/8

MYLAR*—Film Wrapped. Reliable, space-saving capacitors, with high operating temperatures and high insulation resistance. Units are of extended foil construction with epoxy end seals to firmly anchor copperweld leads. Standard tolerance is ±20%.

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0012MF	.001	5/32 DIA. x 3/4
P00222MF	.0022	3/16 DIA. x 3/4
P00472MF	.0047	3/16 DIA. x 3/4
P012MF	.01	3/16 DIA. x 3/4
P0222MF	.022	3/16 DIA. x 3/4
P0472MF	.047	7/32 DIA. x 3/4
P12MF	.1	7/32 x 5/16 x 7/8
P222MF	.22	1/4 x 1 1/32 x 1 1/8
P472MF	.47	1 1/32 x 1/2 x 1 1/8
1P2MF	1.0	3/8 x 9/16 x 1 5/8

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0014MF	.001	5/32 DIA. x 3/4
P00224MF	.0022	3/16 DIA. x 3/4
P00474MF	.0047	3/16 DIA. x 3/4
P014MF	.01	3/16 DIA. x 3/4
P0224MF	.022	5/32 x 1/4 x 7/8
P0474MF	.047	1/4 x 1 11/32 x 7/8
P14MF	.1	7/32 x 3/8 x 1 3/8
P224MF	.22	1 11/32 x 1 17/32 x 1 3/8
P474MF	.47	1 3/32 x 1 9/32 x 1 7/8
1P4MF	1.0	9/16 x 2 3/32 x 2 3/8

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0016MF	.001	5/32 DIA. x 3/4
P00226MF	.0022	3/16 DIA. x 3/4
P00476MF	.0047	3/16 DIA. x 3/4
P016MF	.01	5/32 x 1/4 x 7/8
P0226MF	.022	1/4 x 1 11/32 x 7/8
P0476MF	.047	7/32 x 3/8 x 1 3/8
P16MF	.1	3/8 x 9/16 x 1 1/8
P226MF	.22	1 3/32 x 9/16 x 1 7/8
P476MF	.47	1 9/32 x 3/4 x 2 1/8
1P6MF	1.0	1 13/16 x 3 1/32 x 2 3/8

Metallized MYLAR* hermetically sealed in non-magnetic tubes. Smaller in size than mylar and foil units, they have high electrical characteristics and will operate from —55°C to 125°C. Standard tolerance is ±20%. Available in various mounting styles.

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1Q2502	.005	.175 x 3/4
1Q2682	.0068	.175 x 3/4
1Q2103	.01	.175 x 3/4
1Q2223	.022	.175 x 3/4
1Q2333	.033	.175 x 3/4
1Q2473	.047	.195 x 3/4
1Q2683	.068	.235 x 3/4
1Q2104	.10	.312 x 7/8
1Q2224	.22	.312 x 7/8
1Q2334	.33	.400 x 7/8
1Q2504	.50	.400 x 1 1/8
1Q2754	.75	.400 x 1 5/16
1Q2105	1.00	.500 x 1 5/16
1Q2155	1.50	.562 x 1 7/8
1Q2205	2.00	.562 x 1 7/8
1Q2305	3.00	.670 x 1 7/8
1Q2405	4.00	.670 x 1 7/8
1Q2505	5.00	.750 x 1 7/8
1Q2805	8.00	1.0 x 1 7/8

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1Q4502	.005	.175 x 3/4
1Q4103	.01	.175 x 3/4
1Q4223	.022	.235 x 3/4
1Q4473	.047	.312 x 7/8
1Q4104	.10	.400 x 7/8
1Q4224	.22	.500 x 1 1/8
1Q4504	.50	.562 x 1 7/8
1Q4105	1.00	.670 x 1 7/8
1Q4155	1.50	1.0 x 1 7/8

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1Q6502	.005	.175 x 3/4
1Q6103	.01	.235 x 3/4
1Q6223	.022	.312 x 7/8
1Q6473	.047	.400 x 7/8
1Q6104	.10	.500 x 1 1/8
1Q6224	.22	.562 x 1 7/8
1Q6504	.50	.670 x 1 7/8
1Q6105	1.00	1.0 x 1 7/8

Metallized MYLAR* film wrapped, epoxy sealed. Small size capacitors with high electrical characteristics. Units operate from —55°C to 125°C and are highly suited for exposed and encapsulated circuitry. Standard tolerance is ±20%.

200 WORKING VOLTS D.C.

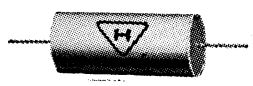
PART NO.	MFD.	SIZE
P0052M	.005	3/16 DIA. x 3/4
P0072M	.007	3/16 DIA. x 3/4
P012M	.01	3/16 DIA. x 3/4
P0222M	.022	3/16 DIA. x 3/4
P0332M	.033	3/16 DIA. x 3/4
P0472M	.047	3/16 DIA. x 3/4
P072M	.07	3/16 DIA. x 3/4
P12M	.10	5/32 x 7/32 x 3/4
P222M	.22	1/4 x 1 1/32 x 3/4
P332M	.33	5/16 x 3/8 x 3/4
P52M	.50	7/32 x 1 3/32 x 1 1/8
P752M	.75	1/4 x 7/16 x 1 5/16
1P2M	1.00	5/16 x 1 5/32 x 1 5/16
1P52M	1.50	5/16 x 1 5/32 x 1 7/8
2P2M	2.00	1 1/32 x 1 7/32 x 1 7/8
3P2M	3.00	7/16 x 5/8 x 1 7/8
4P2M	4.00	1 7/32 x 1 11/16 x 1 7/8
5P2M	5.00	1 9/32 x 2 5/32 x 1 7/8
8P2M	8.00	2 5/32 x 1 5/16 x 1 7/8

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0054M	.005	3/16 DIA. x 3/4
P014M	.01	3/16 DIA. x 3/4
P0224M	.022	5/32 x 1/4 x 3/4
P0474M	.047	7/32 x 5/32 x 3/4
P14M	.10	5/16 x 13/32 x 3/4
P224M	.22	5/16 x 1/2 x 1 1/8
P54M	.50	1 1/32 x 1/2 x 1 7/8
1P4M	1.00	1 7/32 x 1 1/16 x 1 7/8
1P54M	1.50	2 1/32 x 1 3/16 x 1 7/8

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0056M	.005	3/16 DIA. x 3/4
P016M	.01	3/16 DIA. x 3/4
P0226M	.022	7/32 x 5/16 x 7/8
P0476M	.047	1 1/32 x 1 3/32 x 7/8
P16M	.10	5/16 x 1/2 x 1 1/8
P226M	.22	1 1/32 x 1 7/32 x 1 7/8
P56M	.50	9/16 x 2 3/32 x 1 7/8
1P6M	1.00	1 13/16 x 3 1/32 x 1 7/8



POLYSTYRENE hermetically sealed capacitors feature extreme stability and close tolerances. Units provide the highest insulation resistance and the lowest dielectric absorption. Available in decade units.

100 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1P1102	.001	.235 x 3/4
1P1472	.0047	.235 x 3/4
1P1103	.01	.235 x 3/4
1P1473	.047	.400 x 7/8
1P1104	.1	.400 x 1 1/8
1P1224	.22	.562 x 1 3/8
1P1474	.47	.670 x 1 7/8
1P1105	1.0	.750 x 1 7/8

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1P2102	.001	.235 x 3/4
1P2472	.0047	.235 x 3/4
1P2103	.01	.312 x 7/8
1P2473	.047	.500 x 1 1/8
1P2104	.1	.562 x 1 3/8
1P2224	.22	.670 x 1 7/8
1P2474	.47	1.0 x 1 7/8
1P2105	1.0	1.0 x 2 5/8

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1P4102	.001	.235 x 3/4
1P4472	.0047	.235 x 3/4
1P4103	.01	.312 x 7/8
1P4473	.047	.500 x 1 1/8
1P4104	.1	.562 x 1 3/8
1P4224	.22	.750 x 1 7/8
1P4474	.47	1.0 x 1 7/8
1P4105	1.0	1.0 x 2 5/8

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
1P6102	.001	.235 x 3/4
1P6472	.0047	.312 x 7/8
1P6103	.01	.400 x 7/8
1P6473	.047	.562 x 1 3/8
1P6104	.1	.670 x 1 7/8
1P6224	.22	1.0 x 1 7/8
1P6474	.47	1.0 x 2 5/8

POLYSTYRENE film wrapped capacitors. Endfilled with high grade plastic dielectric, these units possess a dielectric absorption of .05%. They feature extreme stability and close tolerances and provide high insulation resistance.

100 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0011PF	.001	5/32 DIA. x 3/4
P00471PF	.0047	3/16 DIA. x 3/4
P011PF	.01	3/16 DIA. x 3/4
P0471PF	.047	9/32 x 3/8 x 7/8
P11PF	.1	9/32 x 13/32 x 1 1/8
P221PF	.22	13/32 x 5/8 x 1 3/8
P471PF	.47	1/2 x 21/32 x 1 7/8
1P1PF	1.0	1 1/16 x 7/8 x 1 7/8

200 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0012PF	.001	5/32 DIA. x 3/4
P00472PF	.0047	3/16 DIA. x 3/4
P012PF	.01	5/32 x 1/4 x 7/8
P0472PF	.047	5/16 x 15/32 x 1 1/8
P12PF	.1	3/8 x 9/16 x 1 3/8
P222PF	.22	15/32 x 5/8 x 1 7/8
P472PF	.47	23/32 x 7/8 x 1 7/8
1P2PF	1.0	1 5/16 x 1 1/16 x 2 5/8

400 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0014PF	.001	5/32 DIA. x 3/4
P00474PF	.0047	3/16 DIA. x 3/4
P014PF	.01	3/16 DIA. x 3/4
P0474PF	.047	3/8 x 1/2 x 1 1/8
P14PF	.1	13/32 x 5/8 x 1 3/8
P224PF	.22	5/16 x 23/32 x 1 7/8
P474PF	.47	7/8 x 1 1/32 x 1 7/8
1P4PF	1.0	1 5/16 x 1 1/16 x 2 5/8

600 WORKING VOLTS D.C.

PART NO.	MFD.	SIZE
P0016PF	.001	5/32 DIA. x 3/4
P00476PF	.0047	5/32 x 1/4 x 7/8
P016PF	.01	1/4 x 1 1/32 x 7/8
P0476PF	.047	7/16 x 1 3/32 x 1 3/8
P16PF	.1	7/16 x 21/32 x 1 7/8
P226PF	.22	21/32 x 1 3/16 x 1 7/8
P476PF	.47	3/4 x 1 x 2 5/8

*DUPONT'S trade name

Write for complete Literature on any of the items listed

HOPKINS ENGINEERING COMPANY / 12900 Foothill Blvd., San Fernando, Calif. · Tel. EMpire 1-8691

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Good-All CAPACITORS

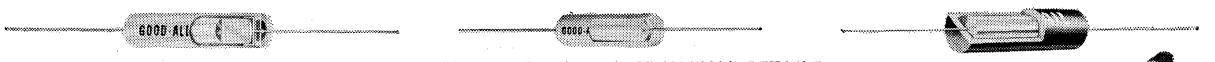
A leading Manufacturer of Tubular, Subminiature Electrolytic and Ceramic Disc Capacitors.

HIGH RELIABILITY NOTE: TYPES 616G - 617G AND 626G THRU 629G are capable of being produced to **HIGH RELIABILITY** specifications comparable to MIL-C-14157 and MIL-C-26244 (USAF). This also applies to **TYPES 663UW AND 601PE** except with regards to requirements depending on a hermetically sealed case. Such customer applications are handled on a "project" basis, and the amount of premium cost varies depending on the level of performance required and on the lot acceptance testing specified.

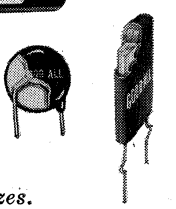
		GOOD-ALL TYPE NUMBER	DIELECTRIC	CASE CONSTRUCTION	TEMPERATURE RANGE	DC VOLTAGE RANGES	APPLICATION HIGHLIGHTS
TUBULAR CAPACITORS	SELECTED SUBMINIATURES	612-615	Mylar*	Metal Enclosed	—55°C to +85°C	100-600	Military Instrumentation — Minimum Size
		616-617	Mylar	Metal Enclosed	—55°C to +125°C	50-600	High Temp. Military Equivalent—Broad Range
		626-629	Mylar	Metal Enclosed	—55°C to +85°C	50 Only	Transistorized Military and Instrument Field
		663UW	Mylar	Mylar Wrap	" "	100-600	Miniaturized Instrumentation
		663F	Mylar	Mylar Wrap	" "	100-1000	Same as 663UW except oval cross-section
		663FR	Mylar	Mylar Wrap	" "	100-1000	Same as 663F except radial leads
		601PE	Mylar	Epoxy Dip	" "	50 Only	Flattened body . . . Ideal disc replacement
		620M, S	Mylar	Rigid Tube	" "	100-600	Packaged filters, industrial control systems
		501-505	Paper	Metal Enclosed	" "	100-400	Smallest size paper dielectric (wax impregnated)
	BROAD APPLICATION	503M, S	Paper	Rigid Tube	" "	100-600	Lowest Cost . . . TV, Radio, Hi-Fi
		CP04-CP11	Paper	Metal Enclosed	—55°C to +125°C	100-600	Wide Range of military applications
		512-515	Paper	Metal Enclosed	—55°C to +125°C	100-600	Premium quality military equipment
		522M, S	Paper	Rigid Tube	—55°C to +85°C	100-1600	Rugged tubular for AC application to 1600V
		542M, S	Paper	Bakelite Tube	" "	100-600	Excellent stability with temperature
		600UE	Mylar	Molded Epoxy	" "	100-600	Electronic Organs . . . Superior humidity resistance
SUBMINIATURE ELECTROLYTIC		E-106	——	Metal	—20°C to +65°C	1 to 6	Very low leakage, good tantalum replacement
		E-206	——	Metal	" "	1 to 10	Lowest Cost Metal Enclosed Design
		E-306	——	Ceramic	" "	3 to 100	Minimum cost . . . wide usage for transistor radios

CERAMIC DISCS Temperature Compensating By-Pass (General Purpose) — Epoxy Dip — **ALL COMMONLY USED TYPES** Stable Types AC Line By-Pass — Low Voltage (Transistor)

*Du Pont's Trademark for Polyester Film



CUT-AWAYS SHOW CONSTRUCTION DETAILS



GOOD-ALL ELECTRIC MFG. CO.

OGALLALA, NEBRASKA • TWX 8242 • PHONE 900

In Canada, 700 Weston Road, Toronto 9, Ontario

Write for technical brochure with detailed specifications and complete sizes.

GOOD-ALL CAPACITORS ARE AVAILABLE AT YOUR LOCAL DISTRIBUTOR

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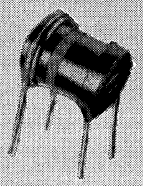
VARIABLE TRIMMER PISTON CAPACITORS

for subminiaturazation of printed and conventional circuitry



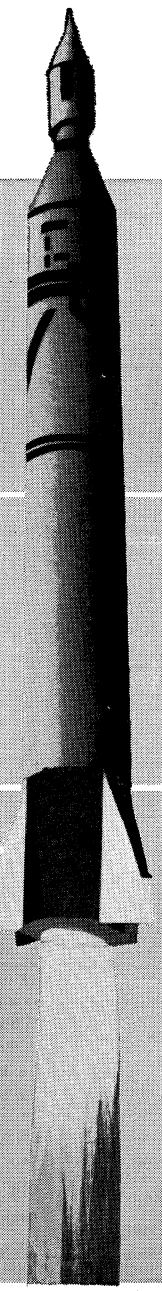
Are obsolescent oversized capacitors cramping your style? Let JFD Precision Trimmers help you save time and space . . . upgrade performance reliability in critical network design.

Miniature and subminiature JFD Piston Capacitors give you maximum tuning range in absolute minimum physical size . . . precise tuning resolution and stability . . . ultra low loss operation . . . rugged shock, vibration and corrosion resistance . . . approximately zero temperature coefficient. These are some of the reasons why they are specified in almost all of today's critical systems.

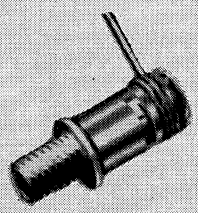
If you're looking for new design freedom, new performance highs under severe environmental conditions, why not investigate the many advantages of JFD Trimmers? If your requirements can't be met from our current models, we'll be glad to produce according to your specifications. Write for the new JFD Piston Capacitor File Folder for detailed electrical and mechanical data.

JFD Electronics

PRECISION
ELECTRONIC COMPONENTS
for Space-Challenging Demands!

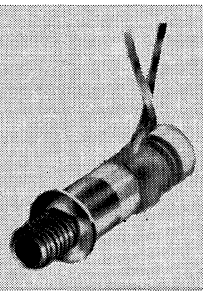


SEALCAPS



New JFD air-tight, water-tight Miniature Quartz Sealcaps seal out moisture, seal in reliability and accuracy, regardless of atmosphere. Combine characteristics of new Sealcap construction and miniature quartz capacitor design. Eliminates corona and voltage breakdown at high altitude. Sealcap design prevents formation of moisture inside unit. Quartz design provides high Q, ultra-low loss high frequency operation, greater stability and approximately zero temperature coefficient. Available unpotted or encapsulated for higher dielectric strength. For complete data write for Bulletin No. 215A. Also available in glass dielectric (bulletin 207B)

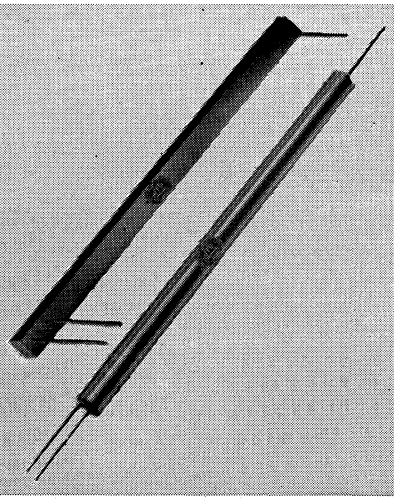
LC TUNERS



Combine variable inductor and capacitor in one compact unit. Affords more circuit in less space, better reliability, greater economy, faster assembly, smaller size and weight. Use of glass or quartz dielectric assures a low temperature coefficient. Flexibility in design to suit circuit requirements. The number of turns, types of windings, size and type of capacitor plates, Q and other parameters can be designed to suit individual circuit requirements.

Write for Bulletin No. 216 listing standard and panel circuit mounting types now available.

DELAY LINES



Designed for applications calling for short delay intervals, the new lines offer a high ratio of delay to pulse rise time, in minimum space. Available for printed circuit assembly or for conventional mounting, JFD distributed constant Delay Lines meet all military requirements. They can also be modified or custom-designed to meet your most rigid specifications. JFD lumped constant Delay Lines can also be designed to suit your requirements.

Characteristics: Precise pulse fidelity; operating temperature range of —55° C to +125° C; excellent temperature stability; rugged encapsulated construction resists environmental moisture, humidity, shock and vibration; linear phase shift; 0.1 inch grid spacing for printed board types; attenuation of approximately 1 db per μ sec.

Write for Bulletin 213A providing complete electrical and mechanical data. Also—lumped constant Delay Lines to your specifications.

These are a few examples of JFD creative engineering to solve today's problems and tomorrow's applications. For information or engineering assistance on specific tuning or pulse circuitry needs, call or write today.

PHONE DEWEY 1-1000

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Pioneers in Electronics since 1929

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Jennings RADIO® VACUUM ELECTRONIC COMPONENTS

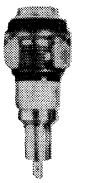
JENNINGS VACUUM

VACUUM VARIABLE CAPACITORS

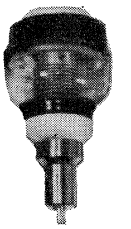
	TYPE NICKEL	TYPE COPPER	CAPACITY MMFD	PEAK VOLTAGE KILOVOLTS	RMS AMPERES① NICKEL	RMS AMPERES① COPPER	NOMINAL DIMENSIONS② LENGTH	NOMINAL DIMENSIONS② DIAMETER
2 to 5 KV		UCSL	4-250	3, 5		30	4 1/8	2 1/4
		USL	5-500	3, 5		40	5 5/8	2 3/8
		USLS	5-465 shorting	3, 5		40	5 5/8	2 3/8
		USL	10-1000	3, 5		40	5	3 1/8
		UCSL	5-750, 7-1000	3, 5		42	7 5/8	3 1/8
		UCSL	20-2000 , 50-3000	2, 3		42	8 3/8	3 7/8
7.5 to 15 KV		UCSB	5-100	7.5, 10, 15		40	4 7/8	2 3/8
		UCSV	8-110, 125-250	7.5, 10, 15		40	5 1/4	2 7/8
		ATCS	10-150, 15-200	7.5, 10, 15		20	7	3 1/8
		UCS	5-200, 10-300	7.5, 10, 15		42	8 3/4	2 5/8
		UCS	10-400, 25-500	7.5, 10, 15		42	9	3 1/8
		UCSF	5-250, 12-500	7.5, 10, 15		45	7 3/4	3 5/8
		UCSX	25-700, 25-1000	7.5, 10, 15		45	9 7/8	3 3/4
		UCSXF	12-1000, 15-1200	7.5, 10, 15		45	10	4 3/8
		UCSXF	20-1500, 50-2000	7.5, 10, 12		45	10	5 1/8
10 to 20 KV		ECS	2-8, 3-30	10, 15		20	4	1 3/8
	T	TC	5-25	20	10.5	20	6 5/8	2 1/4
	AT	ATC	10-50, 15-75	20, 30	10.5	20	6 7/8	3 1/8
	U	UC	50-250	10, 15, 20	21	60	11 1/2	5
	UX	UXC	25-500	10, 15, 20	21	60	14	5
		UXCF	10-250, 20-500	10, 15, 20		60	9 7/8	4 3/8
		VMMC	50-1000, 100-2000	10, 15		125	15 7/8	6 1/8
		VMMC	100-5000	7.5, 10, 15		125	19	9 1/4
35 to 60 KV		UCSVH	8-35	25, 35		40	4 3/4	3
	UH	UHC	10-75, 75-150	35, 45, 55, 60	21	60	12	5
	UXH	UXHC	25-150	35, 45, 55	21	60	14 5/8	5
		UCSXH	10-200	35, 45		45	10	4 1/2
		UCSXHF	25-450	35, 40		60	10 1/2	5 1/8
		VMMHC	10-250, 25-450 , 30-650	35, 45, 55		125	17	8 1/8
		VMMHCW	25-250, 50-400	35, 45, 55		500	17	9 5/8
120 KV		VMMHC	60-1000	35, 40, 45		125	19 3/8	9 1/4
		VMMHHC	25-200	120		125	20 1/4	9 1/4

①Current ratings can usually be doubled with forced air cooling. Water cooled units are also available
②Nominal Dimensions are for the largest unit of each type.
NOTE: A series of adjustable capacitors are available to cover the range of 8 to 1000 mmfd at 10 KV.

Vacuum Variable Capacitors combine extreme high ratio of capacitance change with small physical size.



Type UCSL
7-1000 mmfd
5 kv



Type UCSXF
50-2000 mmfd
12 kv

Type GCS
5-100 mmfd
15 kv

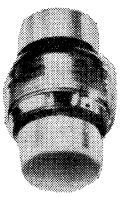
VACUUM FIXED CAPACITORS

	TYPE NICKEL	TYPE COPPER	CAPACITY MMFD	PEAK VOLTAGE KILOVOLTS	RMS AMPERES① NICKEL	RMS AMPERES① COPPER	NOMINAL DIMENSIONS② LENGTH	NOMINAL DIMENSIONS② DIAMETER
2 to 5 KV		JCSL	100, 250	3, 5		35	2 5/8	1 7/8
		JSLF	250, 450	3, 5		30	1 3/4	1 7/8
		JSLF	1000, 1500, 2000	3, 5		30	1 5/8	3 1/8
		JCSL	500, 750, 1000, 1500, 2000	3, 5		42	4	2 7/8
7.5 to 15 KV		JCSF	25, 40, 80, 120, 150	7.5, 10, 15		30	1 5/8	1 5/8
		JCS2	10, 20, 25, 50, 75, 100, 150	7.5, 10, 15		20	3 1/8	1 7/8
		JCS1	25, 50, 75, 100, 150	7.5, 10, 15		50	3 3/4	2 1/8
		JCS	250, 400, 500	7.5, 10, 15		42	4	3 1/8
		JCS	900, 1000	7.5, 10, 12		42	4 5/8	3 5/8
		MC1	500, 750, 1000	10, 15		75	4 1/8	4 1/8
	M	MC	500, 750, 1000	10, 15, 20	21	120	8 3/8	5
	MM	MMC	1500, 2000	10, 15	35	125	9 1/4	6 1/8
		MMC1	2000	10, 15		125	5	6 1/8
		MMC	3000, 4000, 5000	10, 15		125	13	9 1/4
17 to 30 KV	Y		1, 2, 3, 4, 5	17	7		3 1/4	3/4
	X		5, 10, 15, 20, 25	17	7		3 1/4	1 1/8
	W		6, 12, 25, 50, 100	20, 25	10.5		4 5/8	2 1/4
		VCCA	6, 12, 25, 50, 75, 100, 150	20, 30		60	4 1/2	2 3/8
	VC	VCCE	6, 12, 25, 50, 75, 100, 150	20, 30, 35	14	60	6 1/2	2 5/8
	VC	VCCE	200, 250	20, 30	14	60	6 1/2	2 5/8
		JMF	50, 75, 100	20, 30		40	2 3/4	2 1/8
		JC2	25, 50, 75, 100	20, 30		42	4	3 1/4
	ML	MLC	500, 750, 1000	25, 30	21	125	9 1/4	5
		JHC	75	50, 60		42	4	3 1/2
		JC3	20, 40, 50, 60	35, 45, 55, 60		140	8 1/4	3 1/2
		JC4	75, 100, 125	35, 45, 55, 60		175	9 1/4	5
		JC5	200	35, 45, 55, 60		225	11 1/4	7
		MMHC	450	35, 45, 55		125	9 1/4	6 1/8
		MMHC	1000	35, 40, 45		150	13	9 1/4

①Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.
②Nominal Dimensions are for the largest unit of each type.
NOTE: Intermediate capacities, feed-thru capacitors, and glass insulators are available.

The all copper construction of Vacuum Fixed Capacitors give high current ratings, long life and stability of operation.

Type JCSL
1500 mmfd
5 kv



Type MMC
2000 mmfd
15 kv

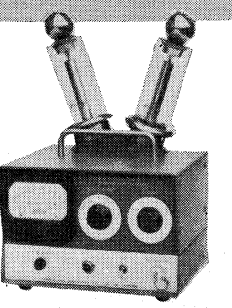
Type JCSF
150 mmfd
15 kv

HIGH VOLTAGE MEASURING EQUIPMENT

MODEL JP 325 HIGH VOLTAGE PROBE
VOLTAGE RATINGS: 40, 50, or 60 KV peak.
VOLTAGE DIVISION RATIO: 325 to 1 to termination of 3 ft. of RG-58 A U cable.
INPUT IMPEDANCE:
Resistance: above 10^{12} ohms.
Capacitance: 4 mmfd.
FREQUENCY RESPONSE: High frequency limited by that of measuring instrument. (Internal resonances are above 200 mc.) Low frequency response is 100 cps if operating into 10 megohm shunt resistance; 1000 cps if operating into 1 megohm shunt resistance.

MODEL J-1003 HIGH VOLTAGE VACUUM TUBE VOLTMETER for use in pulse, rf and 60 cycle circuits at voltages up to 100 KV.
VOLTAGE RANGES (peak volts full Scale):
Single Ended: 2.5, 5, 10, 25, 50 KV.
Double Ended: 2.5, 5, 10, 25, 50, 100 KV.
(By using Type JCD Series capacitor, these ranges can be more than doubled.)

OSCILLOSCOPE CONNECTION: 300 to 1 division ratio.
FREQUENCY RESPONSE: 10 cycles to 20 megacycles at full rated voltage and up to 50 megacycles for lower voltages with low harmonic content.
INPUT IMPEDANCE: 10^{12} ohms and 4 mmfd.
CALIBRATION ACCURACY: ± 3% of full scale.
POWER SUPPLY: 117 volt, 50 60 cy.
DIMENSIONS: 16¼" v 11" x 9"



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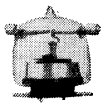
CAPACITORS & RELAYS

Jennings RADIO® VACUUM ELECTRONIC COMPONENTS

VACUUM TRANSFER RELAYS

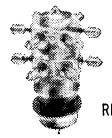
RA4

RD1


RD3

RE4

RB3


RB4

JENNINGS TYPE	RA1	RA4	RD1	RD3	RE4	RE5	RB1	RB2	RB3	RB4
Contact arrangement	SPDT	4PDT	N/O	N/O	SPDT	SPDT	SPDT	2PDT	2PDT	4PDT
Rated operating voltage	300 v	300v	10kv	25kv	20kv	25kv	10 kv	10 kv	12, 6 kv	10, 15 kv
Test voltage between terminals	2000	2000	15kv	30kv	30kv	45kv	18 kv	18 kv	15 kv	15, 20 kv
Test voltage pole to pole, pole to ground	3000	3000	12kv	30kv	30kv	45kv	15 kv	15 kv	15, 8 kv	15, 20 kv
Continuous RF current—rms amps	25-50	25-50	15	12	12	15	15	15	15	15
Contact resistance—ohms	.01	.01	.01	.01	.015	.015	.01	.01	.01	.01
Contact capacitance-mmfd	17	17	.09	.09	.25	.25	1	1	1	1

DC ACTUATING COILS
Standard actuating coils are rated for operation at 26.5 vdc and draw 2 to 10 watts of power. Coils rated for operation at 110 vdc are also available for most types.

TYPES R & RH VACUUM SWITCHES

VACUUM SWITCH RATINGS

For RF and DC Transfer Switching

Jennings Type	R5C	R1	R1K	R2	R8	RH7
Test Voltage (300 kc dry)—peak kv	20, 30	40, 50	30, 40	50, 60	70, 85, 95	85, 100
Operating Voltage—peak kv	15	30	20	40	30 to 85	85
Continuous Current (rms amp)—dc①	50	50, 100	100, 200	50, 100	100, 200	50, 400
—300 kc	30	35	100	35	100	200
— 10 mc	25	25	50	25	50	60
— 30 mc		15	25	15	25	25
RF Interrupting Power—kilowatts	50	250	500	250	1000	1000

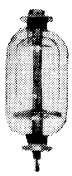
①DC continuous currents may be increased as shown by using special connectors.

R6G

For DC Switching Under Load or Capacitor Discharging

Jennings type	R4C	R5C	R1G	R6G①	R2G	R8G	R9G	RH1G	RH4G	RH2G	RH7G	RH5G
Test voltage (60 cycles dry)—pk kv	15, 20	20, 30	40, 50	40, 50	50, 60	50, 70	50, 70	35, 45	30, 40	30, 50	85, 100	50, 70
Max. operating voltage—pk kv	5	15	20	20	30	50	60	20	10	20	70	30
Continuous current①—DC amp	50 100	50	50 100	100 250	50 100	100 200	100 200	50 400	50 600	50 600	50 400	50 600
DC interruption②-power in kw —Current in amp.	7.5 250@ 28 VDC	25 10	50 20, 50	50 50	50 20	50 50	100 100	200 200	250 250	250 250	200 200	250 250
Capacitor discharge decaying to 30% in 1 millisec. or less— initial amp. peak kv			500 30	1000 25	500 40	1000 50	1500 60	5000 30	10,000 20	20,000 30	5000 70	20,000 40

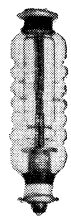
①DC continuous currents may be increased as shown by using special connectors.
②For DC interruption in continuous operation, neither power nor current rating should be exceeded.
DC current interruption may be increased by addition of capacitance across switch contacts.


R9G

For 60 Cycle Power Switching

Jennings type	R6G③	R8G	R9G	RH1G	RH4G	RH2G	RH5G	RH7G	RL7G	RL10G
Recommended max. load voltage for max. operating recovery voltage @ 50 amps-rms kv	27	31	35	13.5	5	13.5	31	38	35	40
Load break 70% PF to 600 amps (grounded wye)—rms kv	15.5	18	24.5	8.5	3.2	8.5	18	33	29.5	37
Grounded Y capacitor switching at 50 amps-rms kv	13.5	15.5	17.5	6.75	2.5	6.75	15.5	19	17.5	20
Grounded Y capacitor switching at rated thermal current—rms kv	12.5	12	14.75	4.75	1.6	4.25	9	15	12	17
Thermal current (for 30° C. rise) rms amps	100, 250	200	250	400	600	600	600	400	600	600
Max. recovery voltage at rated thermal current load—rms kv	25	24.5	29.5	9.5	3.2	8.5	18	30.5	24.5	34
Overload or fault interrupter circuit breaker 3 phase simultaneous break line to line (present recommended duty) rms kv			15.5	5	0.6	5	12	21.5	15.5	34.5
Max. interrupting current (10 times) rms amps.	1500 @ 9kv	1500 @ 14kv	2000 @ 17.5kv	2000 @ 6kv	4000 @ 2.5kv	4000 @ 5kv	4000 @ 12kv	2000 @ 21.5kv	4000 @ 15.5kv	4000 @ 18kv
Withstand voltage (60 cycle 1 min. dry) rms kv	36	36	50	19	19	36	50	60 80	50	60 80
Impulse voltage (1½ x 40 micro sec. NEMA) pk kv	95	95	110	60	60	95	110	150	110	150 180
Short time surge currents NEMA—4 sec. rms amps. NEMA—½ cy + 10 cy. @ 70% rms amps	2500 5000	2000 4000	2500 5000	2500 5000	5000 10000	5000 20000	5000 20000	2500 5000	5000 20000	5000 20000

③Type R6A modification is available for longer life with lower continuous current ratings of 50, 100 amps.


RH7G

RELAYS USING VACUUM SWITCHES
Type R and RH Vacuum Switches are available from Jennings mounted as relays for indoor use. They may be mounted with contacts normally open or normally closed or two switches may be mounted in a single pole double throw arrangement. Either ac or dc solenoids may be used. Insulation between the switch and its actuating solenoid is provided by a 2 to 12 inch puller rod providing 40 to 140 kv insulation. CE grade phenolic laminate is recommended for dc or 60 cycle use. Grade G7 silicone glass laminate is recommended for radio frequency applications.

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The Radio-Electronic MASTER

SPECIFY PLANET
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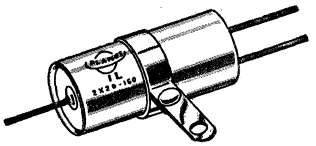
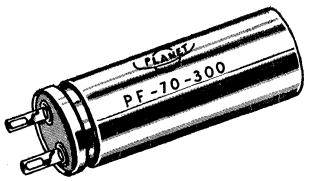
- ***GUARANTEED FOR ONE YEAR***

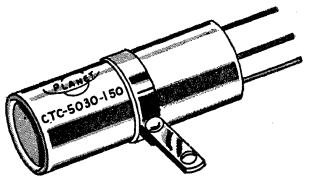
Type L — Single section electrolytics in aluminum tubes with kraftboard jackets.



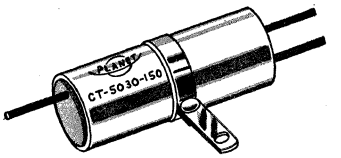
Type IL — Dual section electrolytics in aluminum tubes with kraftboard jackets.



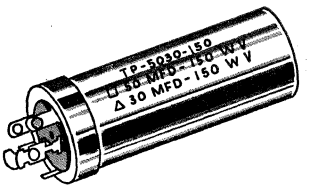
Type PF—Industrial type electrolytics with solder lug terminals.



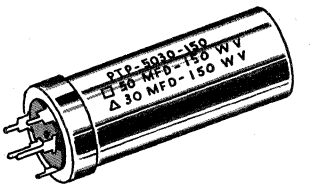
Type CTC—Multiple section electrolytics—cardboard tubes with wax end-fill—leads out one end.



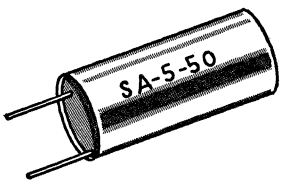
Type CT — Multiple section electrolytics—cardboard tubes with wax end-fill—leads out both ends.



Type TP—Upright twist-prong can electrolytics with mounting ring and solder lug terminals.



Type PTP — Upright twist-prong can electrolytics with mounting ring and printed circuit board terminals.



Type SA — Small single section electrolytics for printed circuit board application.

Here are some of the reasons why it pays to to specify PLANET:

- *Engineering help at the design stage*
- *Advanced manufacturing facilities*
- *Thoroughly capable and experienced personnel*
- *Careful selection of only the best raw materials*
- *100% production quality control*
- *Only one plant . . . management, engineering and production — all under one roof.*

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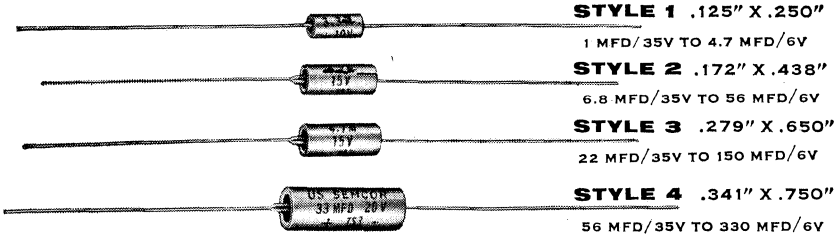
US SEMCOR solid electrolyte TANTALUM CAPACITORS



STYLE 1 .125" X .250"
1 MFD/35V TO 4.7 MFD/6V

STYLE 2 .172" X .438"
6.8 MFD/35V TO 56 MFD/6V

STYLE 3 .279" X .650"
22 MFD/35V TO 150 MFD/6V

STYLE 4 .341" X .750"
56 MFD/35V TO 330 MFD/6V

U. S. Semcor's new Solid Electrolyte Capacitors are widely used in low voltage filter, coupling, by-pass and similar applications requiring small packages with inherent stability and high reliabilty. Features are:

- Solid, inorganic, non-volatile electrolyte
- Tantalum oxide film
- Low and linear Tc
- Low dissipation factor
- Wide operating temperature
- Long shelf life
- No leakage of electrolyte

ORDERING INFORMATION

U.S. SEMCOR PART NO.	CAPACITY MFD.	WORKING VOLTS - DC 85°C	WORKING VOLTS - DC 125°C	SURGE VOLTS	TUBE DIA. INCHES	TUBE LENGTH INCHES
TS1- 6-334	.33	6	4	8	.125	.250
TS1-10-334		10	6	13	.125	.250
TS1-15-334		15	10	18	.125	.250
TS1-20-334		20	12	24	.125	.250
TS1-25-334		25	17	30	.125	.250
TS1-30-334		30	20	36	.125	.250
TS1-35-334		35	23	42	.125	.250
TS1- 6-474	.47	6	4	8	.125	.250
TS1-10-474		10	6	13	.125	.250
TS1-15-474		15	10	18	.125	.250
TS1-20-474		20	12	24	.125	.250
TS1-25-474		25	17	30	.125	.250
TS1-30-474		30	20	36	.125	.250
TS1-35-474		35	23	42	.125	.250
TS1- 6-564	.56	6	4	8	.125	.250
TS1-10-564		10	6	13	.125	.250
TS1-15-564		15	10	18	.125	.250
TS1-20-564		20	12	24	.125	.250
TS1-25-564		25	17	30	.125	.250
TS1-30-564		30	20	36	.125	.250
TS1-35-564		35	23	42	.125	.250
TS1- 6-684	.68	6	4	8	.125	.250
TS1-10-684		10	6	13	.125	.250
TS1-15-684		15	10	18	.125	.250
TS1-20-684		20	12	24	.125	.250
TS1-25-684		25	17	30	.125	.250
TS1-30-684		30	20	36	.125	.250
TS1-35-684		35	23	42	.125	.250
TS1- 6-824	.82	6	4	8	.125	.250
TS1-10-824		10	6	13	.125	.250
TS1-15-824		15	10	18	.125	.250
TS1-20-824		20	12	24	.125	.250
TS1-25-824		25	17	30	.125	.250
TS1-30-824		30	20	36	.125	.250
TS1-35-824		35	23	42	.125	.250
TS1- 6-105	1.0	6	4	8	.125	.250
TS1-10-105		10	6	13	.125	.250
TS1-15-105		15	10	18	.125	.250
TS1-20-105		20	12	24	.125	.250
TS1-25-105		25	17	30	.125	.250
TS1-30-105		30	20	36	.125	.250
TS1-35-105		35	23	24	.125	.250
TS1- 6-125	1.2	6	4	8	.125	.250
TS1-10-125		10	6	13	.125	.250
TS1-15-125		15	10	18	.125	.250
TS1-20-125		20	12	24	.125	.250
TS1-25-125		25	17	30	.125	.250
TS1-30-125		30	20	36	.125	.250
TS1- 6-155	1.5	6	4	8	.125	.250
TS1-10-155		10	6	13	.125	.250
TS1-15-125		15	10	18	.125	.250
TS1-20-155		20	12	24	.125	.250
TS1-25-155		25	17	30	.125	.250
TS1- 6-225	2.2	6	4	8	.125	.250
TS1-10-225		10	6	13	.125	.250
TS1-15-225		15	10	18	.125	.250
TS1-20-225		20	12	24	.125	.250
TS1- 6-275	2.7	6	4	8	.125	.250
TS1-10-275		10	6	13	.125	.250
TS1-15-275		15	10	18	.125	.250
TS1- 6-335	3.3	6	4	8	.125	.250
TS1-10-335		10	6	13	.125	.250
TS1- 6-475	4.7	6	4	8	.125	.250
TS2-10-475		10	6	13	.172	.438
TS2-15-475		15	10	18	.172	.438
TS2-20-475		20	12	23	.172	.438
TS2-25-475		25	17	30	.172	.438
TS2-30-475		30	20	36	.172	.438
TS2-35-475		35	23	42	.172	.438
TS2- 6-565	5.6	6	4	8	.172	.438
TS2-10-565		10	6	13	.172	.438
TS2-15-565		15	10	18	.172	.438
TS2-20-565		20	12	23	.172	.438
TS2-25-565		25	17	30	.172	.438
TS2-30-565		30	20	36	.172	.438
TS2-35-565		35	23	42	.172	.438
TS2- 6-685	6.8	6	4	8	.172	.438
TS2-10-685		10	6	13	.172	.438
TS2-15-685		15	10	18	.172	.438
TS2-20-685		20	12	23	.172	.438
TS2-25-685		25	17	30	.172	.438
TS2-30-685		30	20	36	.172	.438
TS2-35-685		35	23	42	.172	.438
TS2- 6-825	8.2	6	4	8	.172	.438
TS2-10-825		10	6	13	.172	.438
TS2-15-825		15	10	18	.172	.438
TS2-20-825		20	12	23	.172	.438
TS2-25-825		25	17	30	.172	.438
TS2-30-825		30	20	36	.172	.438
TS2- 6-106	.10	6	4	8	.172	.438
TS2-10-106		10	6	13	.172	.438
TS2-15-106		15	10	18	.172	.438
TS2-20-106		20	12	23	.172	.438
TS2-25-106		25	17	30	.172	.438
TS2- 6-126	12	6	4	8	.172	.438
TS2-10-126		10	6	13	.172	.438
TS2-15-126		15	10	18	.172	.438
TS2-20-126		20	12	23	.172	.438
TS2- 6-156	15	6	4	8	.172	.438
TS2-10-156		10	6	13	.172	.438
TS2-15-156		15	10	18	.172	.438
TS2-20-156		20	12	23	.172	.438
TS3-25-156		25	17	30	.279	.650
TS3-30-156		30	20	36	.279	.650
TS3-35-156		35	23	42	.279	.650
TS2- 6-226	22	6	4	8	.172	.438
TS2-10-226		10	6	13	.172	.438
TS2-15-226		15	10	18	.172	.438
TS3-20-226		20	12	23	.279	.650
TS3-25-226		25	17	30	.279	.650
TS3-30-226		30	20	36	.279	.650
TS3-35-226		35	23	42	.279	.650
TS2- 6-276	27	6	4	8	.172	.438
TS2-10-276		10	6	13	.172	.438
TS3-15-276		15	10	18	.279	.650
TS3-20-276		20	12	23	.279	.650
TS3-25-276		25	17	30	.279	.650
TS4-30-276		30	20	36	.341	.750
TS4-35-276		35	23	42	.341	.750
TS2- 6-336	33	6	4	8	.172	.438
TS2-10-336		10	6	13	.172	.438
TS3-15-336		15	10	18	.279	.650
TS3-20-336		20	12	23	.279	.650
TS4-25-336		25	17	30	.341	.750
TS4-30-336		30	20	36	.341	.750
TS4-35-336		35	23	42	.341	.750
TS2- 6-476	47	6	4	8	.172	.438
TS3-10-476		10	6	13	.279	.650
TS3-15-476		15	10	18	.279	.650
TS3-20-476		20	12	23	.279	.650
TS4-25-476		25	17	30	.341	.750
TS4-30-476		30	20	36	.341	.750
TS4-35-476		35	23	42	.341	.750
TS2- 6-566	56	6	4	8	.172	.438
TS3-10-566		10	6	13	.279	.650
TS3-15-566		15	10	18	.279	.650
TS4-20-566		20	12	23	.341	.750
TS4-25-566		25	17	30	.341	.750
TS4-30-566		30	20	36	.341	.750
TS4-35-566		35	23	42	.341	.750
TS3- 6-686	68	6	4	8	.279	.650
TS3-10-686		10	6	13	.279	.650
TS3-15-686		15	10	18	.279	.650
TS4-20-686		20	12	23	.341	.750
TS4-25-686		25	17	30	.341	.750
TS4-30-686		30	20	36	.341	.750
TS3- 6-826	82	6	4	8	.279	.650
TS3-10-826		10	6	13	.279	.650
TS4-15-826		15	10	18	.341	.750
TS4-20-826		20	12	23	.341	.750
TS4-25-826		25	17	30	.341	.750
TS3- 6-107	100	6	4	8	.279	.650
TS3-10-107		10	6	13	.271	.650
TS4-15-107		15	10	23	.341	.750
TS4-20-107		20	12	30	.341	.750
TS3- 6-127	120	6	4	8	.279	.650
TS4-10-127		10	6	13	.341	.750
TS4-15-127		15	10	18	.341	.750
TS4-20-127		20	12	23	.341	.750
TS3- 6-157	150	6	4	8	.279	.650
TS4-10-157		10	6	13	.341	.750
TS4-15-157		15	10	18	.341	.750
TS4- 6-227	220	6	4	8	.341	.750
TS4-10-227		10	6	13	.341	.750
TS4- 6-277	270	6	4	8	.341	.750
TS4- 6-337	330	6	4	8	.341	.750

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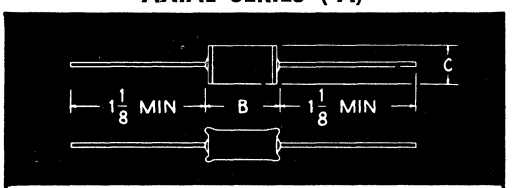
WIDE TEMPERATURE RANGE
STABLE • HUMIDITY IMMUNITY
RUGGED • LOW LOSS
LOW NOISE • MINIATURE

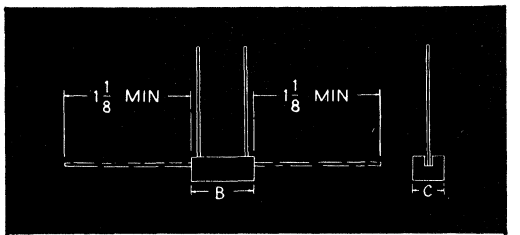
AXIAL SERIES (-A)



CY13C.....-A (MS 15826) — CY17C.....-A (MS 15833)
CY22C.....-A (MS 15825) — CY32C.....-A (MS 16096)

TYPE	Dimensions, Inches ±1/32"	
	B	C
CY13C.....-A	3/8	15/64
CY17C.....-A	17/32	17/64
CY22C.....-A	29/32	7/16
CY32C.....-A	29/32	13/16

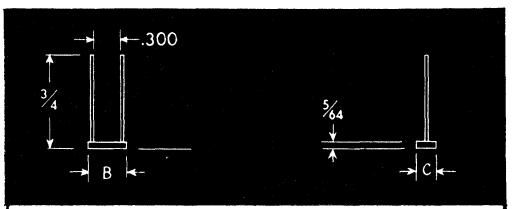
AXIAL/RADIAL SERIES (-AR)



CY13C.....-AR — CY17C.....-AR — CY22C.....-AR
CY32C.....-AR

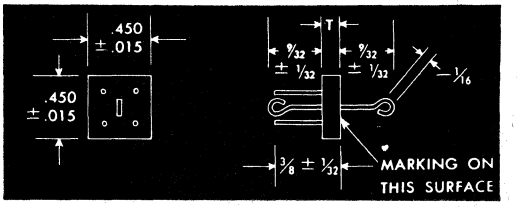
TYPE	Dimensions, Inches ±1/64"	
	B	C
CY13C.....-AR	3/8	3/16
CY17C.....-AR	1/2	9/32
CY22C.....-AR	13/16	29/64
CY32C.....-AR	27/32	27/32

RADIAL SERIES (-R)



TYPE	Dimensions, Inches ±1/64"	
	B	C
CY13C.....-R	3/8	3/16
CY17C.....-R	1/2	9/32

COAXIAL SERIES



MONOLITHIC — REQUIRES NO HERMETIC SEAL

Only two materials go into "VITRAMON" Capacitors . . . porcelain enamel for the dielectric and encasing insulation . . . fine silver for the electrodes. Perfectly bonded, the two become, effectively, one homogenous unit . . .

Stable over a Wide Temperature Range.

The solid block of "quality porcelain" in which the silver electrodes are immersed makes "VITRAMON" Capacitors both

Rugged and Vaporproof

Pure materials plus perfect bonding combine to eliminate both *Loss and Noise.*

Finally . . . their unique construction allows for "layering" the electrodes so that much greater active dielectric area can be squeezed into the same cubic content . . . They're *Miniature.*

The most famous names in electronics use "VITRAMON" Capacitors in guided missiles, jet ignition, proximity fuses, and in radar, servo, guidance, fire control, telemetering and carrier telephone systems.

STANDARD TYPES AND VALUES

All series A, AR, R and COAXIAL are available in the following values from factory or distributor stocks in 10%, 5%, 2% and 1% tolerances.

CY13C -A or -AR
0.5 to 200 mmf at 500 vdc
220 to 300 mmf at 300 vdc

CY17C -A or -AR
220 to 470 mmf at 500 vdc
510 to 1000 mmf at 300 vdc

CY22C -A or -AR
510 to 1000 mmf at 500 vdc
1100 to 2400 mmf at 300 vdc*

CY32C -A or -AR
1100 to 3300 mmf at 500 vdc
3600 to 6800 mmf at 300 vdc**

CY13C -R
0.5 to 22 mmf at 500 vdc
24 to 100 mmf at 300 vdc
110 to 220 mmf at 100 vdc
240 to 300 mmf at 50 vdc

CY17C -R
300 to 620 mmf at 100 vdc
680 to 1200 mmf at 50 vdc

COAXIAL
470 mmf, 1000 mmf at 500 vdc
1000 mmf at 300 vdc

*2200 and 2400 not available in -A Series
**6200 and 6800 not available in -AR Series

HIGH RELIABILITY SPECIFICATION S-1002

Every capacitor ordered under High Reliability Specification S-1002 undergoes tests encompassing 300,000 UNIT HOURS OF LIFE AT 125°C. to assure an A.Q.L. 12 times higher than Mil Specifications—and every shipment against an S-1002 order is accompanied by tabulated results to verify extreme reliability.

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Baker & Adamson, America's leading producer of laboratory and scientific chemicals, offers an extensive line of "Electronic Grade" chemicals—specially designed to meet the stringent quality requirements of the Electronics Industry. "Electronic Grade" solvents, for example, are quality controlled by resistivity measurements. This new technique, coupled with already stringent instrument and chemical analysis methods, makes possible the control of impurities in solvents used for washing and drying semiconductor crystals to a degree surpassing all previous quality standards. To meet special needs, other high purity B&A chemicals can be custom-made to your specifications. For further information, write for free folder, "Electronic Grade Chemicals."

For Semiconductor Production

"Electronic Grade" Chemicals—a new high in chemical purity

ACETONE $(CH_3)_2CO$ M.W. 58.08
Meets A.C.S. Specifications
Resistivity.....2.0 megohm cm. min.

HYDROFLUORIC ACID, 48% HF
Meets A.C.S. Specifications M.W. 20.01

METHYL ALCOHOL, ABSOLUTE (METHANOL) ACETONE FREE CH_3OH M.W. 32.04
Meets A.C.S. Specifications
Resistivity.....0.5 megohm cm. min.

PROPYL ALCOHOL, ISO $CH_3CHOHCH_3$ M.W. 60.09
Meets A.C.S. Specifications
Resistivity.....10 megohm cm. min.

CARBON TETRACHLORIDE CCl_4
Meets A.C.S. Specifications M.W. 153.84
Resistivity.....200 x 10^6 megohm cm. min.

ETHER, ANHYDROUS $(C_2H_5)_2O$
Meets A.C.S. Specifications M.W. 74.12
Resistivity.....0.02 x 10^6 megohm cm. min.

HYDROGEN PEROXIDE, 3% SOLUTION H_2O_2 M.W. 34.02
Meets A.C.S. Specifications

HYDROGEN PEROXIDE, 30% H_2O_2 M.W. 34.02

HYDROGEN PEROXIDE, 30% "STABILIZED" H_2O_2 M.W. 34.02

SODIUM CARBONATE, MONOHYDRATE $Na_2CO_3 \cdot H_2O$
Meets A.C.S. Specifications M.W. 124.02

TRICHLOROETHYLENE $CHCl \cdot CCl_2$ M.W. 131.40
Resistivity.....0.1 x 10^6 megohm cm. min.

Reagent A.C.S. and other high purity chemicals

Ammonium Chloride
Ammonium Hydroxide
Amyl Acetate
Antimony Metal
Arsenic Metal
Bismuth Metal
Bromine
Calcium Sulfate
Cupric Nitrate, Crystal
Drierite
Ferric Chloride
Gold Chloride
Glycerine
Hydrochloric Acid
Indium Fluoborate, Solution
Indium Metal
Iodine
Nitric Acid
Potassium Hydroxide
Sodium Chloride
Sodium Dichromate
Sodium Hydroxide
Sodium Hypophosphite
Sodium Stannate, Granular
Sulfuric Acid
Toluene
Wax, Paraffin
Xylene
Zinc Metal

Special High Purity Germanium

Dioxide First Reduction Metal Intrinsic Metal

Low-Melting Glasses (High Purity) for Encapsulation

For Radio and T.V. Tube Production

"Electronic Grade"

Aluminum Nitrate, Crystal and Basic
Barium Acetate
Barium Nitrate
Calcium Nitrate, Tetrahydrate
Hydrofluoric Acid
Sodium Carbonate
Strontium Nitrate

Reagent A.C.S. or other high purity grades

Ammonia, Aqua
Calcium Acetate
Chromic Oxide
Hydrochloric Acid
Manganese Dioxide
Magnesium Oxide
Nitric Acid
Potassium Hydroxide
Sodium Hydroxide
Sodium Silicate
Sulfuric Acid
Toluene

For Printed Circuits

Use B&A copper fluoborates for faster plating . . . B&A lead-tin fluoborates for excellent solderability. These high purity plating solutions come in concentrated solution form . . . require no mixing or dissolving . . . give stability in bath composition and practically 100% anode and cathode efficiencies.

For Ferrite Production

B&A metallic oxides, carbonates and oxalates.

For Core Insulation

B&A magnesium methylate is available for coating high resistance magnesium oxide film on core foils by thermal decomposition at relatively low temperatures. The films produced are more uniform and flexible than those produced by drying a magnesium slurry on the foil. Information on the use of this chemical is available on request.

For Capacitors

B&A has developed a special high concentration manganous nitrate solution for producing dry electrolytic tantalum capacitors. In addition, bulk quantities of the following high purity chemicals, used for producing capacitors of all types, are available from B&A.

Ammonium Hydroxide, Reagent, A.C.S.
Boric Acid, Reagent, A.C.S.
Manganous Nitrate, Reagent
Oxalic Acid, Reagent, A.C.S.

For Gaseous Insulation

B&A sulfur hexafluoride helps simplify designs, miniaturize electronic equipment, cut production and operating costs. Dielectric strength of this chemically and physiologically inert gas increases under pressure. It remains efficient over a wide temperature range.

BAKER & ADAMSON®
"Electronic Grade" Chemicals

Allied Chemical

GENERAL CHEMICAL DIVISION
40 Rector Street, New York 6, N. Y.

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BEL *Precious* METAL PAINTS

LOW TEMPERATURE BAKING

Applicable to Plastics, Plastic Impregnates, Glass, Ceramics, Metals, Wood, Paper, Mica.

- **Silver Base**

AIR DRY OR THERMOSET

FIRED-ON TYPE

Applicable to all types Ceramics, Mica, and Glass.

- **Silver** for plating or direct soldering — controlled conductivity.
- **Platinum & Platinum Alloy** direct soldering, hermetic sealing.
- **Gold** for special contacts and adverse atmospheric application.

Supplied in various dispersions for Brushing, Squeegee, Dipping, Spraying and other application techniques.

METALLIZING SERVICE

Precision Metallizing on any suitable substrate - plain or intricate patterns - any contour base.

Complete information on solving your metallizing problems available on request.

BEL FUSE INC.

198 VAN VORST STREET
JERSEY CITY, N. J.

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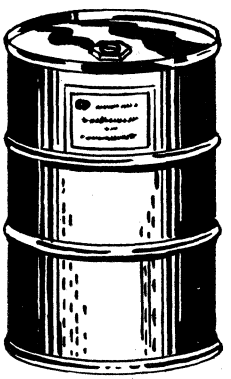
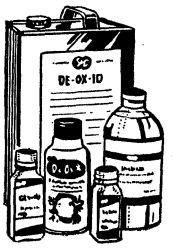


G-C ELECTRONIC CHEMICALS

DESIGNED FOR RESEARCH, DEVELOPMENT AND MAINTENANCE



A full line of cements, cleaners, protective coatings, lubricants, finishes and fluxes to serve every purpose. All are available in handy 2 oz. bottles for bench work or sizes up to 55 gal. drums for industrial volume use.

- G-C DE-OX-ID CONTACT CLEANER
- G-C BAKELITE CEMENT
- G-C VINYL PLASTIC CEMENT
- G-C ELECTRICAL AND RESISTOR CEMENT
- G-C PLI-O-BOND CEMENT
- G-C RADIO & TV CEMENT
- G-C GENERAL PLASTIC CEMENT
- G-C RUBBER TO METAL & PHONE DRIVE CEMENT
- G-C MAG-NETIC RECORDING HEAD CLEANER
- G-C CONTACT DOPE
- G-C STRIP-X INSULATION REMOVER SOLUTION
- G-C RECO-STATIC CHASER
- G-C INSULATING DIPPING VARNISH
- G-C RUF-KOAT WRINKLE FINISH
- G-C SILVER PRINT CONDUCTIVE SILVER COATING
- G-C TV HI-V CORONA DOPE
- G-C PRINT-KOAT RESIN SPRAY
- G-C RED-X CORONA TV DOPE
- G-C KOLOID ACRYLIC PLASTIC
- G-C NOKORODE SOLDERING PASTE
- G-C PRINT-KOAT SOLDERING FLUX

GENERAL CEMENT MFG. CO.

Division of Textron Inc.

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ALL ITEMS AVAILABLE FROM STOCK THROUGH YOUR LOCAL ELECTRONIC DISTRIBUTOR
Write Today for Complete Catalog and see the G-C listings in the new Radio-Electronics Master

Order from Local Electronic Parts Distributors or Write for List.

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BIWAX CORPORATION

3444 HOWARD ST., SKOKIE, ILLINOIS (Chicago suburb)

Telephones: (Chicago) AMbassador 2-3339
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Manufacturers and distributors of insulating compounds, waxes, and sealing compounds

The Biwax Corporation was founded in 1928 for the purpose of developing and producing insulating compounds for the electrical and the then infant electronics industry.

During the succeeding years developments in our laboratory have kept pace with the ever increasing requirements in physical, chemical and electrical properties which were being specified. As a result, we have a wide range of waxes and compounds backed by 31 years of research, development and applications experience.

Many modifications emphasizing adhesion, cold flow, color stability, specific gravity, fungus resistance, etc., have been produced, and should any of our compounds require modification for your specific requirements, our laboratory is available for such service. We welcome the opportunity to serve you.

BIWAX — EPOXY FORMULATIONS

meet Military and Industrial Specifications.

- Single component systems
- Thixotropic formulations
- Packaging service minimizes waste — can be keyed to your production schedules
- Encapsulating service facilities
- Over 20 standard epoxy formulations available. Will meet most requirements.
- Send for Epoxy Compound Chart.

SPECIAL "HOT MELT" COMPOUNDS

for electronic component dipping, impregnating and potting.

- Controlled insulation resistance
- Formulations to meet Military and Industrial Specifications
- Softening point range from 155°F to 290°F.
- Stability at —70°C.
- Fungus resistant grades available

HI-LO TEMPERATURE COMPOUNDS

for major applications in the communications industry.

- Controlled insulation resistance
- Stability at —70°C.
- Adhesive to ceramics, porcelain, plastics, metal and glass
- Cold flow range from 185°F to 250°F.

INDUSTRIAL SEALING WAXES

for sealing screw heads, sockets, switch bases, wiring devices, spotting, etc.

- Adhesive to ceramics, porcelain, plastics, metal and glass
- Supplied in red, black, brown, and white

ASPHALT BASE COMPOUNDS

for coil impregnation, potting, cable conduit sealing, drum and barrel liners, etc.

- Bituminous materials modified with waxes, resins and polymers
- Variable thermal conductivity
- Softening point ranges from 150°F to 295°F.
- Low viscosity-high cold flow systems

HIGH THERMAL CONDUCTIVITY "HOT MELT" COMPOUNDS

for power transformer potting

- Excellent heat dissipating properties
- Increased power output through cooler unit operating temperatures
- Minimum equipment necessary
- No curing or baking after potting
- Odorless, with high cold flow

For more detailed information, write for:

GENERAL SPECIFICATION CHART on INSULATING and SEALING COMPOUNDS

Describes 70 standard compounds — melting points, softening range, penetration, specific gravity, flash points, viscosity, cold flow, color, impregnating, dipping and potting temperatures, method of packaging, and special properties and applications.

BIWAX-EPOXY COMPOUNDS CHART

Describes 20 standard compounds — pot life, mixing ratios, recommended curing cycles, specific gravity, weight loss and gain, shrinkage, thermal shock, maximum exotherm, color, and special properties and applications.

See YELLOW SECTION for Local Offices, Telephones, etc.

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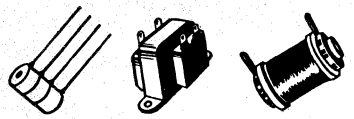

THE INSL-X COMPANY, INC.

WATER STREET • OSSINING, NEW YORK • WIlson 1-1397

PRODUCTS FOR THE ELECTRIC-ELECTRONIC INDUSTRY

INSL-X continually concentrates its efforts upon the formulation of organic coatings for ELECTRICAL INSULATION. Products listed have found wide application as fungicidal and chemical resistant coatings, arc resistant coatings, coil coatings, tool insulation and insulating varnishes. They may be modified to meet various requirements, as changes in hardness, drying time, abrasion resistance, and flexibilities, etc. Special applications frequently require products which are not listed as standard items. A detailed presentation of specific problems will receive special laboratory consideration.

"E" SERIES

This series provides electrical properties with a wide range of hardness and flexibility. They have high dielectrical strength and are chemically neutral to fine wire, thermally stable and suitable for long lived application.

SUGGESTED APPLICATIONS: E-12. Insulating rectangular bus bars with sharp edges, moisture proofing taped connections, as an anti corona coating for Television components.

E-16. To insulate bus bars and prevent heating, protect pigtails and short leads, as a substitute for tubing. As a seal for transformer and coil leads, for protecting motor controllers, switchgear, starters, fuse boxes and switches. To insulate and moisture proof terminal assemblies, seal selenium rectifiers and resistors. To finish motor coils.

E-33. As an insulation for contact adjusting tools, screwdrivers, pliers, crescent wrenches, bolt cutters, wire cutters, etc. For third rail tools, carriers, pinch bars, grab handles and similar tools. To seal and protect carbon resistors. To protect enameled and other insulated coils.

E-44. For use with coils that are to be impregnated at temperatures which ordinarily decompose the cement generally employed. The melting point is 200°C. Capable of withstanding temperatures of 150°C for long periods of time.

E-67. Insulating relay, magnet, and choke coils, electronic and bushing current transformers. Moisture proofing radio parts.

PROPERTIES:

	E-12	E-16	E-33	E-44	E-67
Drying Time	15 min.	5 min.	15 min.	15 min.	15 min.
Dielectric Strength v/m dry	1500	1200	1500	1000	1250
Dielectric Constant Dry-1000 cycles	$5{,}00 \times 10^{-7}$	2.66×10^{-7}	$1{,}62 \times 10^{-7}$	$1{,}42 \times 10^{-8}$	1.36×10^{-8}
Low Temperature Flexibility	—60°C	—40°C	—40°C	—70°C	—40°C
Effect Salt Water 50 Hours	None	None	None	Slight	None
Effect Transmission Oil	None	None	None	None	None
Flow Point °F	356	400	428	400	392
Standard Color*	Black	Clear	Black	Clear	Black

*All compounds are stocked in clear, black or red, special colors available. E-16 also supplied in 12 oz. Aerosol cans in clear and glossy black.

"U" SERIES

The U Series are thermo-setting synthetic resin solutions. BAKING IS REQUIRED. This series is marked by its very high dielectric strength, arc resistance, water resistance-salt and fresh-and its ability to withstand high intermittent temperature up to 400°F. or prolonged temperature up to 300°F.

	*U-95	**U-85	***U-86
Baking Cycle at 125°C	1 hour	1 hour	1 hour
Dielectric Strength v/m - Dry	2000	1800	1500
Adhesion	Excellent	Same	Same
Low Temperature Flexibility	—40°C	—55°C	—55°C
Oil Resistance	Excellent	Same	Same
Arc Resistance	186 sec.	185 sec.	185 sec.
Acid Resistance 10% H_2SO_4 over	200 hrs.	200 hrs.	200 hrs.
Abrasion Resistance	Excellent	Fair	Good
Flammability	Non-Inf.	Non-Inf.	Non-Inf.
Application Method	Dip, Brush or Spray at Package Viscosity.		

*U-95—For Phenolic, Ceramic and Rigid Surfaces
**U-85—For Metal Surfaces
***U-86—For Coating Before Fabrication

Fungicides can be incorporated into all products. Write for bulletin 10 or catalogue for information on other products.

Fungicides can be incorporated into all products. Write for bulletin 10 or catalogue for information on other products.

A-11 ADHESIVE SEALANT AND GENERAL PURPOSE INSULATING LACQUER

Insl-X A-1 is an air dry water white, transparent acrylic coating, with superior resistance to water, alcohol, vegetable acids, mineral oils and chemical fumes. Special colors are available.

SUGGESTED APPLICATIONS. As an adhesive or sealant to bind fine wire to phenolic strips. As a seal coat and an arc resistant finish for plastic molded and phenolic units. As a seal for oil filled capacitors, as a binder for pie-wound coils. To cement combinations of wood, glass, plastics and rubber.

SPECIFICATIONS: Drying Time: Hard 30 min. Dielectric Strength: v/m dry 750. Arc Resistance: 185 secs. Softening point: 90°C. Low Temperature Flexibility: —40°C.

A-107 SOLVENTLESS IMPREGNATING COMPOUND

Insl-X A-107 is an acrylic base thermo-plastic impregnant which remains solid through its operating range. Desirable electrical characteristics, and ability to withstand sudden temperature changes without loss of flexibility makes it infinitely superior to such materials as pitch and wax.

SUGGESTED APPLICATIONS: To impregnate and seal units constructed of fine wire. As an impregnant and sealer for coils and precision type resistors. As a neutral and non-corrosive substitute for pitch and wax in a wide variety of applications.

SPECIFICATIONS: Drying Time: Solidified upon cooling. Dielectric Strength: v/m dry 700. Dielectric Constant: 1000 Cycles — 2.6. Power Factor: 0.019. Low Temperature Characteristic: —45°C, or lower. High Temperature Characteristic: Satisfactory at 85°C.

COATING TO MEET GOVERNMENT SPECIFICATIONS

MIL-V-173A Type I: Insl-X P-173-5. Type II: Insl-X P-173-8.
MIL-V-1137A: Insl-X P-83, P-84.

WCP-11—POLYURETHANE WIRE COATING

A superior polyurethane wire coating for dip application of magnet wire.

SPECIFICATIONS: Solids: 30%. Continuity: 2-9/100 Ft. Dielectric Strength: 1800 v/m. Cut Through: 510°F. Solderability: 1 Sec. at 700°F. Acetone Resistance: No effect on film after 90 minutes immersion. Boiling Acetone/toluol: Passes 5 Minutes.

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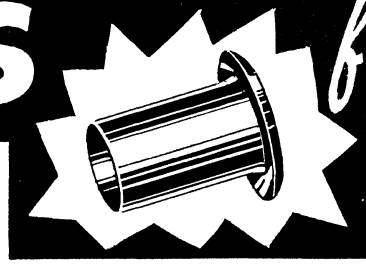
EYELETS for printed circuits



EVERY EYELET ..... A PRECISION PRODUCT

ABSOLUTE UNIFORMITY ..... FROM PART TO PART

PERFECT HEAD FORM ..... ON EVERY EYELET

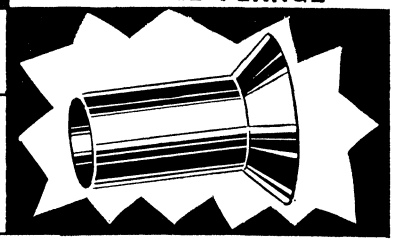
TAPERED END ..... FOR EASY INSERTION

METALLURGICAL CONTROL ... INGOT TO EYELET

GOLD PLATED AND SHOT BURNISHED

ROLLED INSTRUMENT FLANGE

FUNNEL FLANGE



SUPERIOR TOOLS FOR SETTING

Circon Component Corporation • SANTA BARBARA AIRPORT • GOLETA • CALIFORNIA

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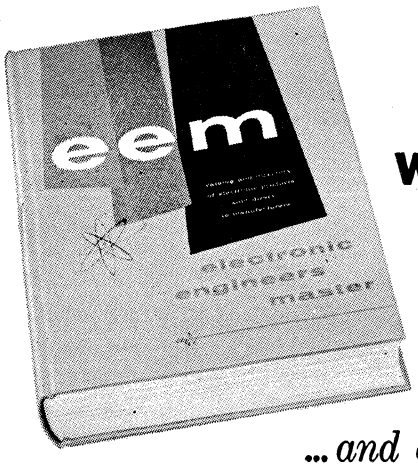
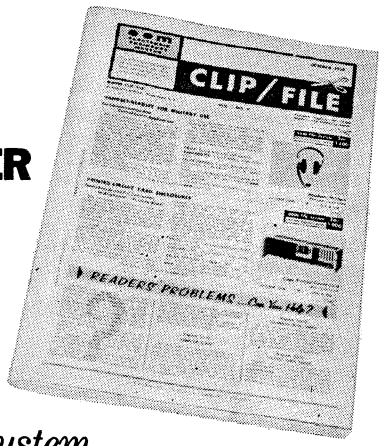


WORKING TOGETHER TO GIVE YOU COMPLETE PRODUCT INFORMATION



... and a self-indexing filing system

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It all starts with the annual *eem*-Electronic Engineers Master. *eem* categorizes the electronic industry into 51 major product groups. Numerically they run from Section 1100 through 6000 and appear at the top of each *eem* catalog page. These same section numbers are used as the index for your personal filing system.

Monthly, you'll receive *CLIP/FILE,* the new product newspaper. Each *CLIP/FILE* new product item includes an *eem* file system number. You simply clip each release along the perforated line, and file it in its appropriate folder.

Each time you refer to *eem* and wish to check for additional information, merely look for the section number at the top of the *eem* page and select the corresponding file folder. There, at your fingertips, is the necessary data to bring you up-to-the-minute.

START YOUR FILING SYSTEM TODAY!

See complete details on inside back cover.

EECO BUILDING BLOCKS

for digital systems engineering

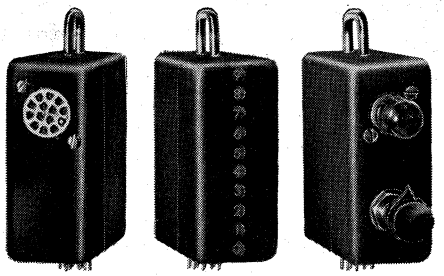
. . . Whether you're going the semi-conductor or the vacuum-tube route, EECO has the packaged circuits to make your job an easier and more productive one.

You can concentrate on systems design instead of circuit detail, because every EECO Plug-in Circuit has been tested and proven in advance for you.

While EECO circuits are primarily digital in nature, many types of linear circuits are available. In addition, we stand ready to package your special circuits, both quickly and at low cost.

NOTE: All illustrations on this page are one-third actual size.

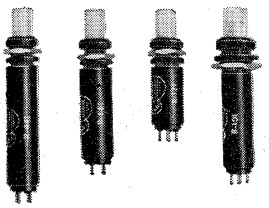
TRANSISTORIZED CIRCUITS



N-SERIES Transistorized DECADES

Our NEWEST Series—compact, transistorized plug-in Decades for reliable pulse counting and frequency division in the frequency range of 0-250 kcs and 0-5 megacycles. Feature simple power supply requirements, low power consumption, small size, and extreme reliability. Nixie, incandescent, and remote-readout models available with or without preset controls.

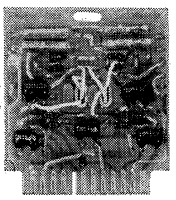
Completely compatible with T-Series Germanium Plug-in Circuits.



MINISIG Sensitive Indicators

Proven indicators, incorporating neon or incandescent lamp and transistorized driver circuit, that operate directly from low-level signals, yet occupy no more panel space than conventional indicators. New wide selection includes filament-, high-temperature-, memory-, and plug-in-type units, as well as miniature and subminiature designs.

Typical Neon Minisig (R-101), unit price $5.60 to $6.55.



W-SERIES Silicon Transistor Plug-in Circuits

Premium units for −45°C to +100°C environment. Particularly suited for compact, high-temperature-environment military and industrial systems. A complete line of compatible circuits, including dc and pulse logic . . . the first with hermetically sealed silicon semi-conductors and other components.

Typical 150-kc RST Flip-Flop, unit price $99.10 to $121.55.

VACUUM-TUBE CIRCUITS

STANDARD-SERIES Plug-in Circuits

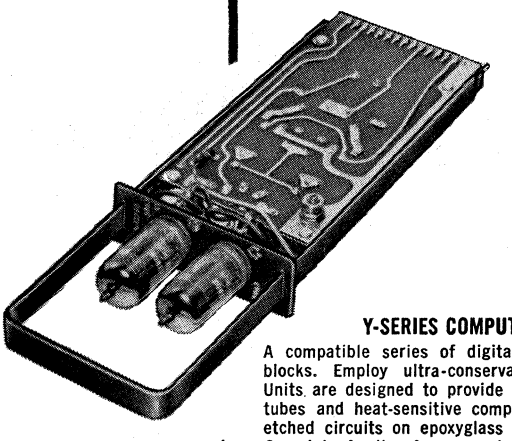
Our old dependable series for application in most military and industrial electronic systems is still doing a yeoman job. More than 325 different types of circuits have been packaged in this container. Complete systems compatibility is ensured by our policy of low-cost custom-circuit packaging. Compatible with EECO Systems Development Rack and Single or Dual Power Supplies.

Typical 100-kc T Flip-Flop, unit price $8.00 to $11.50.

RUGGEDIZED-SERIES Plug-in Circuits

For military and industrial electronic systems where shock, vibration, or temperature are design factors. Pass Mil-E-5272A tests for shock and vibration in −54°C to +71°C environment. Same wide selection of circuits, same packaging service and same compatibility as in Standard Series.

Typical 1-mc Flip-Flop, unit price $14.50 to $17.75.



Y-SERIES COMPUTER Plug-in Circuits

A compatible series of digital and logic building blocks. Employ ultra-conservative circuit design. Units are designed to provide heat barrier between tubes and heat-sensitive components. They feature etched circuits on epoxyglass and rugged, pin-type connectors. Complete family of proven circuits and diode logic units incorporating "And" and "Or" circuits. Custom diode logic available at no set-up charge.

Typical 4-mc RS Flip-Flop, unit price $59.95 to $84.95.

WRITE FOR FULL INFORMATION AND PRICE LIST on these and other EECO building blocks, including Diode-Matrix Plug-in Circuits, Systems Development Racks for transistor and vacuum-tube systems, as well as Vacuum-Tube Decade Counters.

EECO ENGINEERED ELECTRONICS Company

ENGINEERED ELECTRONICS COMPANY

(a subsidiary of Electronic Engineering Company of California)

506 East First Street • Santa Ana, California

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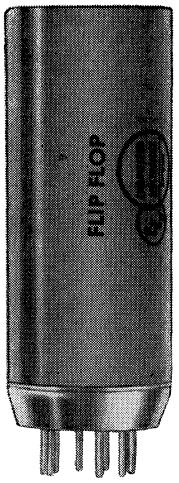
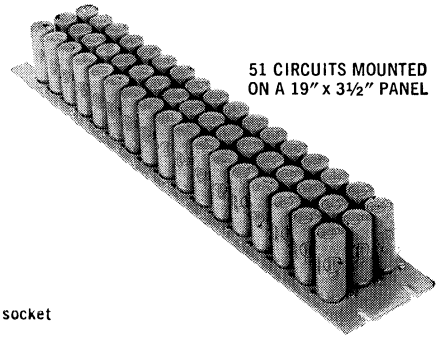
EECO T-SERIES *Germanium* TRANSISTOR PLUG-IN CIRCUITS

. . . for use in compact digital systems and equipment



ACTUAL SIZE

A complete line of low-cost, transistorized plug-in circuits that operate reliably in −45°C to +65°C environment. Incorporate standardized signal levels for compatibility and discriminaton against false triggering. Circuit designs are based on **saturated** transistor operation, and are de-rated to give reserve reliability. (Units typically designed for 50% greater frequency range than rated in guaranteed specifications.)



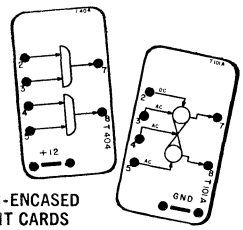
51 CIRCUITS MOUNTED ON A 19" x 3½" PANEL

QUICK FACTS

Size: 2-3/16" seated height x ⅞" diameter.
Power Requirements: −12 Volts dc for logic systems; ±12 Volts dc for logic systems.
Standard Hardware: Low-cost, 9-pin noval socket fits most models. (Special keyed socket furnished with 13-pin logics.)
Sealing: Sealed container, but can be taken apart by hand for repairs.
Operating Speed: 0-250 kc, or faster.
Price Range: Averages $33.00 to $26.00, depending on quantity.

REPRESENTATIVE CIRCUITS

Flip-flops; squaring, pulse, pulse inverting, and linear amplifiers; one shot; NPN and PNP emitter followers; DC and pulse "And" and "Or" gates; reset generator; ring counter; multivibrator; blocking and crystal oscillators; relay driver; and many others.



PLASTIC-ENCASED CIRCUIT CARDS

UNIQUE BREADBOARD SYSTEM

Time-saving features are incorporated in the design of the EECO Breadboard system for use with T-Series plug-in circuits. The entire system is designed around plastic circuit cards with holes for patch cords. These cards, which show circuit symbol, input and output connections, power connections, etc., are put in place on the panel in the circuit line-up to be tried. The circuits are then plugged in above the cards and the various circuits interconnected with patch cords. Holes in cards become connection guides. No soldering or breadboard sketches are required to hook-up simple systems. Any T-Series unit can be plugged into any socket and a minimum of test equipment is required.

EECO REPRESENTATIVES

MAINE, NEW HAMPSHIRE, RHODE ISLAND, VERMONT, AND MASSACHUSETTS
White Sales Company
945 Great Plain Avenue
Needham 92, Massachusetts
Telephone NEedham 3-3676

CONNECTICUT
White Sales Company
Berlin, Connecticut
Telephone BAldwin 4-0423

NEW YORK STATE, NEW JERSEY, AND EASTERN PENNSYLVANIA
Kenneth E. Hughes Company
4808 Bergenline Avenue
Union City, New Jersey
Telephone UNion 7-3204

Southern New Jersey and Eastern Pennsylvania
Kenneth E. Hughes Company
c/o Charles E. Babcock
101 North 33rd Street
Philadelphia 4, Pennsylvania
Telephone EVergreen 6-3130

Syracuse Area
Kenneth E. Hughes Company
c/o Robert Augat
P.O. Box 54
Fayetteville, N.Y.
Telephone NEptune 7-9531

Rochester
Kenneth E. Hughes Company
c/o Robert P. Kennedy Co.
182 Mayflower Drive
Rochester 18, N.Y.
Telephone BRowning 1-6322

FLORIDA
Arthur H. Lynch & Associates
Main Office:
35 West North Shore Avenue
Fort Myers, Florida
Telephone WYandotte 5-2151
Gainesville Office:
Telephone FRanklin 2-8028
Miami Office:
Telephone FRanklin 1-0655

DELAWARE, MARYLAND, WASHINGTON, D.C., AND VIRGINIA
F. R. Jodon, Incorporated
8510 Beech Tree Road
Washington 14, D.C.
Telephone OLiver 2-4406

WESTERN PENNSYLVANIA, AND WEST VIRGINIA
H. E. Ransford Company
5400 Clairton Boulevard
Pittsburgh 36, Pennsylvania
Telephone TUxedo 4-3425

GEORGIA, NORTH CAROLINA, AND SOUTH CAROLINA
Manufacturers Sales Agency
4924 Oleander Drive
Wilmington, North Carolina
Telephone WIlmington 5749

MICHIGAN
S. Sterling Company
15310 West McNichols Road
Detroit 35, Michigan
Telephone BRoadway 3-2900

OHIO
S. Sterling Company
5827 Mayfield Road
Cleveland 21, Ohio
Telephone HIllcrest 2-8080

ILLINOIS, INDIANA, MINNESOTA, WISCONSIN, AND IOWA
R. Edward Stemm
5681 West Lake Street
Chicago 44, Illinois
Telephone EStebrook 9-2700

ALABAMA, ARKANSAS, KENTUCKY, LOUISIANA, MISSISSIPPI, AND TENNESSEE
Marshall H. Odeen
506 Cherry Road
Memphis 17, Tennessee
Telephone MUtual 3-8505

KANSAS, MISSOURI, AND EASTERN NEBRASKA
H. F. Winkeler & Associates
3938 Lindell Boulevard
St. Louis 8, Missouri
Telephone OLiver 2-6455

TEXAS AND OKLAHOMA
Tex-O-Koma Sales Company
P.O. Box 747
Grand Prairie, Texas
Telephone ANdrews 2-0866

ARIZONA, COLORADO, NEW MEXICO, AND UTAH
Western Engineering Company
306 Enterprise Building
829 Fifteenth Street
Denver, Colorado
Telephone AMherst 6-2714

IDAHO, MONTANA, OREGON, AND WASHINGTON STATE
Harry Levinson Company
Suite 321, 1117 Second Avenue
Seattle 1, Washington
Telephone MAin 5317

NORTHERN CALIFORNIA AND NORTHERN NEVADA
Electronic Engineering Assoc., Ltd.
1295 Laurel Street
San Carlos, California
Telephone LYtell 3-2189

SOUTHERN CALIFORNIA
Engineered Electronics Company
506 East First Street
Santa Ana, California
Telephone KImberly 7-5651

EXPORT SALES REPRESENTATIVES

DOMINION OF CANADA
Electronic Associates, Ltd.
4616 Yonge Street
Willowdale, Ontario, Canada
Telephone Baldwin 1-1126

ALL EXPORT EXCEPT CANADA
Ad Auriema, Incorporated
85 Broad Street
New York 4, New York
Telephone Bowling Green 9-7750

ENGINEERED ELECTRONICS Company

ENGINEERED ELECTRONICS COMPANY
(a subsidiary of Electronic Engineering Company of California).
506 East First Street • Santa Ana, California

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FERROTRAN TRANSISTOR DEVICES

MIDGET SERIES

DIM.: 1¾" x 1⅞" x 2⅜" % RIPPLE: 0.3

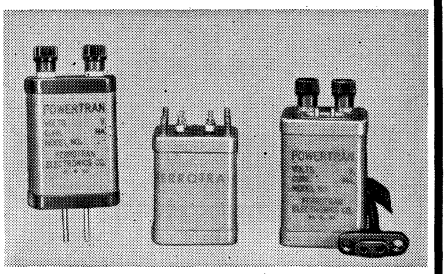
Model	D.C. Outp. Volts	D.C. Outp. Current	Max. D.C. Output	% Reg.
M 5-A	5.0 V	50 ma	100 ma	±1.5
M 10-A	10.0 V	50 ma	75 ma	±2.3
M 15-A	15.0 V	45 ma	75 ma	±2.3
M 20-A	20.0 V	35 ma	60 ma	±2.3
M 25-A	25.0 V	30 ma	50 ma	±2.3
M 30-A	30.0 V	30 ma	50 ma	±1.5
M 40-A	40.0 V	30 ma	50 ma	±2.3
M 50-A	50.0 V	30 ma	50 ma	±2.0

SUBMINIATURE SERIES

DIM.: 1⅝" x 1¾" x 1½" % RIPPLE: 0.5

Model	D.C. Outp. Volts	D.C. Outp. Current	Max. D.C. Output	% Reg.
SM 10-A	10.0 V	25 ma	50 ma	±2.3
SM 15-A	15.0 V	20 ma	50 ma	±2.3
SM 20-A	20.0 V	20 ma	40 ma	±2.5
SM 30-A	30.0 V	15 ma	40 ma	±3.0

POWERTRAN
MINIATURE REGULATED D. C. POWER SUPPLIES



POWERTRAN regulated power supplies, the smallest units of their kind currently available, provide an ungrounded constant D.C. output and are suitable for chassis mounting. Perfect for bias and filament supply, magamp reference or transistor power supply.

FEATURES: 115 Volt, 60 or 400-cycle operation; tubeless; trouble-free, reliable performance; no warm-up time required; short circuit protection provided; guaranteed long life; encapsulated, hermetically sealed construction.

HIGH CURRENT SERIES

RIPPLE: Better than 1%

Model	D.C. Outp. Volts	D.C. Outp. Current	% Load Reg.
HC-6	6.3 V	0.5 amps	± .8
HC-6.1	6.3 V	1.0 amps	±1.0
HC-10	10.0 V	2.0 amps	±1.5
HC-12	12.0 V	1.5 amps	±1.0
HC-15	15.0 V	1.0 amps	±1.0
HC-20	20.0 V	0.5 amps	±0.8
HC-25	25.0 V	0.4 amps	±1.0

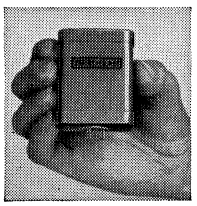
"B" BATTERY REPLACEMENTS

DIM.: 2½" x 3" x 3⅛" % RIPPLE: Less than 0.5
MIN. CURRENT OUTPUT: 35 ma ea. tap REG.: Better than ±.5%

Model	D.C. Outp. Volts
B-7	7½ V
B-15	15 V
B-22	22½ V
B-30	30 V
B-45	45 V

Model	D.C. Outp. Volts
B-67	67½ V
B-224	22½, 45 V
B-456	45, 67½ V
B-459	45, 67½, 90 V

AUDIOTRAN
MINIATURE TRANSISTOR AUDIO AMPLIFIER



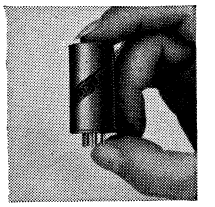
A completely transistorized unit — plugs into any standard 7-pin socket. The AUDIOTRAN may be used with high impedance sources *(microphone)* or with low impedance sources *(receiver detector)*. Output impedance optional. Completely encapsulated and hermetically sealed.

Type	Power Output	Input Res.	Output Res.	Power Gain
"A"	150 mw	4700 ohms	6 ohms	45 db
"B"	100 mw	50K ohms	6 ohms	66 db
"C"	2.0 w	100 ohms	3.2 ohms	49 db
"D"	1.9 w	400 ohms	3.2 ohms	54 db

DIM.: "A"—1⅝" x 1¾" x 2⅛" "B"—Same as "A" (incl. preamp)

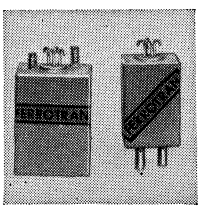
AMPLITRAN
MINIATURE TRANSISTOR I-F AMPLIFIER

The dependable, *precision-engineered* Ferrotran AMPLITRAN miniature I-F amplifier offers a *complete* I-F amplifier stage in the form of a 7-pin plug-in unit only 1-1/2" tall x 13/16" in dia. The AMPLITRAN may be cascaded to produce a *complete* receiver I-F strip.



Model	Center Freq.	Bandwidth
IF-1	455 kc.	10 kc.
IF-2	1 mc.	15 kc.
IF-3	4.3 mc.	20 kc.
IF-4	10.7 mc.	50 kc.
IF-5	30.0 mc.	500 kc.

TRANSISTOR TRANSFORMERS



Extremely small rectifier xformers designed for transistor power supply packages. Audio types available from 5 mw. to 20 w. Servo types available with less than 1% distortion. Open frame, cased or encapsulated construction; commercial or MIL-T-27 grades; 115 Volt, 60 or 400-cycle input.

RECTIFIER TRANSFORMERS

SUB-MINIATURE—20 to 40 V., A.C. @ 40 ma. Dim.: 1⅜" x 1⅛" x 1".

MINIATURE—20 to 80 V., A.C. @ 40 to 100 ma. Dim.: 1⅝" x 1⅜" x 1⅛".

STANDARD—20 to 80 V., A.C. @ up to 250 ma. Dim.: 2¼" x 2" x 1⅝".

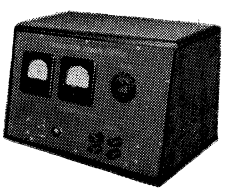
TRANSISTOR POWER SUPPLIES

HIGH CURRENT SERIES—

Model	Voltage	Current
VM-120	0-15 V., D.C.	2 a.
VM-300	0-30 V., D.C.	1 a.
VM-500	0-50 V., D.C.	1 a.

PRECISION REGULATED SERIES

Model	Voltage	Current
VM-280-1A	0-28 V., D.C.	1 a.
VM-300-10A	0-30 V., D.C.	10 a.



ALPHA TESTER: Model 5B — D.C. Alpha Meter
BETA TESTER: Model 50 — Range: 0-50 Model 500 — Range: 0-500
NOISE FIGURE METER: Model 17 — N.F. to 17 db.

Complete catalog information on these and other Ferrotran transistor devices available on request.

FOR THE FINEST IN STANDARD OR SPECIAL UNITS CONSULT . . .

FERROTRAN ELECTRONICS CO., INC.

693 Broadway • New York 12, N. Y. • ALgonquin 4-5810

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M F TRANSISTORIZED ASSEMBLIES

FIXED FREQUENCY AUDIO TONE OSCILLATORS

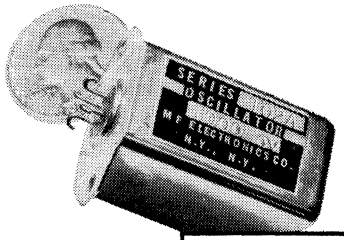
RC Pretuned Sine Wave—Reliable and hermetically sealed.

Series 101, 102—Standard frequencies from 400 cy. to 30 kc. with any intermediate frequency available. Weight—35 grams; operating temperature, —25 to +55°C. Dimensions ⅞" sq. x $1\frac{3}{16}$". Volume 1½ cubic inches.

Series 103—Available in any frequency from 400 cy. to 30 kc. at accuracy of ±2½%. Operating from 12 v. source. Dimensions 1¼ x $1\frac{1}{16}$ x ½". Weight 15 grams.

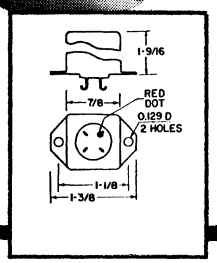
All oscillators use three welded seal transistors and printed circuit board construction. Each oscillator subjected to considerable aging and testing.

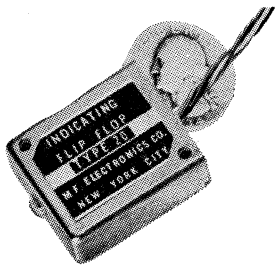
Uses: Include aircraft, space vehicle, portable equipment; in telemetery, tiny circuits, bridge circuits and test equipment.
May be supplied with noval plug if desired.
0.5% TOLERANCE AVAILABLE ON SPECIAL ORDER.



Electrical Specifications:

	Series 101	Series 101A	Series 102	Series 102A	Series 103
Input Volts, nominal	12	28	12	28	12
Input Current, ma.	7	7	7	7	7
Output Frequency		See Table 1			
Initial Freq. Accuracy at 25°C (percent)	±2½	±2½	± ½	± ½	± ½
Freq. Drift, max., over combined conditions of voltage and temperature variations, (percent)	±2½	±2½	±1½	±1½	±2
Maximum Load to meet Drift spec. (kilohms)	10	20	10	20	10
Maximum Load (kilohms)	1	2	1	2	1
Output Impedance, Nom. (ohms)	100	200	100	200	100
Total Harmonic signal Distortion, Typical (percent)	1	1	1	1	1
Output voltage, minimum, RMS	1.0	2.0	1.0	2.0	1.0





TRANSISTORIZED FLIP FLOPS

Operating Temperature: —25 to +50°C.

Group 1—Microminiature Units, commercial, 1/5 cubic inch

Type 11 —20 kc., 6 v. or 12 v.

Type 11A—300 kc., 6 v. or 12 v.

Group 2—Non-Military units, in can, $1\frac{1}{16}$ x 1¼ x ½"

Type 20—Indicating Flip Flop, 12 v., 10 ma. Directly indicates the count with no additional indicators required. Includes two steering diodes for binary division and one reset diode. Maximum frequency, 20 kc.

Type 21—30 kc. with two steering diodes and one reset diode. Both collector and base leads brought out.

Type 22—Same as Type 21 but 150 kc.

Type 23—Same as Type 21 but 300 kc.

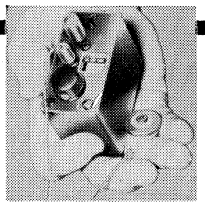
Group 3—Military units, designed to meet the specification of MIL-16400 Class 4. Same package as Type 21.

Type 24—130 kc., 12 v., using 2N78's.

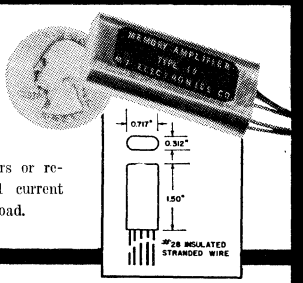
Type 25—1 mc., 12 v., using 2N384's.

TINY TRANSITORIZED AMPLIFIERS

MODEL M-10 — Self-contained; may be used as pre-amp. Input impedance 150 Kilohms, voltage gain 1000, power gain 85 DB; maximum output 150 mv. into 350 ohms; frequency response 20 cy. to 100 kc. Case dimensions: $2\frac{9}{16}$ x $1\frac{5}{16}$ x $2\frac{3}{32}$". Includes matched earpiece.



TYPE 19—MEMORY AMPLIFIER—Latching bistable circuit; draws less than 1.5 ma. when "off", supplies 30 ma. to load when "on". Required pulse for "on" is 50 millivolts. Reset pulse 5 v. May be used with recommended transistors or relays to deliver substantial current into inductive or resistive load.



MICROMINIATURE UNITS

TYPE 12 — 400 cy. MULTIVIBRATOR—Available in other frequencies. Generates a square wave upon application of 6 v. Output voltage 5 v. p-p. Output impedance 1000 ohms in series with 1 mf. capacitor.

TYPE 15—6 v. supply. Gain is 30 DB or greater with 10 DB feedback. Frequency response is flat from 20 cy. to 75 kc. Output voltage 1 VRMS, max. Input impedance 10 k.; output impedance 3300 ohms.

TYPE 17—TRANSISTOR SAWTOOTH GENERATOR—Supply voltage —6 and +6 v. Operating frequency 40 cy. to 4 kc. Sawtooth slope determined by external capacitor; excellent linearity using bootstrap circuit.

TYPE 18—TRANSISTOR ONE SHOT MULTIVIBRATOR—Supply Voltage —6 v. Input trigger is negative leading edge of 10 us. per volt. Output voltage 5 v. Variable period.

SERIES 105
Variable Electronic Filter

This active filter has 100 K input impedance, maximum variable gain with inversion is 33db. Inverse characteristic of external 3-terminal network is obtained. RC networks may be used, making up loss and increasing effective Q with amplifier gain. Cascading of filters will produce any desired pass or stop within the range of 10 to 3000 cps. Dimensions are ⅞" sq. x $1\frac{9}{16}$". Hermetically sealed.

SERIES 106
General Performance Amplifier

Electrical Data:

Power Supply	12 v. DC
Input Impedance	100 kilohms nominal
Frequency Response at gain of 30 DB	10 cycles to 100 kilocycles ±1 DB
Maximum Output	2 v. RMS into 1000 ohms 1 v. RMS into 500 ohms
Gain	30 DB with 10 DB feedback
Temperature of Operation	25° to +60°C.

M F Electronics Co.

122 E. 25th STREET, NEW YORK, N. Y. — GR 3-5899

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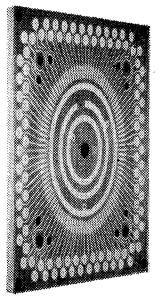
GLEN COVE, NEW YORK
Photocircuits
CORPORATION
GLen Cove 4-8000 • FLushing 7-8100
TWX: GL 4761 • Cable: PHOCIRCO

"FIRST IN PRINTED CIRCUITS"

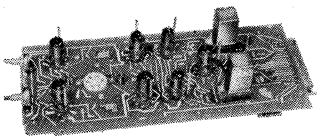
"World's Largest and Most Experienced Manufacturer"



MELACON PROCESS

for flush printed circuits

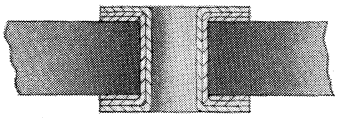
PC's premier product for switch plates, commutator and code discs ...wherever extremely long-life and bounceless switch operation are vital. Circuitry plated with nickel-rhodium in combination with melamine plastic form the optimum combination for maximum in switch life.



ASSEMBLIES and SUB-ASSEMBLIES

electronic and electro-mechanical

PC's modern facilities are geared for complete assembly of printed circuit boards. Mounting and hand-or dip-soldering of components...fabrication of electro-mechanical units. Custom service and highest standards...at low cost.



PLATED-THRU HOLES

for reliable thru-connections on 2 sided boards.

PC pioneered and developed the electronic sturdiness of PLATED-THRU holes. They are reliable regardless of humidity, cold flow or temperature changes...will not become intermittent as eyelets often do. Assemblies with PLATED-THRU holes are more vibration-proof, shock-proof and trouble free.

PRODUCTION CAPACITY

The most complete job shop facilities in the world are at your disposal. Stringent quality control and IBM punched card production control plus the most experienced production force available combine to assure you dependable quality and service.

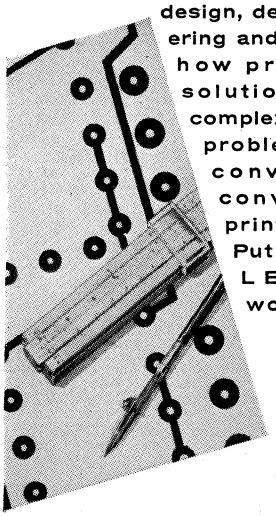
RESEARCH FACILITIES

Few can boast of as complete a research department in the printed wiring board field as the industry's leader. Humidity cabinet, experimental presses, photo micrography equipment with complete chemistry lab and electrical test lab keeps Photocircuits years ahead.

ENGINEERING FACILITIES

from idea to product-in-use

PC's competent electronics and plastics engineers have the experience that counts. Their design, development, engineering and production know-how provide sensible solutions to the most complex printed circuit problems, including conversion from conventional to printed circuitry. Put the industry LEADER to work for you!

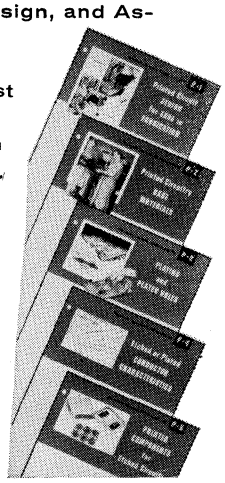


TECHNICAL BULLETINS

latest developments in printed circuitry

PC's timely publications for engineers and designers who want to keep up-to-date with every phase of printed circuitry. Bulletins give specific information on such areas as Materials, Layout and Design, and Assembly.

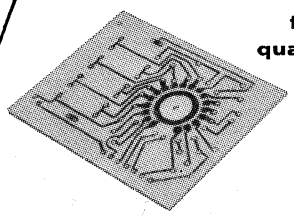
To receive them, contact your nearest PC field office or the main plant in Glen Cove, N.Y.



PROTO-CIRCUITS DIVISION

faster service on quality pre-production circuit boards

PC puts precision prototypes in your hands quickly... delivers FULLY FABRICATED engineering samples in the shortest time! Streamlined methods and special tooling – in a separate department – cut out expensive delays. See your local factory Sales Engineer for time-saving, easy-to-follow "ground rules" and on-the-spot quotations.



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RHO

encapsulated PRECISION WIRE-WOUND RESISTORS

AXIAL TYPE
rated wattages from 0.1 to 2.0

LUG TYPE
rated wattages from 0.1 to 2.0

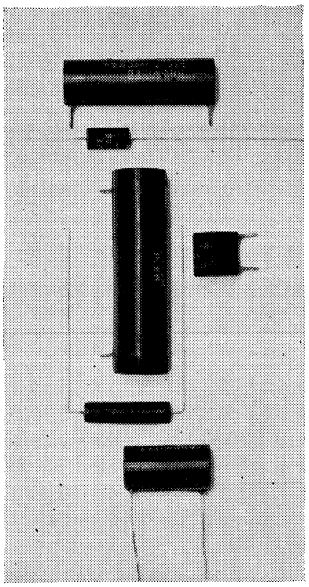
RADIAL TYPE
rated wattages from 0.1 to 2.0

SUBMINIATURE
rated wattages from 0.1 to 0.75
printed circuit types available

MICRO MINIATURE
up to 0.1 watts

BOBBINLESS TYPES and STANDARD BOBBIN

HIGH TEMPERATURE
600°F to 1000°F
–65°F to 600°F continuous operation
Up to 1000°F on special order



MIL-SPEC DESIGN
to exceed 125°C ambient temperature . . . special non-hydroscopic, fungus--proof resin encapsulant for maximum protection.

Terminals which assure easy, rapid connection in final installation—made of special nickel-copper alloy, gold plated.

STANDARD TOLERANCES
1%, .5%, .25%, .1%, .05% and .025% tolerances available, using standard Alloy E wire. Full load continuous operation from –55°C to 125°C.

RATIO TOLERANCES
to .005% available

Competitively Priced
Write for Specifications and Prices

RHO ENGINEERING COMPANY, 2242 Sepulveda Blvd., Los Angeles 64, Calif. — BRadshaw 2-1163

RHO

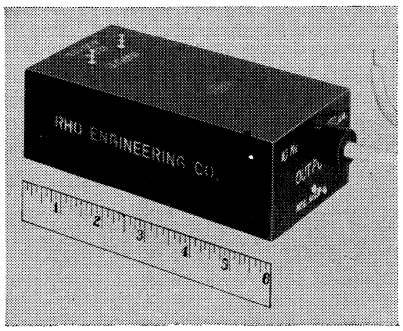
miniaturized encapsulated COMPONENTS for MIL-spec and Commercial applications

TRANSISTORIZED POWER SUPPLIES

REFERENCE POWER SUPPLIES

LC and RC NETWORKS

VOLTAGE MULTIPLIERS & COUPLERS



TYPICAL of POWER SUPPLIES:

- Standard voltages range up to 15,000
- Currents from microamperes to several amps
- Regulation to 0.001%
- Ripple as low as 0.01%
- Sizes down to about 5 cubic inches
- Output impedances to 0.01 ohm and better
- Noise and ripple as low as 0.5 microvolt

Write for complete data on standard items

On special items, electrical characteristics, size and configuration are all, of course, governed by your specifications.

We invite your inquiries.

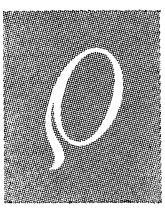
RHO ENGINEERING COMPANY, 2242 Sepulveda Blvd., Los Angeles 64, Calif. — BRadshaw 2-1163

RHO

ENCAPSULATION of Electronic Parts, Sub Assemblies and Assemblies

RHO Engineering Co., pioneers in the field of encapsulation, (originators of the encapsulated precision wire-wound resistor) now offers its experience in encapsulation formulas and its complete engineering and manufacturing facilities to serve those who have "problem" encapsulation applications.

Circuits which contain varied combinations of parts — diodes, transistors, vacuum tubes, paper and glass capacitors, chokes, coils, transformers, resistors of all types, potentiometers and rectifiers—may be RHO encapsulated to form miniaturized, replaceable modules or sub-assemblies in electronic equipments for commercial or military applications. These modules are impervious to humidity, shock and altitude.



These modular units promote that ease of servicing in the field which has, during recent years, become of such vital concern to manufacturers of missiles and aircraft.

We invite your inquiries—whether for development or production, long run, short run, prototype or single unit, RHO will bring to your particular problem the finest in engineering and service which the industry has to offer.

RHO ENGINEERING COMPANY, 2242 Sepulveda Blvd., Los Angeles 64, Calif. — BRadshaw 2-1163

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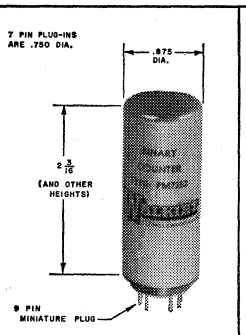
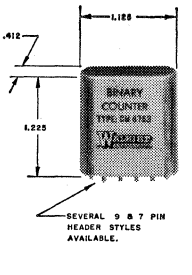
WALKIRT circuit modules

PULSE CIRCUITRY MINIMIZED PACKAGING



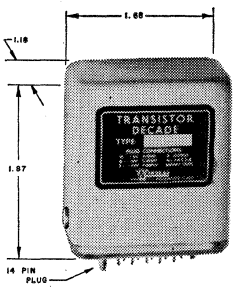
TRANSISTOR PLUG-INS:

"PM" Plug-in series of units may be inserted in standard miniature tube sockets. Units supplied in 7 or 9 pin configuration, depending on connection requirements.



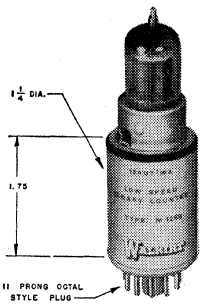
TRANSISTOR CARTRIDGES:

"CM" Cartridge series provide real sub-miniaturization for airborne applications. Many of the units below are available in "CM" form, with an assortment of header styles from which to choose.



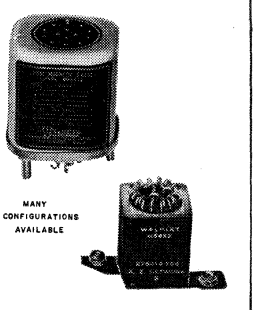
TRANSISTOR DECADES:

Plug-in scale of 10 dividers feature replaceability of individual binary cartridges. All binary outputs are accessible on standard 14 pin plug.



TUBE UNITS:

Twelve years of production experience marks Walkirt's reliable collection of vacuum tube plug-in circuits. Units for all types of pulse control and division available.



SPECIAL ASSEMBLIES:

Walkirt's broad experience in the packaging field results in an unusual economic versatility for custom circuit packaging, especially for miniature and resin encapsulated designs.

TRANSISTOR CIRCUITS:

	DESCRIPTION	TYPE NO.	GENERAL USE	FREQUENCY RANGE	INPUT	OUTPUT RISE-AMP.	REMARKS	NET PRICE *
COUNTERS & FLIP-FLOPS	Binary Counter	PM6033	Pulse rate division, counting, time sequential origination, time measurement and all general scaling applications	0-100KC	4-6V, T_r = 0.1μs 4-10V, T_r = 1.0μs	1.0μs 8V	7 pin plug-in 1-5/8" high	$20.25
	Binary Counter	PM6733		0-1MC	>5V positive step rise time less than 1.0μs	Output waveshape depends on load, frequency, power levels, and other variables, but a nominal output for this group is 0.2μs rise time, 6V amplitude	Output levels at ground and -6V, maximum resistive load 1000Ω	34.15
	Binary Counter	PM6753		0-800KC				32.15
	Binary Counter	PM6763		0-400KC				28.05
	Binary Counter (Economy Line)	PM7253		0-800KC			Low cost, high performance ($17.95 in 100 quantity)	27.00
	Binary Counter (Silicon)	PM7283		0-500KC	6V pos. step rise time <.5μs		For operation to 125°C	71.15
	Binary-Flip Flop	PM7943		0-800KC	>5V pos. step rise time<1μs		Has binary (symmetrical) input and separate flip flop inputs	28.90
	Flip Flop	PM6983	Control and storage of information.	0-500KC	6V pos. step rise time<.5μs		Min. Res. time between inputs 1μs	27.65
	Flip Flop	PM6993		0-250KC			Min. Res. time between inputs 2μs	23.60
	Decade Counter	M6744	Scale of Ten Division	0-1MC	>5V pos. step rise time 1.0μs		All binary outputs are accessible at connector pins 14 pin plug-in.	151.00
	Decade Counter	M6784		0-800KC				148.60
	Decade Counter	M6794		0-400KC				132.20
	Decade Counter (Silicon)	M7233		0-500KC	6V pos. step rise time <.5μs		For operation to 125°C	296.60
WAVEFORM GENERATORS	Fork Oscillator	PM6673GE	Audio Fork	360-700cps	Tuning Fork	.10-.17 VRMS max. load: AC 30KΩ DC 100KΩ	For use with .05% accuracy fork	27.35
	Fork Oscillator	PM6683GE	Frequency Generation	360-2200cps			For use with .05% and .01% accuracy forks	31.90
	Delay Multivibrator	PM6013	Pulse Delay	Nom. delay 3μs may be extended	>6V pos. step rise time <1μs	0.5μs 14V	Used with PM6003 binary in applications where delay is required	18.65
	Trigger	PM6023	Convert AC or complex waveform to pulse output. May be used to drive binaries or flip flops.	0-100KC	Any waveshape	0.5μs 14V	Used with PM6003 binary	16.35
	Trigger	PM6963		0-1MC		Depends on variables. Nominally 0.2μs rise, 6V amplitude	7 pin plug-in	23.55
	Trigger	PM6973		0-500KC			7 pin plug-in	17.55
	Trigger	PM7403		0-1MC			"Pickoff" level adjustable. Most useful and versatile trigger for all applications. 9 pin.	23.55
	Astable Multivibrator	PM7003	Variable frequency Generation	200KC +50% - 0%	None required	0.2μs 6V	Frequency may be lowered by external capacitors.	18.65
	Astable Multivibrator	PM7013		100KC +50% - 0%		0.3μs 6V		14.65
	Monostable Multivibrator	PM7023	Time delay or fixed pulse width source	Nom. 2-3μs pos. and neg. pulses	>4V pos. step. rise time <1μs	0.2μs 6V	Pulse width/delay may be increased by use of external capacitor.	20.85
	Recycle Generator	PM7033	Recycles Decades	0-200KC	>4V pos. step rise time 1μs		Will reset 1 decade or 4 binaries	22.60
AMPLIFIERS	Dual Emitter Follower	PM6033	Impedance matching				PNP type - others available	13.10
	Output Amplifier	PM6693GE	Fork Oscillator Amplifier	360-2200cps	Output of fork oscillator	.4 - .8 VRMS into 1000Ω	With external resistor output to 3 VRMS at high impedance	23.80
	Output Amplifier	PM6953	Fork Oscillator Ampl.	360-2200cps	Output of fork oscillator		Will drive PM7403 trigger	38.90
	Reset Amplifier	PM7893	Binary Resetting	Approx. 40KC	PM7023 monostable multivibrator	To power transistor	Will reset up to 40 binaries or flip flops	13.10
MISC. CIRCUITS	Reset Gate	PM7063	General Gating Service		6V	0.5μs 6V	6 input "and" gate. Emitter follower output	15.35
	Diode Gate	PM7383			6V	0.5μs 6V	2 input "and" gate. Emitter follower output	10.75
	"And" Gate	PM7783			6V	0.2μs 6V	6 input "and" gate. Emitter follower output	26.65
	"Or" Gate	PM7803			6V	0.2μs 6V	6 input "or" gate. Emitter follower output.	26.65
	Strip Indicator	M6724	Visual Indication	Resolves decade output	From Decade	Visual	Provides compact vertical 10 light indication.	89.00
	Commutator	M6924	Decade Commutation	50% of Assoc. Decade	From Decade	0.2μs 6V	Commutates decade with 10 emitter follower outputs.	114.80
	Nixie Indicator	M7044	Visual Indication	Resolves Decade output	From Decade	Visual	Uses BD200S Nixie Tube	102.60

VACUUM TUBE CIRCUITS: Please refer to the 1958 EEM or your local Walkirt representative for a tabulation of many of the popular Walkirt vacuum tube plug-in circuit modules

NOTES:

1. **Power Requirements:** Most of the circuits tabulated above are designed to operate with -18, -6 and +6 volts, but many of the units will operate with any single voltage or polarity between 3 and 24 volts.
2. **Environmental:** All Walkirt units are solidly encapsulated in a hardy epoxy resin, assuring absolute long term reliability under the most adverse environmental conditions.
3. **Delivery:** For that really urgent job, contact Walkirt! Most of the circuits tabulated, and many more, are normally available for immediate stock delivery.
4. **Prices** shown are net. Substantial quantity discounts for 10 or more units are available from your Walkirt representative!
5. **Cost:** In today's competitive markets, reliability and cost are factors for prime consideration. Compare Walkirt's prices. Remember,

In Electronics Too- Money Counts!

representatives in principal cities

WALKIRT

141 WEST HAZEL STREET
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What's New

IN VARIABLE TOROIDS

Burnell Adjustoroids® are always new because they are always being designed for newer and broader electronic and mechanical applications.

NEW Burnell's complete line of encapsulated Adjustoroids are particularly adaptable to printed circuit use.

NEW A screw mount PC type Adjustoroid for greater durability in high acceleration, shock and vibration environments.

NEW 'Pot' mounting Adjustoroids for panel mounting and knob adjustment wherever slotted controls are difficult to reach.

NEW Continuous internal improvements including adjustment range, Q, size, etc. Burnell Adjustoroid engineers are constantly seeking solutions to space, accessibility and performance problems.

Burnell Adjustoroids and sub-miniature Adjustoroids are supplied hermetically sealed to meet government specifications MIL E 15305A or encapsulated in many sizes and shapes to meet the application. If your Adjustoroid needs can't be met from our stock catalogue, we'll be glad to manufacture to your specifications. For additional information, write for Adjustoroid bulletin.

	Length/ Dia.	Width	Hgt.	Wt.	Useful Freq. Range	Max Q	Max L in hys
AT-0	1 1/16		1"	2 oz	1 kc to 20 kc	10 kc	3 hys
AT-1	1 3/4	1 3/4	1 1/4"	7.25 oz	2 kc to 10 kc	4 kc	15 hys
AT-2	2 3/4	2 3/4	2 1/4"	24 oz	Below 2.5 kc	2.5 kc	125 hys
AT-4	1 19/64		1 1/4"	4 oz	1 kc to 16 kc	6 kc	15 hys
AT-6	1 1/16		1"	2 oz	10 kc to 100 kc	30 kc	.75 hys
AT-10	1 19/64		1 1/4"	4 oz	3 kc to 50 kc	20 kc	.75 hys
*AT-11	45/64	45/64	3/4"	.83 oz	2 kc to 25 kc	15 kc	5 hys
*AT-12	45/64	45/64	3/4"	.83 oz	15 kc to 150 kc	60 kc	.5 hys
AT-15	1 31/32		1 7/8"	14 oz	Below 5 kc	4 kc	125 hys
AF-51	1 19/64		2"	5 oz	30 cps to 500 cps	120 cps	1000 hys
AF-52	1 19/64		2"	5 oz	50 cps to 1 kc	250 cps	1000 hys
*AF-87	45/64	45/64	1 1/4"	1.7 oz	90 cps to 2 kc	400 cps	80 hys
*AF-88	45/64	45/64	1 1/4"	1.7 oz	.16 kc to 4 kc	800 cps	42 hys
†ATE-11	3/4		3/4"	.83 oz	2 kc to 25 kc	15 kc	5 hys
†ATE-12	3/4		3/4"	.83 oz	15 kc to 150 kc	60 kc	.5 hys

Variation: —10%

**Special "pot" type sub-miniature Adjustoroids are not available with AT-11, AT-12, AF-87, AF-88.*

†Special screw mountings are available with the ATE-11 and ATE-12 in printed circuit applications for "plug in" types. Where vibration and shock are significant considerations, mounting screws serve as terminal connections.

®Trade Name Pat. #2,762,020

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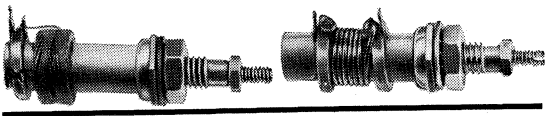
IN STOCK C-B COILS - COIL FORMS

R-F COILS • CERAMIC FORM SLUG-TUNED • KOR-LOK



TYPE - 400

Length from shoulder of bushing: 19/32"
Diameter of form: 0.205"

SINGLE LAYER WINDING

Stock No.	Induct. Range Microhenries Min.	Max.	Q'	Q"	Wire Size AWG	✻ Net Price
4001	0.1	0.13	65	70	22	.53
4002	0.13	0.18	70	70	22	.53
4003	0.17	0.25	65	70	22	.53
4004	0.25	0.37	85	65	22	.53
4005	0.36	0.50	85	50	22	.53
4006	0.45	0.7	75	75	30	.53
4007	0.7	1.2	75	50	30	.53
4008	1.2	2.0	55	45	30	.53
4009	2.0	3.2	60	40	30	.53
40010	2.5	4.0	50	55	36	.53
40011	3.6	6.0	50	50	36	.53
40012	6.0	10.5	60	45	36	.53

UNIVERSAL WINDING

40013	9	15	40	45	36	.57
40014	11	18	35	45	36	.57
40015	17	28	35	40	36	.57
40016	26	42	30	35	36	.57
40017	32	52	30	35	36	.57
40018	48	70	25	30	36	.57
40019	60	90	25	30	36	.57
40020	80	120	25	30	36	.57
40021	95	136	30	35	36	.57
40022	120	170	30	35	36	.57
40023	160	220	25	30	36	.61
40024	200	280	25	30	36	.61
40025	250	340	25	30	36	.61
40026	310	420	25	30	36	.61
40027	410	540	20	25	36	.61
40028	520	680	20	20	36	.61

TYPE - 401

Length from shoulder of bushing: 27/32"
Diameter of form: .260"

SINGLE LAYER WINDING

Stock No.	Induct. Range Microhenries Min.	Max.	Q'	Q"	Wire Size AWG	✻ Net Price
4011	0.30	0.50	100	90	22	.70
4012	0.48	0.88	110	80	22	.70
4013	0.65	1.15	95	90	30	.70
4014	0.99	1.8	50	60	30	.70
4015	1.8	3.5	55	60	30	.70
4016	2.7	5.2	65	60	30	.70
4017	3.3	7.1	65	85	36	.74
4018	5.5	11.0	60	70	36	.74
4019	7.3	15.6	65	70	36	.74
40110	13.0	26.0	55	65	36	.74
40111	18.5	34.0	60	60	36	.74

UNIVERSAL WINDING

40112	30	62	30	40	36	.78
40113	39	78	30	35	36	.78
40114	75	120	25	55	36	.78
40115	110	200	35	50	36	.78
40116	190	330	35	50	36	.78
40117	280	480	35	40	36	.82
40118	410	690	30	40	36	.82
40119	580	960	30	35	36	.82
40120	720	1150	30	35	36	.82

TYPE - 402

Length from shoulder of bushing: 1-1/16"
Diameter of form: .500"

SINGLE LAYER WINDING

Stock No.	Induct. Range Microhenries Min.	Max.	Q'	Q"	Wire Size AWG	✻ Net Price
4021	0.24	0.38	125	120	18	.85
4022	0.40	0.70	150	115	18	.85
4023	0.28	0.45	125	125	20	.85
4024	0.40	0.65	125	125	20	.85
4025	0.48	0.88	160	110	20	.85
4026	0.65	1.10	160	110	20	.85
4027	0.95	1.70	130	160	20	.85
4028	1.4	2.3	150	160	20	.85
4029	0.9	1.6	75	110	24	.85
40210	1.4	2.7	100	125	24	.85
40211	2.3	4.4	130	140	24	.85
40212	3.1	6.0	145	135	24	.85
40213	5.0	8.0	140	115	24	.85
40214	6.0	12.0	115	90	24	.85
40215	11.4	25	75	90	30	.89
40216	22	49	95	85	30	.89
40217	29	60	85	110	36	.89
40218	55	130	95	110	36	.89
40219	90	190	55	95	36	.89
40220	160	300	65	95	36	.89
40221	250	400	65	95	36	.89

UNIVERSAL WINDING

	Millihenries					
40222	0.13	0.27	45	45	36	.93
40223	0.28	0.60	35	30	36	.93
40224	0.50	1.10	30	25	36	.93
40225	0.9	1.7	50	65	36	.93
40226	1.3	2.5	55	65	36	.93
40227	1.8	3.6	55	50	36	.93
40228	2.7	4.7	50	60	36	.97
40229	3.6	6.0	60	70	36	.97
40230	5.0	8.6	60	65	36	.97
40231	7.6	13.0	50	50	36	.97

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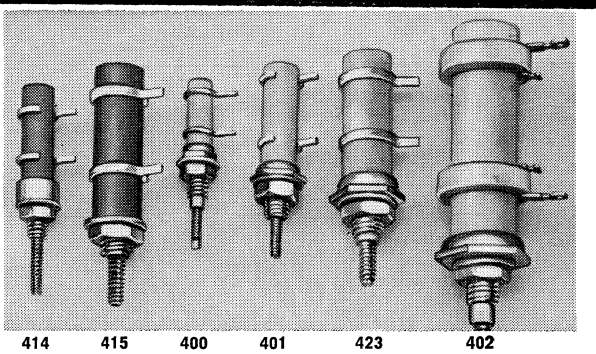


414 415 400 401 423 402

TERMINAL TYPES

U—2 silver-plated brass rings.

V—2 silicone fiber-glass rings with 2 silver-plated lugs on each.

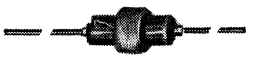
W—1 melamine ring with 2 silver-plated lugs.

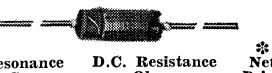
X—2 melamine rings with 2 silver-plated lugs on each.

COIL FORMS • Ceramic • Slug Tuned • Kor-Loc

Stock No.	Body Diam.	Body Length	Terminal Type	Mounting Size	✻ Net Price
428	.175	19/32"	U	8-32	.39
400A	.205	19/32"	U	8-32	.43
400B	.205	19/32"	V	8-32	.53
401A	.260	27/32"	U	10-32	.46
401B	.260	27/32"	V	10-32	.60
423A	.375	1 1/16"	U	1/4-28	.51
423B	.375	1 1/16"	V	1/4-28	.64
402A	.500	1 1 1/16"	W	1/4-28	.65
402B	.500	1 1 1/16"	X	1/4-28	.75
402C	.500	1 1 1/16"	U	1/4-28	.55
		PHENOLIC - SLUG TUNED			
426	.165	19/32"	U	8-32	.34
414	.250	27/32"	U	8-32	.39
415	.375	1 1/8"	U	1/4-28	.39

IN STOCK CHOKES





Stock No.	L	Q	Self Resonance M.C.	D.C. Resistance Ohms	✻ Net Price
CB 11	1.5 uh	50	170	.5	.14
CB 12	2.2 uh	50	150	.6	.14
CB 13	3.3 uh	50	125	1.2	.15
CB 14	4.7 uh	50	110	1.6	.15
CB 15	5.6 uh	50	56	.4	.16
CB 16	6.8 uh	50	51	.5	.16
CB 17	10.0 uh	60	48	.6	.17
CB 18	15.0 uh	70	36	1.1	.17
CB 101	10 uh	50	22	1.6	.17
CB 102	15 uh	48	21	1.9	.17
CB 103	20 uh	46	19	2.1	.17
CB 104	25 uh	45	16	2.3	.17
CB 105	30 uh	45	15	2.5	.17
CB 106	35 uh	45	14	2.7	.18
CB 107	40 uh	42	13	2.9	.18
CB 108	45 uh	40	12.5	3.1	.18
CB 109	50 uh	40	12	3.3	.18
CB 110	60 uh	35	11.5	3.7	.18
CB 111	70 uh	35	11	4.0	.19
CB 112	75 uh	35	10	4.1	.19
CB 113	80 uh	35	9.5	4.2	.19
CB 114	90 uh	37	9.5	4.7	.19
CB 115	100 uh	37	9.	4.9	.19
CB 116	125 uh	57	8.5	5.7	.20
CB 117	150 uh	60	7.5	6.3	.20
CB 118	200 uh	60	6.5	7.7	.20
CB 119	225 uh	60	6	8.1	.20
CB 120	250 uh	55	6	8.5	.20
CB 121	300 uh	52	5.5	9.5	.21
CB 122	325 uh	52	5.5	10.1	.21
CB 123	350 uh	50	5	10.4	.21
CB 124	375 uh	50	5	10.7	.21
CB 125	400 uh	52	4.5	11.2	.22
CB 126	425 uh	52	4.5	11.5	.22
CB 127	450 uh	55	4.5	11.9	.22
CB 128	475 uh	60	4.5	12.2	.22
CB 129	500 uh	60	4.5	12.9	.23
CB 130	550 uh	57	4	13.4	.23
CB 131	600 uh	57	4	14.0	.23
CB 132	650 uh	57	3.5	14.5	.23
CB 133	700 uh	57	3.5	14.9	.24
CB 134	750 uh	57	3.5	15.3	.24
CB 135	800 uh	57	3.5	16.0	.24
CB 136	850 uh	57	3.5	16.5	.24
CB 137	900 uh	57	3.3	17.0	.24
CB 138	950 uh	57	3.3	17.5	.24
CB 139	1.0 MH	60	2.7	21.0	.25
CB 140	1.2 MH	60	2.7	22.0	.25
CB 141	1.3 MH	65	2.7	23.0	.25
CB 142	1.4 MH	65	2.4	24.0	.25
CB 143	1.5 MH	65	2.4	24.5	.25
CB 144	1.8 MH	70	2.1	27.2	.26
CB 145	2.0 MH	70	2.0	28.7	.26
CB 146	2.2 MH	75	—	30.5	.26
CB 147	2.4 MH	75	—	32.0	.26
CB 148	2.5 MH	75	—	32.8	.26

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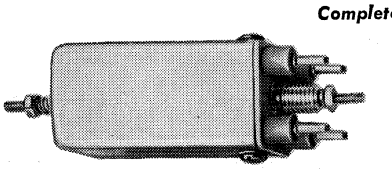

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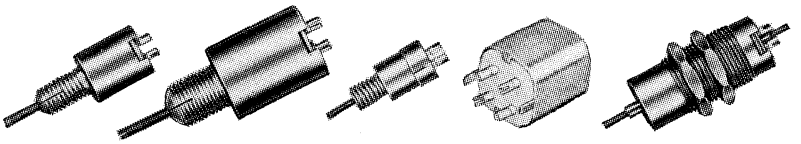

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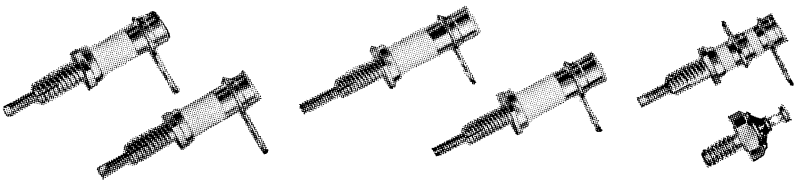

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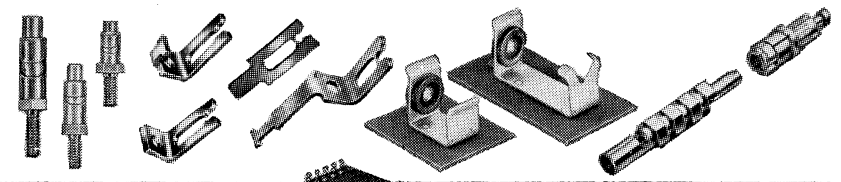
Seven different types, including spring-loaded units primarily for holding fragile diode pigtail leads from .005″ to .085″ in diameter. CTC also offers lines of quality battery clips and miniature plugs and jacks.



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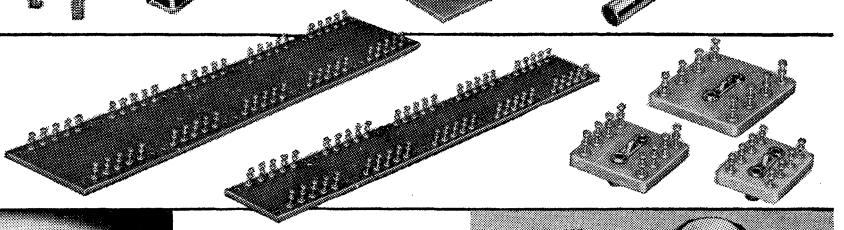

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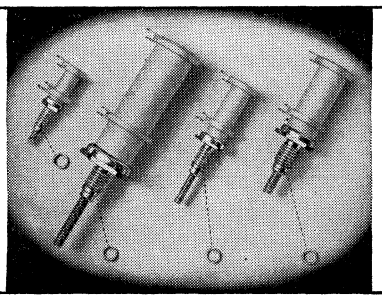

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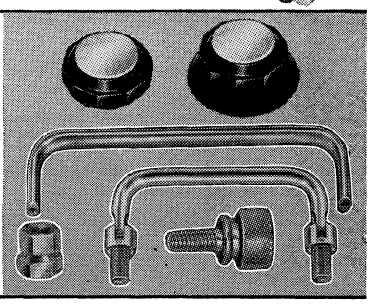

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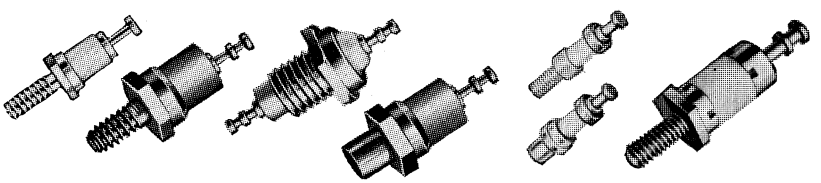

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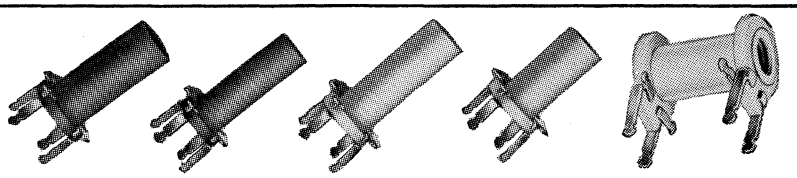
Phenolic and ceramic types. Can be soldered after mounting. Available as forms alone or wound as specified. Two- to six-terminal models.



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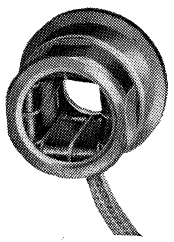
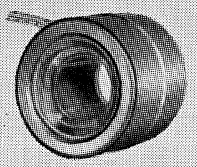


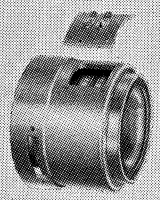
Designed for push-pull military and oscilloscope applications requiring maximum resolution, low geometric distortion, high efficiency. Square core design with parallel opposed magnetic field. Available with extremely sensitive windings. For 1½" neck diameter cathode ray tubes. Deflection angles up to 50°, 70° or 90°. Ask for completely descriptive catalog page.

TYPE Y16-6 HIGH SPEED PUSH-PULL YOKES



Ideal for high speed data presentation and oscilloscope applications. Designed for push-pull circuits requiring exceptionally high deflection rates, low distortion and high efficiency. Available with medium to very low impedance coils. Low stray capacity. Series magnetic field design. For 1½" neck diameter cathode ray tubes. Deflection angle up to 60°. Ask for completely descriptive catalog page.

TYPE Y25-R ROTATING COIL YOKES



Designed for Radar Plan Position Indicator and all other rotating coil applications. Versions available with d-c offcentering coils. Complete in aluminum housing containing deflection coil, slip ring and brush assembly, drive gear and bearing for easy installation into any equipment design. Compact: only 3⅜" O.D. x 2 1/16" Long. For 1½" neck diameter cathode ray tubes. Deflection angles up to 52° and 70°. Ask for completely descriptive catalog page.

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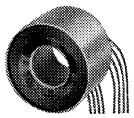
TYPE Y57-P MINIATURE ENCAPSULATED PUSH-PULL YOKE FOR 7/8" NECK DIAMETER C. R. TUBES



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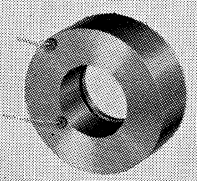

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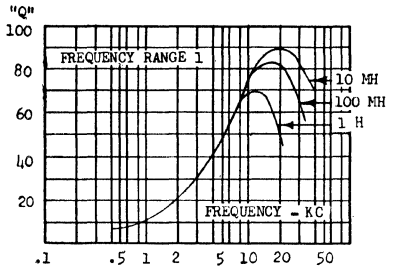
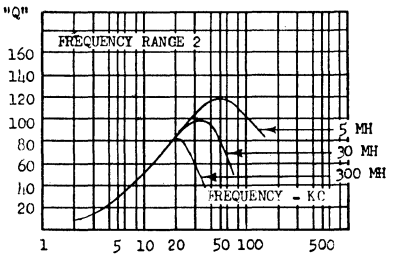
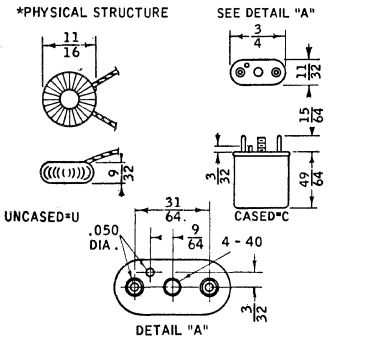
T W C SERIES

Standard Inductance values from 1.0 MH to 4.0 H



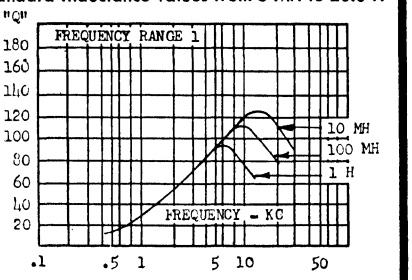
Standard Inductance values from 1.0 MH to 500 MH



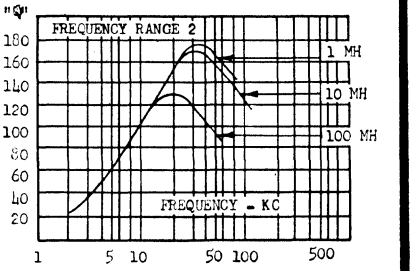


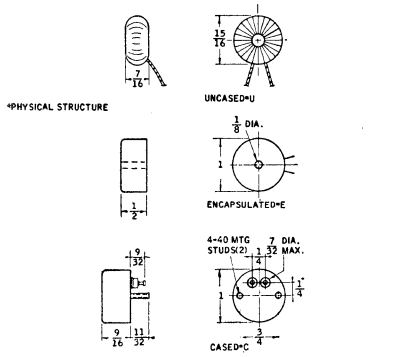
T W S SERIES

Standard Inductance values from 5 MH to 20.0 H



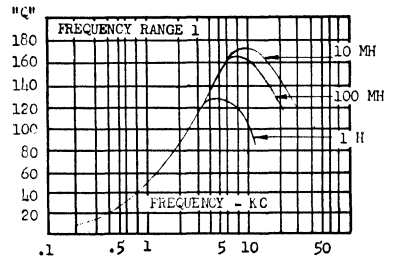
Standard Inductance values from 1 MH to 500 MH



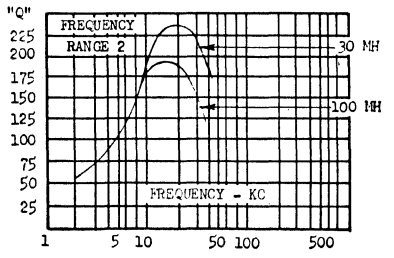


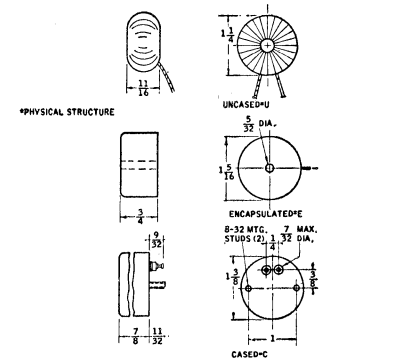
T W M SERIES

Standard Inductance values from 10 MH to 20.0 H



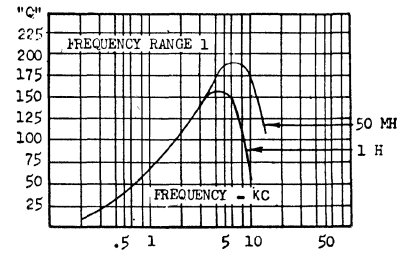
Standard Inductance values from 5 MH to 500 MH

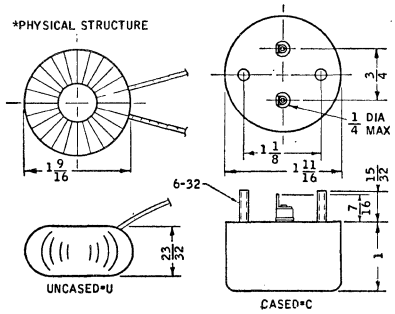




T W I SERIES

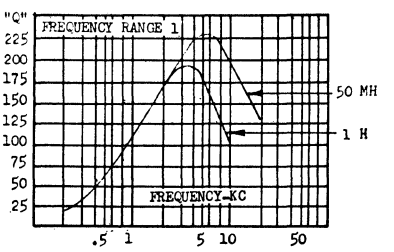
Standard Inductance values from 10 MH to 20.0 H

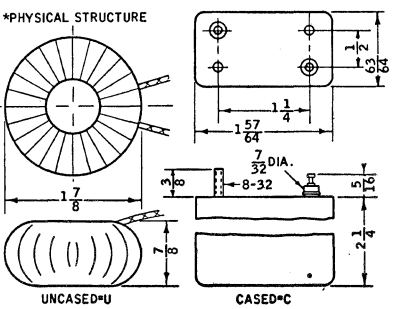




T W D SERIES

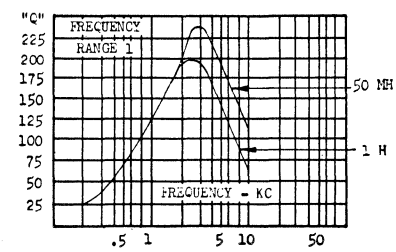
Standard Inductance values from 10 MH to 35.0 H

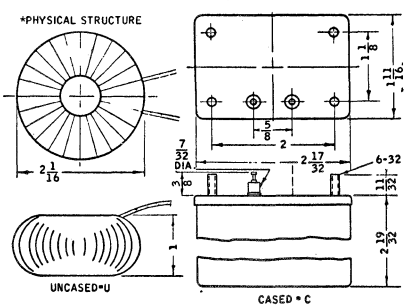




T W L SERIES

Standard Inductance values from 20 MH to 50.0 H





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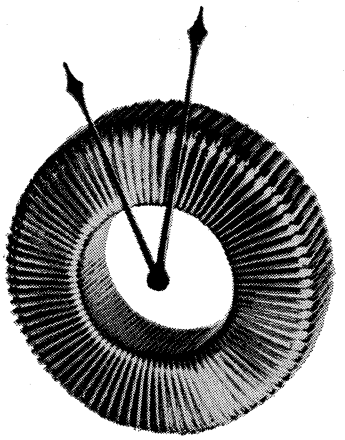

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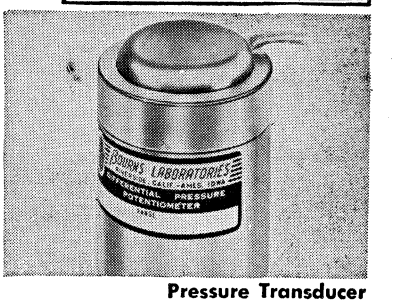
SALES OFFICES: See **eem** p. 851 (Yellow Section)

For other Bourns Laboratories products refer to **eem** *pp. 658, 659, 669 (1958 Edition).*

Circle 35 Reader Service Coupon (p. 2)

eem File System electronic engineers master Sec.



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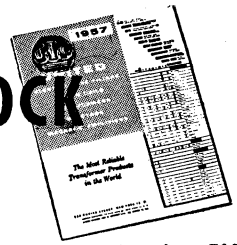

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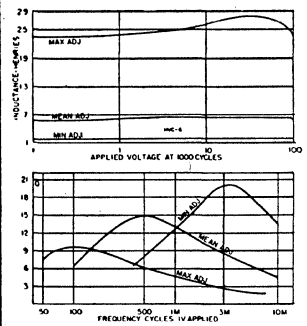
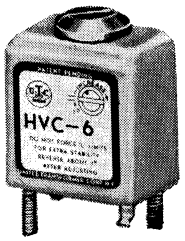
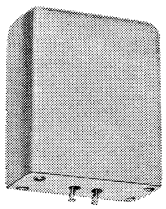


Type No.	Min. Hys.	Mean Hys.	Max. Hys.
HVC-1	.002	.006	.02
HVC-2	.005	.015	.05
HVC-3	.011	040	.11
HVC-4	.03	.1	.3
HVC-5	.07	.25	.7
HVC-6	.2	.6	2
HVC-7	.5	1.5	5
HVC-8	1.1	4.0	11
HVC-9	3.0	10	30
HVC-10	7.0	25	70
HVC-11	20	60	200
HVC-12	50	150	500

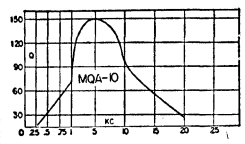


HVC

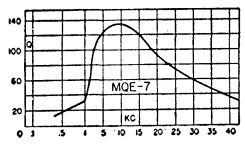


MQ drawn case structure

	Length	Width	Height	Oz.
MQE	1/2	1-1/16	1-7/32	1.5
MQA, MQD	11/16	1-9/32	1-23/32	4
MQB	1-5/16	2-9/16	2-13/16	14

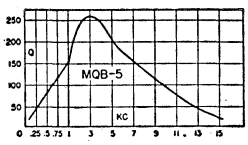


MQA
19 stock values from 7 Mhy. to 22 Hy.



MQE
15 stock values from 7 Mhy. to 2.8 Hy.

MQB
12 stock values from 10 Mhy. to 25 Hy.

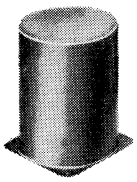


MQD

New extreme stability inductors for 12KC to 130KC range. Typical Q is 170 @ 50KC. 6 stock values from 2 mhy. to 20 mhy.

MQ Series Compact Hermetic Toroid Inductors

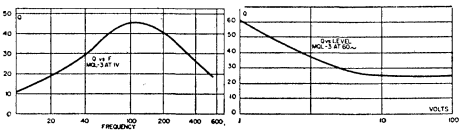
The MQ permalloy dust toroids combine the highest Q in their class with minimum size. Stability is excellent under varying voltage, temperature, frequency and vibration conditions. High permeability case plus uniform winding affords shielding of approximately 80 db.



MQL Low Frequency High Q Coils

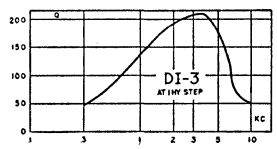
The MQL series of high Q coils employ special laminated Hipermalloy cores to provide very high Q at low frequencies with exceptional stability for changes of voltage, frequency and temperature. Two identical windings permit series, parallel, or transformer type conections. 1-13/16 dia. x 2½" H.

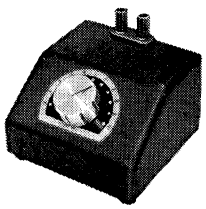
MQL-0	.25/1 Hys.
MQL-1	2.5/10 Hys.
MQL-2	5/20 Hys.
MQL-3	50/200 Hys.
MQL-4	100/400 Hys.
MQL-5	625/2500 Hys.



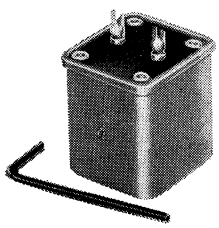
DI Inductance Decades

These decades set new standards of Q, stability, frequency range and convenience. Inductance values laboratory adjusted to better than 1%. Units housed in a compact die cast case with sloping panel ideal for laboratory use ... 4½ x 4⅜ x 2⅜ high.



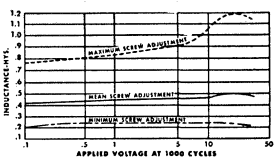


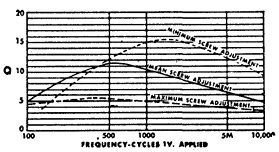
DI-1 Ten 10 Mhy. steps.
DI-2 Ten 100 Mhy. steps.
DI-3 Ten 1 Hy. steps.
DI-4 Ten 10 Hy. steps.



VIC case structure

Length	Width	Height	Oz.
1-1/4	1-11/32	1-7/16	5-1/2





Type	Mean Hys.	Type	Mean Hys.
VIC-1	.0085	VIC-12	1.3
VIC-2	.013	VIC-13	2.2
VIC-3	.021	VIC-14	3.4
VIC-4	.034	VIC-15	5.4
VIC-5	.053	VIC-16	8.5
VIC-6	.084	VIC-17	13.
VIC-7	.13	VIC-18	21.
VIC-8	.21	VIC-19	33.
VIC-9	.34	VIC-20	52.
VIC-10	.54	VIC-21	83.
VIC-11	.85	VIC-22	130.

VIC Variable Inductors

The VIC Inductors have represented an ideal solution to the problem of tuned audio circuits. A set screw in the side of the case permits adjustment of the inductance from +85% to −45% of the mean value. Setting is positive.

Curves shown indicate effective Q and L with varying frequency and applied AC voltage.

SPECIAL UNITS TO YOUR NEEDS
Send your specifications for prices.

UNITED TRANSFORMER CORPORATION

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VARI-L

ELECTRICALLY-VARIABLE INDUCTORS

FOR NON-MECHANICAL CONTROL OF INDUCTANCE, REACTANCE, AND RESONANT FREQUENCY

Our five years of research, development, and manufacture in the field of high-frequency saturable-core reactors has resulted in acceptance of the VARI-L Inductor as a standard circuit element in a long list of military and commercial instruments such as spectrum analyzers, receivers, modulators, frequency synthesizers, and swept-frequency test sets of all kinds.

LET THEM PROVE THEIR VERSATILITY IN YOUR CIRCUIT

Our inductors are used by industry for controlling frequency automatically in a broad range of applications, from phase-lock circuits where frequency shift covers a part of one cycle, clear up to cases where the swing is 100 MC or more.

PUT THEM IN YOUR LABORATORY STOCK FOR READY ACCESS BY ENGINEERS

In the planning or technical-proposal stage, a few days' time is often very important. If the stock units prove out your idea but need modification for the final design, we can usually have the new version ready for the bread-board work. We will work closely with you throughout the development to assist you in meeting your prototype delivery date promptly.

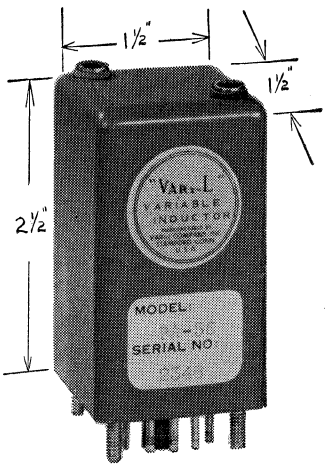
RELIABILITY and REPEATABILITY ARE WATCHWORDS IN OUR PLANT

The repeated re-specification of VARI-L components for critical equipment attests to the effectiveness of this policy. To the best of our knowledge, field failure of one of our inductors has never occurred.

COMING SOON — ULTRA-STABLE VARI-L INDUCTORS

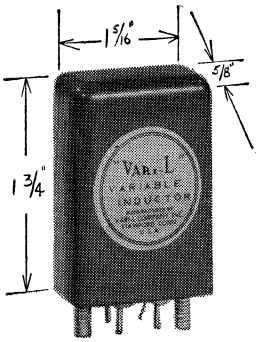
In the past few months our engineers have made a breakthrough in the application of the stabilized molybdenum permalloy powder core to the variable inductor for frequencies from 5 MC downward. This core, while inherently insensitive to temperature change and thus very desirable from a frequency-controlling standpoint, has been thought to be too "stiff" to be saturable with reasonable control power — and therefore not applicable to variable-inductor usage except for low-range modulation. However, we have now produced electrically-variable inductors with ranges as high as 3:1 in frequency, retaining at the same time the stability of the powder core. Hysterisis is very low, so they are ideal for frequency-modulation and telemetering applications. Full data on this line will be published shortly; meanwhile, we shall be glad to send you preliminary data on request.

A partial listing of stock models is given on the facing page. For complete information, send for our General Catalog.



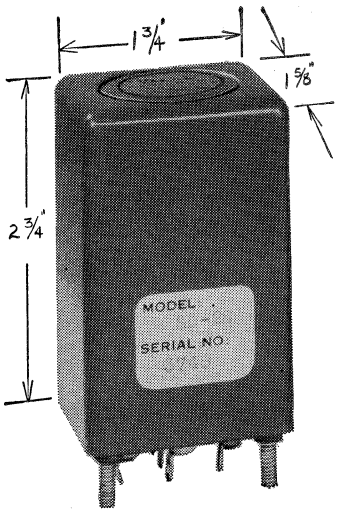
STYLE A

Permanent-magnet bias.
Encapsulated in epoxy.
Very rugged.



STYLE B

Permanent-magnet bias.
Encapsulated in silicone.
Hermetically sealed.



STYLE C

Ovenized packaging of most Style B and some Style A types. Can be supplied with your specified heater voltage and wattage. Internal drift held constant within ±1°C.

Vari-L Company, Inc.

432 FAIRFIELD AVENUE, STAMFORD, CONNECTICUT, Phone: Fireside 8-0091

See YELLOW SECTION for Local Offices, Telephone, etc.

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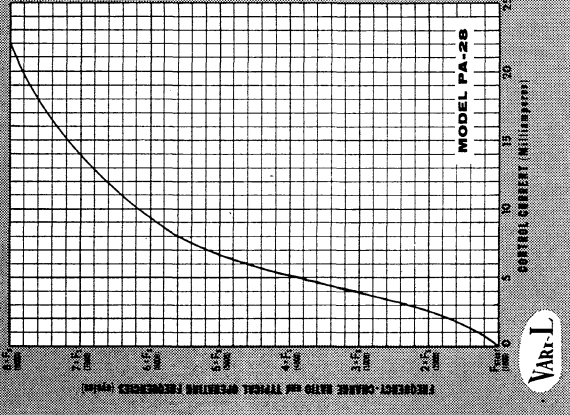
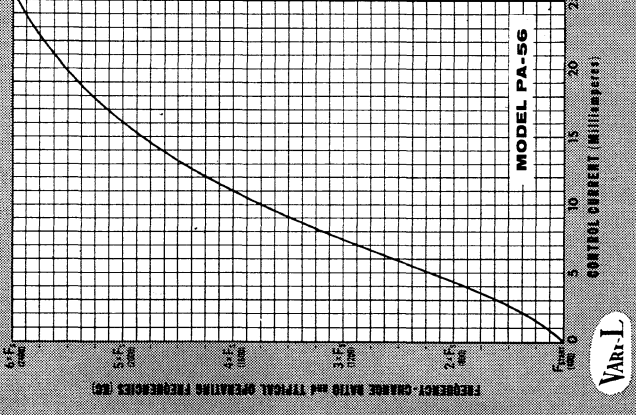
REPRESENTATIVE Vari-L INDUCTORS — GENERALLY IN STOCK FOR IMMEDIATE DELIVERY

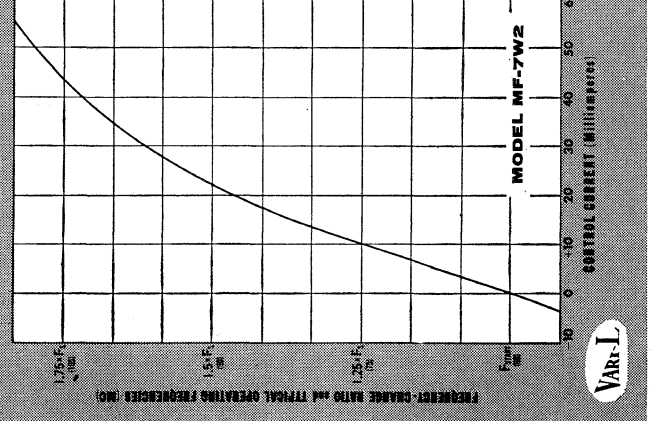
Model No.	Maximum Inductance (± 10%)	Inductance at Saturation	Typical Frequency at zero control current (F-start)†	Value to which frequency at left will increase at saturation	Control Current for saturation	Control winding inductance	Control winding resistance	Style	Price* (Subject to change without notice)	Model No.
EL-210	50 henries	.5 henries	200 cycles	2000 cycles	.50 ma.	10 henries	20 ohms	Not Shown	$52.50	EL-210
PA-28	4 henries	63 mh.	1000 cycles	8000 cycles	50 ma.	7.2 henries	450 ohms	A	$52.50	PA-28
PA-36	1.4 henries	39 mh.	5000 cycles	30 Kc.	50 ma.	7.2 henries	450 ohms	A	$52.50	PA-36
PA-3Y6	500 mh	14 mh.	7500 cycles	45 Kc.	50 ma.	4.3 henries	450 ohms	A	$39.50	PA-3Y6
PA-4U6	100 mh.	3 mh.	15 Kc.	90 Kc.	50 ma.	4.3 henries	450 ohms	A	$39.50	PA-4U6
E-4Y8	40 mh.	.65 mh.	25 Kc.	200 Kc.	40 ma.	15 henries	880 ohms	A	$47.50	E-4Y8
PA-47	5 mh.	.1 mh.	50 Kc.	350 Kc.	40 ma.	7.2 henries	450 ohms	A	$47.50	PA-47
PA-56	.8 mh.	.02 mh.	400 Kc.	2.4 Mc.	40 ma.	5 henries	450 ohms	A	$47.50	PA-56
PA-63	45 μh.	5 μh.	2 Mc.	6 Mc.	50 ma.	3 henries	450 ohms	A	$45.00	PA-63
PA-7X2	4.5 μh	1.1 μh.	8 Mc.	16 Mc.	40 ma.	1.25 henries	775 ohms	A	$45.00	PA-7X2
MF-7R2	1.5 μh.	.37 μh.	20 Mc.	40 Mc.	50 ma.	1.0 henries	380 ohms	B	$32.50	MF-7R2
MF-7W2	.5 μh.	.15 μh.	60 Mc.	110 Mc.	50 ma.	1.0 henries	380 ohms	B	$32.50	MF-7W2
MF-82	.2 μh.	.09 μh.	100 Mc.	150 Mc.	50 ma.	1.0 henries	380 ohms	B	$32.50	MF-82
MF-811	.1 μh.	.065 μh.	180 Mc.	220 Mc.	50 ma.	1.0 henries	380 ohms	B	$32.50	MF-811
OM-101	1.5 μh.	.37 μh.	20 Mc.	40 Mc.	50 ma.	1.0 henries	380 ohms	C	$60.00	OM-101
OM-102	.45 μh.	.15 μh.	60 Mc.	100 Mc.	50 ma.	1.0 henries	380 ohms	C	$60.00	OM-102
OM-103	.16 μh.	.09 μh.	100 Mc.	130 Mc.	50 ma.	1.0 henries	380 ohms	C	$60.00	OM-103

Prices shown are for one unit. Quantity discounts up to 50% allowed on production lots.

†*Good performance can be expected with starting frequencies roughly 50% above or below value shown. (Model MF-811 excepted)*







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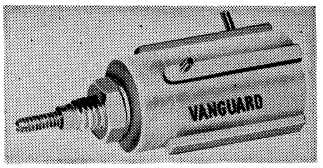
RADIO FREQUENCY COILS AND TRANSFORMERS

ENCAPSULATED VARIABLE INDUCTORS



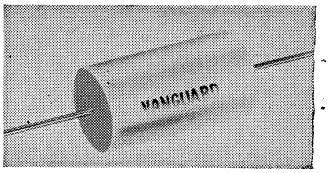
Resistant to **immersion** and moisture and built to meet MIL-C-15305A, Grade 1, Class B (−55 degrees C to +125 degrees C). Encapsulated in "COILGUARD" casting resin under vacuum. Inside of coil form is sealed off from moisture. Units withstand prolonged immersion without water penetrating into the interior (Pat. Pend.).
Tuning by means of powdered iron core. Provision for securely holding adjustment stud in place.

Dimensions:	Body dia.	Body length	Mtg. bushing
Series 1	13/32	15/16 max.	10-32
Series 2	17/32	1-1/16 max.	10-32
Series 3	11/32	11/16 max.	8-32

TEST VOLTAGE: 500 volts rms to ground.
Single winding with start and finish terminals 90° apart is standard.
Tapped or bifilar coils can be supplied.
Inductors with special characteristics will be designed on application.

Vanguard Part No.	Nominal Induct. microhen.	Min. Ind. Range microhen.	Measuring Frequency	Min. Q	Appr. Q at nom. induct.	Max. DC Resist. ohms	Max. current ma	Min. self-reson. freq. MC
SERIES 1			**MC**					
1010	0.10	0.08-0.12	25	90	110	0.02	2500	350
1015	0.15	0.11-0.18	25	90	120	0.02	2500	300
1022	0.22	0.17-0.27	25	100	130	0.02	2500	250
1033	0.33	0.25-0.40	25	100	130	0.03	2500	200
1047	0.47	0.35-0.58	25	100	130	0.04	2500	170
1068	0.68	0.51-0.85	25	100	130	0.05	2500	140
1110	1.0	0.75-1.25	25/7.9	100/70	120/85	0.08	2500	110
1115	1.5	1.1-1.9	7.9	70	85	0.10	2200	90
1122	2.2	1.6-2.8	7.9	70	85	0.17	1700	75
1133	3.3	2.4-4.2	7.9	70	85	0.32	1200	60
1147	4.7	3.5-5.9	7.9	70	85	0.59	920	50
1168	6.8	5.1-8.5	7.9	70	85	1.2	640	40
1210	10	7.5-12-5	7.9/2.5	70/50	85/65	2.2	470	35
1215	15	11-19	2.5	50	65	2.6	440	30
1222	22	16-28	2.5	50	65	3.3	390	25
SERIES 2			**KC**					
2233	33	25-41	2500	70	95	1.8	600	11
2247	47	35-59	2500	70	95	2.2	550	9.2
2268	68	51-85	2500	70	95	2.8	480	7.7
2310	100	75-125	2500/790	65/65	90/90	3.5	430	6.3
2315	150	110-180	790	65	90	5.6	340	5.3
2322	220	170-270	790	65	90	7.1	300	4.3
2333	330	250-410	790	65	90	9.0	270	3.5
2347	470	350-590	790	60	80	10	250	2.3
2368	680	510-850	790	60	75	13	220	1.9
2410	1000	750-1250	790/250	55/35	70/50	20	180	1.5
2415	1500	1100-1800	250	35	50	33	140	1.3
2422	2200	1700-2700	250	35	50	38	130	1.0
2433	3300	2500-4100	250	35	50	49	110	0.8
2447	4700	3500-5900	250	35	50	58	100	0.7
2468	6800	5100-8500	250	35	50	112	75	0.6
2510	10000	7500-12500	250/79	35/25	50/30	140	70	0.5
SERIES 3			**MC**					
3010	0.10	0.08-0.12	25	70	90	0.02	2000	350
3015	0.15	0.12-0.18	25	80	100	0.03	2000	300
3022	0.22	0.17-0.27	25	80	100	0.03	2000	250
3033	0.33	0.26-0.40	25	80	110	0.04	2000	200
3047	0.47	0.37-0.57	25	80	110	0.05	2000	170
3068	0.68	0.53-0.82	25	80	110	0.07	2000	140
3110	1.0	0.78-1.22	25/7.9	80/55	100/70	0.11	1700	110
3115	1.5	1.2-1.8	7.9	55	70	0.21	1200	90
3122	2.2	1.7-2.7	7.9	55	70	0.39	920	75
3133	3.3	2.6-4.0	7.9	55	70	0.75	660	60
3147	4.7	3.7-5.7	7.9	55	70	1.4	480	50
3168	6.8	5.4-8.2	7.9	55	70	1.6	450	40
3210	10	7.8-12.2	7.9/2.5	55/35	70/50	3.2	320	35
3215	15	12-18	2.5	35	50	4.2	280	30

ENCAPSULATED FIXED R. F. CHOKES

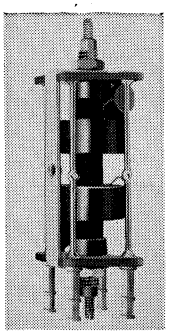


Resistant to **immersion** and moisture and built to meet MIL-C-15305A, Grade 1, Class B (−55 degrees C to +125 degrees C).
Inductance tolerance: ±5% (±10% under 1 microhenry).
Closer tolerances on application.
Any intermediate inductance value can be supplied.

Dimensions:	Body dia.	Body length	Lead dia.	Lead length
Series 101	3/16 max.	15/32 max.	.025	1¼ min.
Series 102	5/16 max.	15/16 max.	.028	1¼ min.
Series 103	9/16 max.	1-1/16 max.	.028	1¼ min.

Vanguard Part No.	Apparent Induct. microhen.	Measuring Frequency	Min. Q	Max. DC Resist. ohms	Max. current ma	Min. self-reson. freq. MC
SERIES 101		**MC**				
11010	0.10	25	55	0.02	2000	400
11015	0.15	25	55	0.02	2000	400
11022	0.22	25	55	0.03	2000	390
11033	0.33	25	55	0.05	2000	320
11047	0.47	25	55	0.08	2000	270
11068	0.68	25	55	0.15	1500	220
11110	1.0	25	55	0.30	1000	180
12115	1.5	7.9	55	0.07	2000	120
12122	2.2	7.9	55	0.09	1900	100
12127	2.7	7.9	55	0.12	1600	90
12133	3.3	7.9	55	0.15	1500	80
12139	3.9	7.9	55	0.16	1400	75
12147	4.7	7.9	55	0.20	1300	65
12156	5.6	7.9	60	0.30	1000	60
12168	6.8	7.9	60	0.39	920	55
12182	8.2	7.9	60	0.45	860	50
12210	10	7.9	60	0.60	740	45
12212	12	2.5	65	1.0	570	40
12215	15	2.5	70	1.2	520	35
SERIES 102		**MC**				
22222	22	2.5	80	0.5	1000	30
22227	27	2.5	80	0.7	840	27
22233	33	2.5	80	0.9	740	24
22239	39	2.5	80	1.2	640	22
22247	47	2.5	80	1.5	570	20
22256	56	2.5	80	2.0	500	18
22268	68	2.5	80	2.6	440	17
22282	82	2.5	90	3.4	380	15
22310	100	2.5	90	4.5	330	14
22312	120	2.5	90	6.0	290	13
SERIES 103		**KC**				
32315	150	790	80	4	400	6.5
32322	220	790	80	5	360	5.0
32333	330	790	80	7	300	4.4
32347	470	790	80	9	270	3.6
32368	680	790	80	12	230	3.0
32410	1000	250	70	18	190	2.5
32415	1500	250	70	23	170	2.0
32422	2200	250	70	30	150	1.7
32433	3300	250	70	40	130	1.3
32447	4700	250	70	51	110	1.1
32468	6800	250	70	64	100	0.9
32510	10000	79	50	80	90	0.6

TUNED CIRCUITS — ENCAPSULATED IN "COILGUARD" RESIN or R.F. Lacquer Impregnated



Encapsulated units are resistant to **immersion** and moisture, and are built to meet MIL-C-15305A, Grade 1, Class B (−55 degrees C to +125 degrees C).
("Q-max" impregnated units: −55 degrees C to +85 degrees C.)

CONSTRUCTION DETAILS:
Turret type terminals.
Metal bracket secures the entire structure to the aluminum container and connects adjusting studs and bushings to ground.
Windings and capacitors are connected to rigid bus wires made of hard drawn copper.
IMPREGNATION AND ENCAPSULATION: Choice of two finishes:
(1) Windings impregnated with "Q-max R. F. lacquer."
(2) Entire unit encapsulated in "COILGUARD" casting resin under vacuum. Inside of coil form is sealed off from moisture. Units withstand prolonged immersion without water penetrating into the interior.
COUPLING: Double tuned circuits: slightly below critical (approx. 0.8 of critical) is standard (capacity bucking).

Dimensions:	Can	Mtg. Studs
Series 10 and 20	3/4 x 3/4 x 2	6-32 x 3/8 on 7/8 centers.
Series 30	3/4 x 3/4 x 2-3/8	6-32 x 3/8 on 7/8 centers.

Q versus FREQUENCY: (Typical Values)

	50 KC	100 KC	200 KC	450 KC	1000 KC	1500 KC	2000 KC	5 MC	10 MC	20 MC	50 MC
Q (series 10)	26	33	40	60	75	80	75	80	90	120	150
Q (series 20)	40	50	60	90	110	120	110				
Q (series 30)	50	65	80	120	130	140	120	110	120		

ORDERING INFORMATION. Specify:
(1) Circuit: single-tuned or double-tuned, taps. Max. number of terminals: 6.
(2) Type: Series 10, 20 or 30.
(3) Protective finish: encapsulated in "COILGUARD" (series 10-P, 20-P and 30-P) or "Q-max" coated (series 10, 20, and 30).
(4) Frequency: **any** frequency between 50 KC & 100 MC.
(5) Inductance: **any suitable standard** value listed. Fixed capacitors will be built in if in the range of 10 to 510 mmf, otherwise left out.
(6) Special mechanical features: 4-40 mounting bolts, right angle brackets, etc.
(7) Special electrical features: extra winding, additional capacitors, non-standard connections, special coupling, etc.

Inductance	Nominal Inductances (adjustment range ±10% min.)					Recommended min. fixed capacitor, mmf*
	microhenries					
0.1	0.15	0.22	0.33	0.47	0.68	10
1	1.5	2.2	3.3	4.7	6.8	25
10	15	22	33	47	68	50
100	150	220	330	470	680	75
	millihenries					
1	1.5	2.2	3.3	4.7	6.8	100
10	15	22				100

*Values should be at least double for encapsulated circuits.

VANGUARD ELECTRONICS COMPANY
3384 MOTOR AVE., LOS ANGELES 34, CALIF., TExas 0-7344, VErmont 8-6628

See YELLOW SECTION for Local Offices, Telephone, etc.

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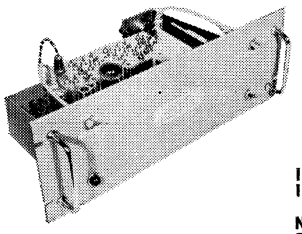
advances in **RF** *techniques*

In recent years, Applied Research Inc. has contributed notably to the state of the art with unique originations in RF components and equipments. Much must remain undiscussed; the production items below are representative.

BROADBAND RF AMPLIFIERS

40-1000 mcs

Model HFW Amplifiers cover an octave of frequency. Their truly exceptional performance features low noise, high gain with low power drain. Units are available in weatherproof cases for antenna mounting or other outdoor installation.



SPECIFICATIONS
(condensed)

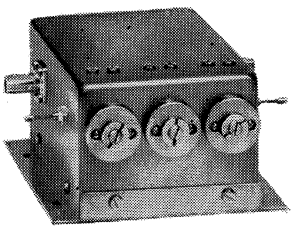
Model HFW-302

Input freq.	**300 to 600 mcs**
Input, output VSWR	**Less than 1.5 in passband**
Noise figure, average	**7 db**
Gain	**20 db**

BANDPASS FILTERS

30-2000 mcs

Model HFF and HFF-T Bandpass Filters are rugged, reversible in operation, remarkable in performance (which approximates theoretical expectations). Advanced filter designs are also available for antenna couplers and diplexers.



SPECIFICATIONS
(condensed)

Model HFF-T3

Center freq.	**425 mcs**
Bandwidth	**50 mcs**
Insertion loss	**0.15 db**
VSWR	**1.03 in passband**

UHF CONVERTERS

300-900 mcs

Model UHC-R Converters provide the ultimate in sensitivity and performance, featuring low noise, high image and spurious rejection, minimum adjacent channel interference.

TYPICAL SPECIFICATIONS
(condensed)

(Model UHC-R-4.5)

Input freq.	**400-525 mcs**
RF bandwidth	**10 mcs**
Noise figure	**5.5 db**
Output bandwidth	**5 mcs**
Converter gain	**50 db (min.) overall**

Literature is available on all ARI systems and equipments.

Applied Research inc.

76 S. Bayles Avenue, Port Washington, N.Y., Port Wash. 7-8707

FIXED PAD ATTENUATORS & TERMINATIONS

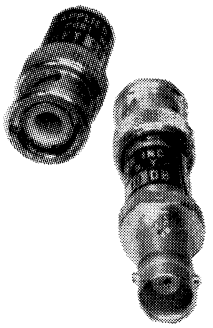
DC to 2500 mcs

FOR TYPES BNC, TNC, & N CONNECTORS

Applied Research Inc. has developed an integrated line of fixed pad attenuators, terminations and impedance matching transformers. These products provide means for rapid and accurate division of voltages over the frequency range of DC to 2500 mcs, and for the matching of different impedances with minimum loss over a broad frequency band. The unit cost is within the practical price range of the large and small equipment user, as well as the research and experimental user.

Attenuators and Terminations

TYPE BNC CONNECTORS



The need for fixed pad attenuators and terminations equipped with Type BNC connectors is met by Applied Research Inc. Types HFA-50 and HFA-75 attenuators, and Types HFT-50 and HFT-75 terminations.

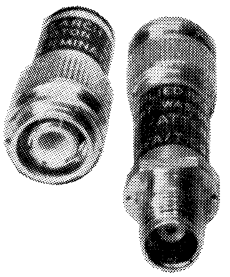
Type HFA-50 and HFA-75 fixed pad attenuators are usable in the DC to 1000 mcs range. The impedance of Type HFA-50 is 52.5 ohms and that of Type HFA-75 is 75 ohms. Both models have a VSWR of 1.2 up to 1000 mcs. Standard models of Type HFA-50 are available in attenuation values of from 1 to 20 db. Type HFA-75 may be had in standard models of 2, 3, 6, 10, or 20 db attenuation.

The accuracy of both Type HFA-50 and HFA-75 is ±½ db. The average power rating is ½ watt.

In the same family of Type BNC equipment, Applied Research Inc. presents the Type HFT-50 and HFT-75 coaxial terminations. Impedance of Type HFT-50 is 52.5 ohms, while that of Type HFT-75 is 75 ohms. Their maximum VSWR, up to 1000 mcs, is 1.2.

Attenuators and Terminations

TYPE TNC CONNECTORS



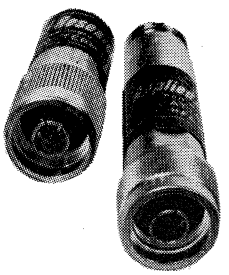
Users of Type TNC-connector equipped devices will welcome the new Applied Research Inc. Type HFA/T fixed pad attenuators and Type HFT/T terminations.

Type HFA/T-50 and Type HFA/T-75 fixed pad attenuators are usable in the DC to 2000 mcs range. The impedance of Type HFA/T-50 is 52.5 ohms and that of Type HFA/T-75 is 75 ohms. Both models have a maximum VSWR of 1.2 up to 2000 mcs. Standard models of Type HFA/T-50 are available in attenuation values of from 1 to 20 db. Type HFA/T-75 may be had in standard models of 2, 3, 6, 10, or 20 db attenuation. The accuracy of both Type HFA/T-50 and HFA/T-75 is ±½ db to 1000 mcs and ±¾ db to 2000 mcs. The average power rating is ½ watt.

Coaxial terminations Type HFT/T-50 and Type HFT/T-75 complete the additions to the TNC family. Type HFT/T-50 has an impedance of 52.5 ohms, while that of Type HFT/T-75 is 75 ohms. Their maximum VSWR up to 2000 mcs is 1.2.

Attenuators and Terminations

TYPE N CONNECTORS



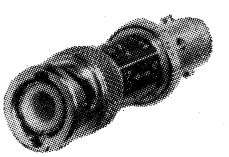
For applications using Type N connectors, a family of fixed attenuators and a termination utilizing these connectors are now available.

Type HFA/N-50 fixed pad attenuators have a nominal impedance of 52.5 ohms. They are usable up to 2500 mcs. The maximum VSWR, from DC to 2500 mcs, is 1.2. The average power rating is ½ watt. The Type HFA/N-50 is available in standard models for values of attenuation of 1, 2, 3, 4, 6, 10, 12, 15, and 20 db.

The need for a Type N coaxial termination is met by Applied Research Inc. Type HFT/N-50 termination. It has an impedance of 52.5 ohms and a maximum VSWR of 1.2 from DC to 2500 mcs.

IMPEDANCE TRANSFORMERS

DC to 1000 mcs



The Type HFAM Impedance Matching Transformers provide an expedient means of matching impedances as follows 50/75; 50/93; 75/50; 75/93; 93/50; 93/75. Advantages include operation at minimum loss over a broad band of frequencies, small size, maximum VSWR of 1.2 at 1000 mcs.

See YELLOW SECTION for Local Offices, Telephone, etc.

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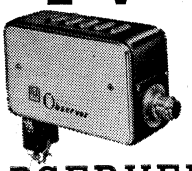
CLOSED CIRCUIT TV EQUIPMENT...

for a fully automatic industrial tv camera system

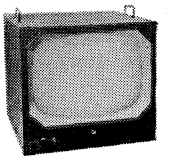


OBSERVER

Model TVC-1B Industrial TV Camera

A new crystal-controlled camera for use in industry, education, science and other closed circuit applications. Complete unit includes Vidicon tube, coated f/1.9 lens, control generator and 25 feet of control cable. The control generator may be located up to 500 feet from the camera. It provides two RF outputs and one high definition video output.

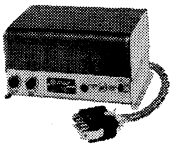
Image may be viewed on standard TV sets located up to ½ mile from the camera, before preamplification is required. The camera uses fully interlaced, 525 — line scanning for maximum resolution. By-Pass switch permits random interlace operation. Traverse control permits camera to be focused from 2 inches to infinity. **$1995 net**



VIDEO MONITOR

Model DVM — 17

A high resolution monitor for closed-circuit TV systems, television studios and control centers, and laboratory and manufacturing operations. Video response flat within 1 db up to 10 Mc. Handles peak-to-peak voltage range from 0.25 to 5.0. Features exclusive DC restorer circuit. Aluminized picture tube. **$330 net**



AUTOMATIC LIGHT COMPENSATOR

Model ALC

Used with "Observer" camera to maintain constant picture quality during continuously changing light levels over 150 to 1 range Installed between TVC-1A Camera and TVC-1A Control Generator. **$240 net**

BLONDER-TONGUE LABORATORIES, Inc.
9 Alling Street, Newark 2, N. J.

INDUSTRIAL TV CAMERAS ● TV SYSTEMS ● VHF AND UHF AMPLIFIERS and CONVERTERS ● TV ACCESSORIES

Order from Local Electronic Parts Distributor or Write for List.

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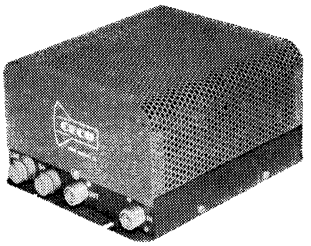
CECO Community Engineering Corporation

State College, Pa. — **Electronic Equipment for Television Systems** —

The CECOPRINT AMPLIFIER — A printed-circuit wide band distributed amplifier. Advanced printed wiring techniques plus quantity production brings you this low noise, rugged, reliable distributed amplifier for CATV, hotel, motel, apartment house, cable theatre, educational or other closed circuit television systems — at low cost. The CECOprint is an excellent amplifier for laboratory or other uses where wide band distributed amplifier is required. Twelve channel operation, continuous operation in spite of tube failure, long tube life, no tuning adjustments necessary, top quality TV reception in color or black and white, unexcelled cascadability.



CECOPRINT AMPLIFIER

SPECIFICATIONS: All models have a four-stage, three section, distributed low pass circuit; twelve 6AK5 tubes; self-contained power supply, silicon rectifiers, power input 117 v ac, 46 watts; frequency response plus or minus 1.5 db; noise figure 8.5 db at 80 mc; output level 40 db/mv; input level, any single or multiple channel, 0 to 15 db; manual gain control with 30 db range on 10-90 models, and 20 db range on 216 model. Overload point is not effected by setting of gain control. Unit has UHF connectors Input and Output for trunk line; enclosure is sheet steel, grey, perforated metal cover; dimensions 6¾"w X 7⅛" l X 4" h Model 10-90E is an equalized version with 6 db tilt over low VHF band.

MODEL 10-90
10 to 90 mc.
40 db gain
Net — $139.50

MODEL 10-90E
10 to 90 mc.
40 db gain Ch. 6
Equalized
Net — $149.50

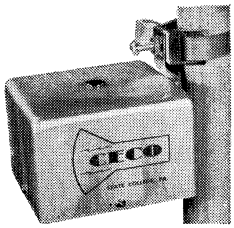
MODEL 216
54 to 216 mc.
20 db gain
Net — $139.50

CECO MATCHING TRANSFORMERS — Features perfect impedance matching between 72 ohm unbalanced and 300 ohm balanced line, provides complete isolation between line and ac-dc receivers, gives 6 db additional signal to TV set. Flatness of plus or minus 1 db across entire band Shielded Powdered iron transformer. All channels 2 to 13 (54 to 216 mc.)

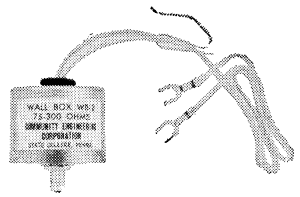
Model MT — 2

Surface mounting, twin lead screw terminals, solderless connector for RG-59/U cable Net price, $3.50

For antenna or mast mounting. Weatherproof construction, aluminum enclosure, UHF connector, mast clamp included: Net price, $7.50



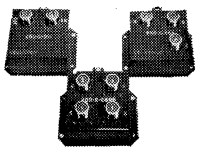
Model MT — OD



Model MT — 1

Fastens to back of TV set with hook, has ten inch lead with spade terminals for easy hook-up to set, and solderless connector for RG 59/U cable. Net price, $3.50

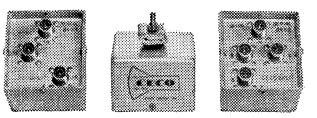
CECOSPLITS: passive line splitters — 36 low loss models. Order by model number from chart below showing frequency range, outlets, attenuation, construction and fittings. Specify type fittings and construction. All models have impedance 75 ohms In and Out, flatness plus or minus 1 db or better, power loss less than .5 db, high isolation.



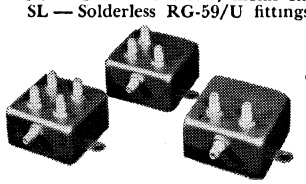
Series UC

Model No.	Frequency Range	Number of Outlets	Attenuation per outlet	Net price/ type U*	UC*	SL*
100-S-33*	10 to 90 mc.	2	3 db each	$ 9.50	$5.75	$4.95
100-S-555*	10 to 90 mc.	3	5 db each	10.95	6.75	5.95
100-S-6666*	10 to 90 mc.	4	6 db each	12.50	7.75	6.95
100-S-014*	10 to 90 mc.	2	0 db,14 db	9.50	5.75	4.95
100-S-024*	10 to 90 mc.	2	0 db,24 db	9.50	5.75	4.95
100-S-61*	10 to 90 mc.	2	6 db, 1 db	9.50	5.75	4.95
200-S-33*	54 to 216 mc.	2	3 db each	9.50	5.75	4.95
200-S-555*	54 to 216 mc.	3	5 db each	10.95	6.75	5.95
200-S-6666*	54 to 216 mc.	4	6 db each	12.50	7.75	6.95
200-S-014*	54 to 216 mc.	2	0 db,14 db	9.50	5.75	4.95
200-S-024*	54 to 216 mc.	2	0 db,24 db	9.50	5.75	4.95
200-S-61*	54 to 216 mc.	2	6 db, 1db	9.50	5.75	4.95

* Specify construction and fittings by "U", "UC", "SL":
U — UHF connectors, handles cable-powering, aluminum enclosure weatherproof construction, mounting clamp, outdoor use.
UC — UHF connectors, metal enclosure, indoor use.
SL — Solderless RG-59/U fittings, metal enclosure, indoor use



Series U



Series SL

CECO manufactures a complete line of equipment for R-F distribution of television signals, including ultra-low noise preamplifiers (UHF and VHF), cable-powered amplifiers, power supplies, wide band sweep generators, automatic level control units, and others.

Order from Local Electronic Parts Distributors or Write for List.

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CLOSED-CIRCUIT TELEVISION SYSTEMS

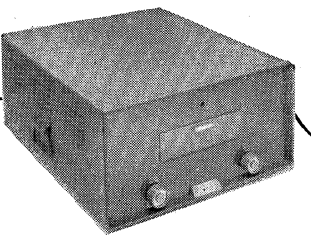
...for Modern Visual Communications

The Industrial Products Division of ITT manufactures a complete, quality line of closed-circuit television systems at low cost, backed by a worldwide network of service specialists. Our systems engineers are ready at all times to design and install a visual communications system exactly suited to meet your specific needs.

THE BASIC SYSTEM

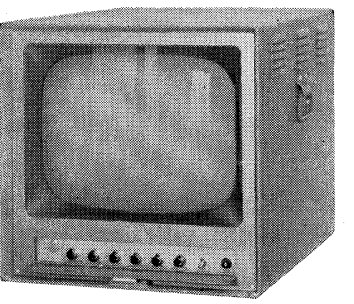
VIDICON CAMERA MODEL 701

This is the eye of the system. It can watch an action or process for you in locations that would be too inaccessible or hazardous for you to approach. Every ITT Vidicon Camera is equipped with an electronically controlled automatic light compensator (no moving parts) that instantly and automatically accommodates light changes in the order of 10,000 to 1 with no change in iris setting. Optical focus is remote controlled. Only one multiconductor cable is required for both video and audio communication between camera and control unit. Special circuits are also provided to protect the Vidicon tube when operated without sweep.



CAMERA CONTROL UNIT MODEL 702

This is the heart of the system. It contains all of the electronic apparatus necessary both to power the camera and to transmit the television image to the monitor. Major factors in picture stability and quality are the high-quality sync generator and electronically regulated power supply housed within this unit.



VIDEO MONITOR MODEL 717-C

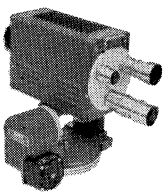
This is the screen that presents the whole, clear picture to you while you observe at a safe and convenient location. The ITT Video Monitor provides what is generally accepted as the finest picture in closed-circuit television. It offers wide bandwidth, 600-line resolution, and stable interlace.

OTHER ITT SYSTEMS COMPONENTS

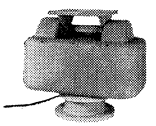
The completeness of ITT's full line of closed-circuit television systems components enables our systems engineers to design specially tailored systems — no matter how complex — without having to compromise because of limiting factors Since all components are compatible, any basic ITT TV system can be flexibly expanded or modified to meet changing conditions.

HERE ARE SOME OF THE STANDARD COMPONENTS USED IN ITT SYSTEMS:

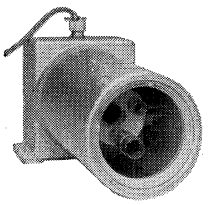
CAMERA COMPONENTS AND ACCESSORIES



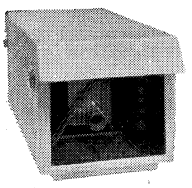
VIDICON CAMERA MODEL 701 WITH 3-LENS TURRET AND PAN AND TILT



OUTDOOR PAN-AND-TILT UNIT



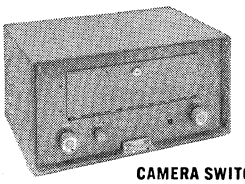
EXPLOSION-PROOF HOUSING



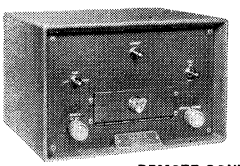
ALL-WEATHER HOUSING

3- and 4-lens turret cameras; remote-control pan-and-tilt units, both indoor and outdoor models; camera enclosures for extreme environmental conditions include explosion-proof, all-weather, and underwater housings; tripods; standard, zoom, and other special-purpose lenses.

CONTROLS



CAMERA SWITCHER FOR MULTIPLE CAMERAS

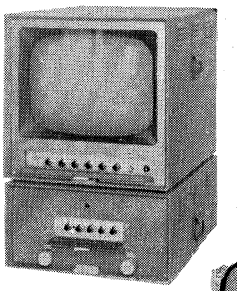


REMOTE CONTROL BOX

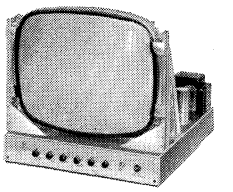
When two or more Vidicon Cameras are used in a system, the Camera Switcher provides a means of selecting in any sequence the camera view it is desired to monitor.

The Remote Control Box provides optional controls for remote optical focus, turret switch, pan and tilt, zoom and iris — even for windshield wiper on All-Weather Housing

MONITORS



VIDEO MONITOR MODEL 717-C MAY BE POSITIONED ON TOP OF CONTROL UNIT MODEL 702-C



17" MONITOR CHASSIS

ITT Video Monitors are available in both cabinet and chassis models and in all picture tube sizes from 8" through 27". They feature aluminized picture tube, 600-line resolution, polaroid filter glass (removable from front). Controls behind the protective door on the control panel include brightness, contrast, power on-off, horizontal hold, vertical hold, horizontal drive, height, and vertical linearity. May be operated in parallel with other monitors and optionally from external sync.

Complete information on any and all products of ITT's Industrial Products Division – including Closed-Circuit Television Systems, Custom Power Equipment, Infrared Equipment, Large-Screen and Bar-Graph Oscilloscopes, and Autopilots – available on request.

INDUSTRIAL PRODUCTS DIVISION

International Telephone and Telegraph Corporation
15191 Bledsoe Street, San Fernando, California

REGIONAL OFFICES: NEW YORK (Lodi, N.J.), PRescott 3-1550; **CHICAGO,** LOng Beach 1-3936; **DALLAS,** FLeetwood 1-4468; **LOS ANGELES** (San Fernando), EMpire 7-6161

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THE NEW Interstate TV CAMERA

Remote observation of hazardous mechanical, chemical or nuclear operations are feasible with either the Interstate Electronics Corporation closed-circuit color television system or the very-high-resolution monochrome television system where very fine details must be observed. The television cameras are remotely focused and aimed from a safe position by the observer. The Zoom-type lens allows remote control of exposure and focal length. The Television Department of Interstate Electronics Corporation is primarily interested in areas of performance beyond the present state of the art. Equipment and systems are available to customer's specifications in the area of color, very high resolution, flying spot, slow-scan and 3-D techniques. Call or write Interstate Electronics Corporation — we will be happy to supply quotations and answer any questions concerning your specific application.

Interstate

ELECTRONICS CORPORATION

707 East Vermont Avenue
Anaheim California

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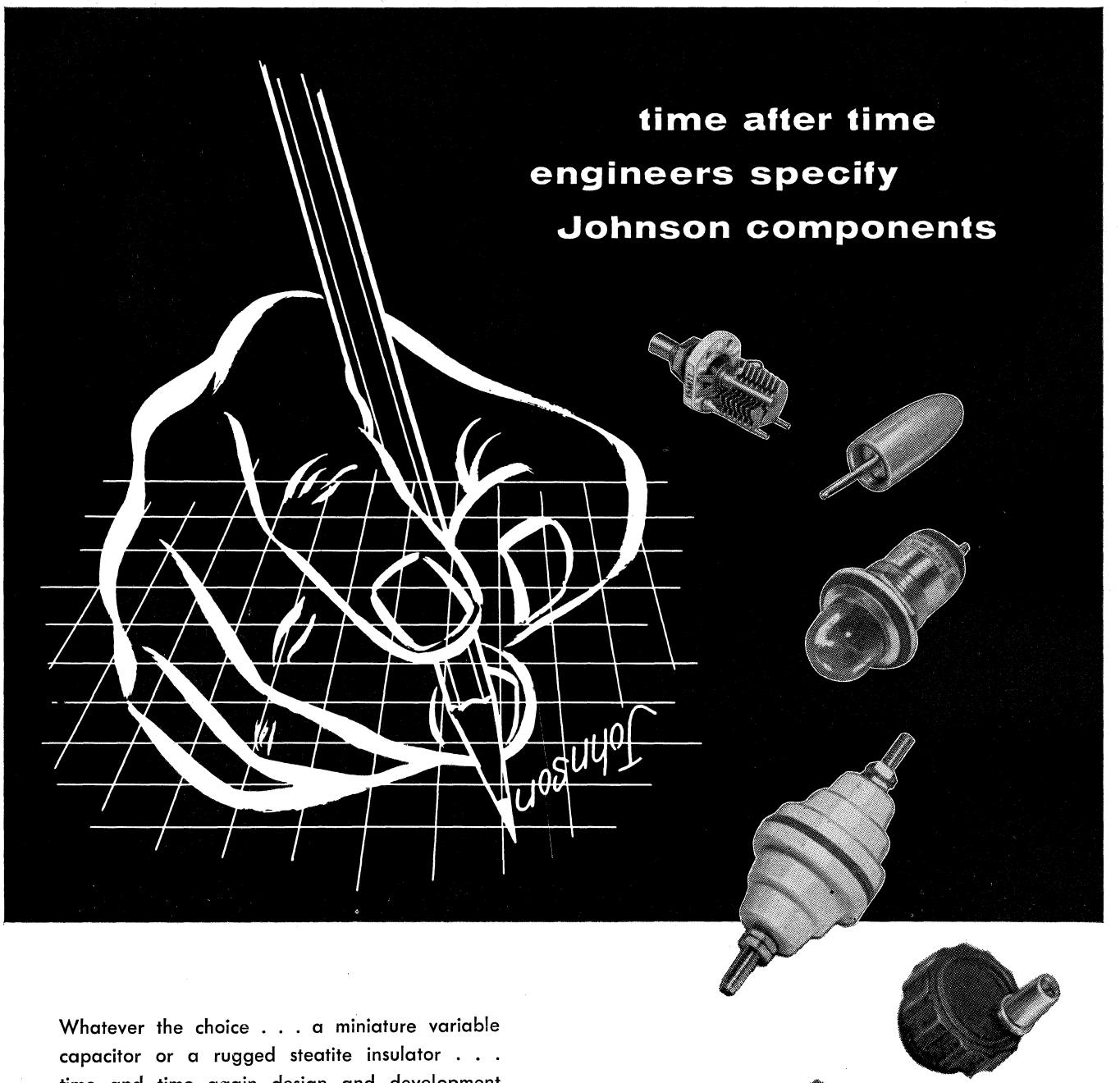

Whatever the choice . . . a miniature variable capacitor or a rugged steatite insulator . . . time and time again design and development engineers specify Johnson components. From the smallest nylon connector to the largest commercial inductor, Johnson components are functional — rugged in design — backed by sound, imaginative engineering.

Our complete General Products Catalog is presented in full detail within the pages of your current copy of Radio Electronics Master — refer to Page 424 for the complete listing.

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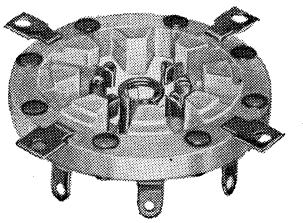
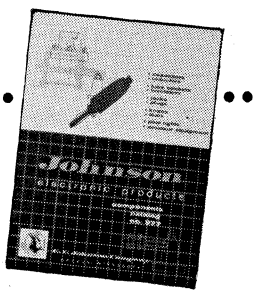
- INSULATORS • PLUGS • JACKS • KNOBS • DIALS
- PILOT LIGHTS • AMATEUR EQUIPMENT



Free Catalogs

Copies of the following E. F. Johnson catalogs are available on request:

General Products Catalog 977b
Pilot Light Catalog 750a
Industrial and Broadcast Catalog 535
Socket Standardization Booklet 536
Amateur Equipment Catalog 959



E. F. JOHNSON CO.

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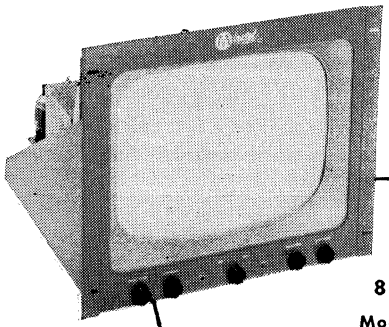
Miratel INCORPORATED

TELEVISION MONITORS
CONELRAD EQUIPMENT
INDUSTRIAL TELEVISION

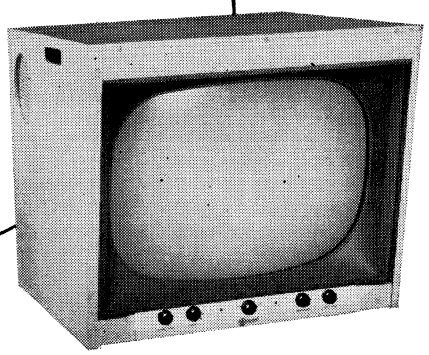
A COMPLETE LINE OF TELEVISION MONITORS
FOR
INDUSTRY, EDUCATION & BROADCASTERS

PROVEN IN THOUSANDS OF INSTALLATIONS
A MODEL TO FIT EVERY APPLICATION



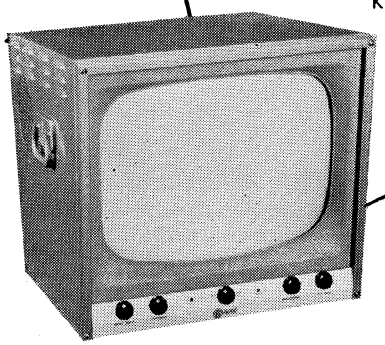
RACK MOUNT
8″—14″—17″ Sizes

Model No.	Price
K59/8R	$221
K59/14R	$228
K59/17R	$234



VENEER CABINET
14″—17″—21″—24″ Sizes

Model No.	Price
K59/14	$215
K59/17	$219
K59/21	$259
K59/24	$359



All of the above models feature 8 mc. bandwidth, plug-in construction, looping video input, front controls, composite video from .5 to 1.5 volts pp, sync input for use with non-composite video, aluminized kine.

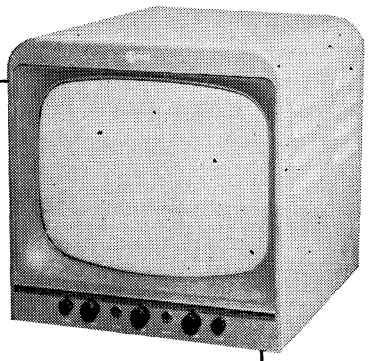
METAL CABINET
Professional 17″ Size

Model No.	Price
K59/17M	$284

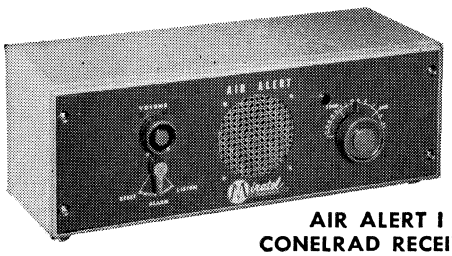
METAL CABINET—ECONOMY MODELS
8″—17″ Sizes

- Front Panel Controls
- Definition Over 500 lines
- Aluminized Kine
- Single Chassis Construction
- Gray Hammer Finish
- .3 Volts to full Contrast

L59B/17 **$189**
L59B/8 **$199**

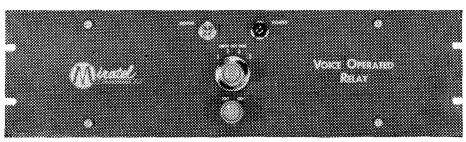


CONELRAD EQUIPMENT AND VHF COMMUNICATIONS RECEIVERS



AIR ALERT I
CONELRAD RECEIVER
$89.50—Rack
$99.50—Cabinet

AIR ALERT II
CONELRAD RECEIVER
$46.50



VOICE OPERATED RELAY
Model V-100—$120
Model V-100S—$125
Model V-100-50—$120
Model V-100S-50—$125

Miratel INCORPORATED

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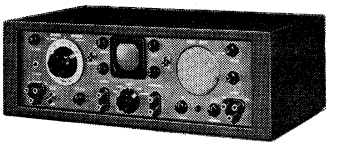
SPECIFIC PRODUCTS

WWV RECEIVERS

MODEL WWVC SPECIFICATIONS:

1 microvolt sensitivity. Frequencies 2.5, 5, 10, 15 and 20 mc crystal controlled. Double conversion 1st IF at 2 mc, 2nd IF 455 kc with crystal converter. Selectivity derived from Collins mechanical filter. AGC and AVC. 5 position function switch, 2" oscilloscope, 3" speaker. Size: 5¼ x 19 rack mount depth 9½", 6½" x 20¼" x 6½" cabinet. Weight 25 lbs.; with cabinet, 35 lbs.

Price: Rack mount $690.00 Cabinet $741.00

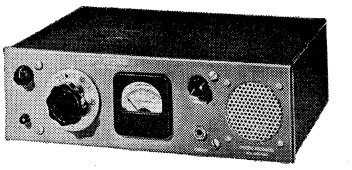


MODEL WWVC
WWV COMPARATOR

MODEL SR-7-H, -V OR -R SPECIFICATIONS:

Better than 2 microvolt sensitivity. Frequencies 2.5, 5, 10, 15 and 20 mc crystal controlled. Double conversion 2 mc first IF crystal converter to 175 kc second IF. Selectivity 6.5 kc at 20 db down. High and low Z antenna inputs. S Meter and 10 k load output jack and speaker. Shipping weight 24 lbs. Horizontal bench model SR7-H 3½" x 12¼" x 8½" deep. Vertical bench model 12¼" x 3½" x 8½" deep. Rack model 3½" x 19" x 8½" deep, designated SR7-R.

Price: SR7-H or V $217.50 SR7-R $220.50

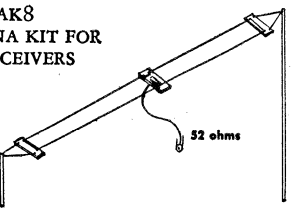


MODEL SR7
WWV RECEIVER

MODEL AK-8 ANTENNA KIT:

Completely assembled terminated folded dipole designed for optimum reception on 2.5, 5, 10, 15 and 20 mc. 50 foot extension lengths of coax, Model ACE50.

Antenna kit price: AK-8 $39.50 ACE50 $14.65



MODEL AK8
ANTENNA KIT FOR
WWV RECEIVERS

ADJUSTABLE POWER SUPPLY

BENCHPAC MODEL BP 200A SPECIFICATIONS:

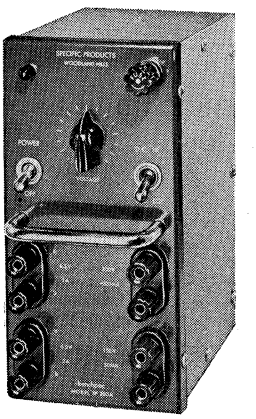
Hi range 150 volts to 300 volts. Lo range 0 to 150 volts. 150 MA available throughout (200 MA at high end of each range) plus a fixed 150 volts 50 MA at all times. Standby position disconnects B plus & bias voltage leaving filament power on. Filament voltage 2 windings of 6.3 V at 2 amp can be either series or parallel connected. 4" wide x 8" deep x 7½" high. Shipping weight 14 lbs.

Price: BP200A $89.50

BENCHPAC MODEL BP 100A SPECIFICATIONS:

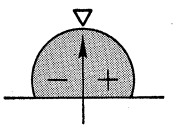
Output 60-350 volts 50 MA max at 275 volts, filament voltage 6.3 volts at 2 amps. Size: 4" wide x 8" deep x 7½" high. Shipping wt. 10 lbs.

Price: BP100A $49.50



BENCHPAC
MODELS BP100A
BP200A

Send for complete specifications. Prices & specifications subject to change without notice. F.O.B. Woodland Hills, Calif.; Net 30 days.



SPECIFIC PRODUCTS

P. O. Box 425; 21051 Costanso, Woodland Hills, California

See YELLOW SECTION for Local Offices, Telephones, etc.

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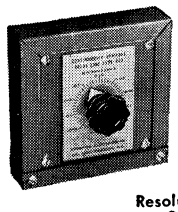
CONTINUOUSLY VARIABLE DELAY LINES



TYPE 505

Resolution Time 80 uus

TYPE 500: Maximum delay 0.05 us to 1.2 us; Zo 300 ohms to 1500 ohms.

TYPE 521: Maximum delay 6.1 us to 15.25 us; Zo 500 ohms.

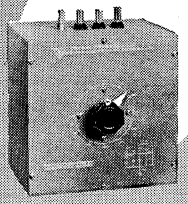
TYPE 801: Maximum delay 50 us to 2000 us, Zo 500 ohms.

TYPE 20A and 20B: Frequency response up to 500 mc; resolution time less than 0.1 uus; Zo 50 ohms, 75 ohms or 93 ohms.

TYPE 611: Maximum delay 8 us to 12 us; Zo 75 ohms to 400 ohms.

STEP VARIABLE DELAY LINES

TYPE 606



Rise Time Less Than 4% of the Time Delay

TYPE 602: Equal input and output impedance, 75 ohms to 400 ohms; total delay up to 27.5 us.

TYPE 605: 60 steps; Zo 75 ohms to 1000 ohms; maximum delay 0.6 us to 600 us.

TYPE 606: 120 steps; Zo 75 ohms to 1000 ohms; maximum delay 1.2 us to 1200 us.

TAPPED DELAY LINES

TYPE 6T

High Accuracy, Meet MIL Spec.

Number of taps can be equal to number of sections.

Total Delay: 0.5 us to 500 us.

TYPE 6T—10 sections; **7T**—30 sections; **8T**—20 sections; **9T**—100 sections.

TYPE 5T: Rise time 3% of total time delay; Zo 50 ohms to 2000 ohms; max. delay 0.5 us to 500 us.

FIXED DELAY LINES

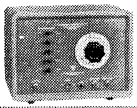
ADVANCE ELEC. CO.

TYPE 6C

TYPE 6C: ¼" dia. x 5" long; delay 0.1 us to 0.6 us; Zo 750 ohms to 4000 ohms.

Custom built delay lines meet MIL specifications.

DELAY NETWORK LINES



TYPE 2011 and 2012

Total delay up to 16 us; resolution time less than 80 uus input impedance 1 megohm, output 300 ohms.

AD-YU ELECTRONICS LAB., INC.

Formerly ADVANCE 249 Terhune Ave., Passaic, N. J.

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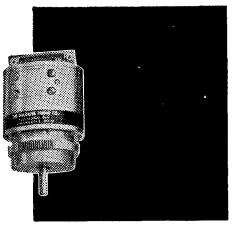
Fused Junction Silicon Semiconductors

Baldwin®

precision shaft angle analog-to-digital encoders in 5 standard models:

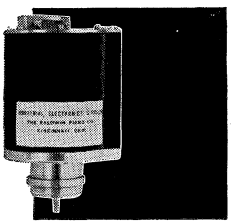
13, 16 and 18 digit / photoelectric readout / reflected binary code.*

SUBMINIATURE 13-DIGIT ENCODER *for airborne or other limited space applications. Detailed specifications in Bulletin 0858.* **SIZE:** *2 9/16" dia. x 3 3/4" long; 1/4" dia. shaft, 7/8" long.* **WEIGHT:** *1 1/4 lbs.* **OVERALL ACCURACY:** *± 1 1/4 quanta in 8192.* **READOUT RATE:** *Model A, nominally 10KC (50 microsecond pulse), max. of 100KC (5 microsecond pulse). Model B, max. of 200KC for element, 10KC for sequence.* **MAXIMUM ANGULAR SPEED OF ROTATION AT FULL ACCURACY:** *2 rpm (6 rpm at 12-digit accuracy). 10 rpm with temperature control.*



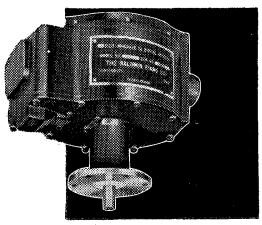
Model A2.6SS13 (Parallel readout)
Model B2.6SS13 (Sequential readout)

4" DIA. 13-DIGIT ENCODER *for general purpose applications. Detailed specifications in Bulletin 0958.* **SIZE:** *4" OD with protrusions on one side x 7" long; 1/4" dia. shaft, 0.67" long.* **WEIGHT:** *9 1/4 lbs.* **OVERALL ACCURACY:** *± 1 quanta in 8192.* **READOUT RATE:** *100 cps, max.* **MAXIMUM ANGULAR SPEED OF ROTATION AT FULL ACCURACY:** *720 rpm; maximum rotation rate, 600 rpm.*



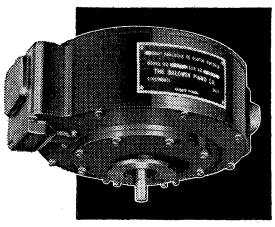
Model A4DP13

6" DIA. 13-DIGIT ENCODER *for general purpose applications. Specifications in Bulletin 1058.* **SIZE:** *6 3/16" dia. with protrusions x 7 3/4" long; 1/2" dia. shaft, 1" long.* **WEIGHT:** *14 lbs.* **OVERALL ACCURACY:** *± 1 quanta in 8192.* **READOUT RATE:** *100 cps, max.* **MAXIMUM ANGULAR SPEED OF ROTATION AT FULL ACCURACY:** *720 rpm (10 microsecond pulse).*



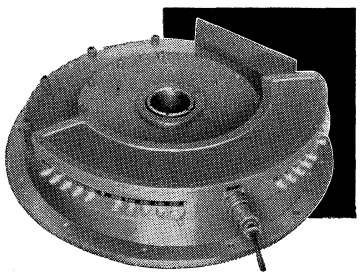
Model A6DP13

9" DIA. 16-DIGIT ENCODER *precision unit for radar applications. Detailed specifications in Bulletin 1158.* **SIZE:** *9 1/16" dia. with protrusions x 4 3/8" high; 1/2" dia. shaft, 1 1/4" long.* **WEIGHT:** *17 1/2 lbs.* **OVERALL ACCURACY:** *± 1 quanta in 65,536.* **READOUT RATE:** *100 cps, max.* **MAXIMUM ANGULAR SPEED OF ROTATION AT FULL ACCURACY:** *90 rpm (10 microsecond pulse).*



Model A9SP16

HIGH PRECISION 18-DIGIT ENCODER *for radar or theodolite applications. Detailed specifications in Bulletin 1258.* **SIZE:** *21" max. dia. x 8 1/16" high.* **WEIGHT:** *169 lbs.* **OVERALL ACCURACY:** *± 1 quanta in 262,144.* **READOUT RATE:** *100 cps, max.* **MAXIMUM ANGULAR SPEED OF ROTATION AT FULL ACCURACY:** *25 rpm (10 microsecond pulse).*



Model A21SP18

*Encoders with decimal, trigonometric functions and other nonlinear codes are also available. All disks are made on a special divided circle machine designed and built by Baldwin. *Write for descriptive bulletins.*

BALDWIN

is the *best qualified source* for the solution of your problems involving translation of angular shaft rotation into digitized components. Contact our Encoder engineers for detailed information on designs to meet your specific requirements.

CODE OUTPUT

of the Baldwin Encoders illustrated is reflected binary, increasing with counter-clockwise rotation, as viewed from the shaft end. The opposite rotation is available on request.

PROGRAMMER-POWER SUPPLY

Baldwin Model B/M907-10 is available for supplying programming signals and power to Baldwin Encoder Models A6DP13, A9SP16, and A21SP18. This unit is designed to meet military requirements.

Industrial Products Division
THE BALDWIN PIANO COMPANY
1806 Gilbert Avenue, Cincinnati 2, Ohio

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BEL DISTRIBUTED CONSTANT DELAY LINES

Featuring

- Precision engineering for reliable performance.
- Extended bandwidths.
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- Excellent pulse and wave form transmission.
- Epoxy cast for printed circuit application.
- Operation range of −55° to 125°C.
- Meets MIL Specs (MIL-C-15305A) grade 1, Class B.
- Stock items for quick delivery.
- Special models available to order.

BEL FUSE INC.

198 VAN VORST STREET
JERSEY CITY, N. J.

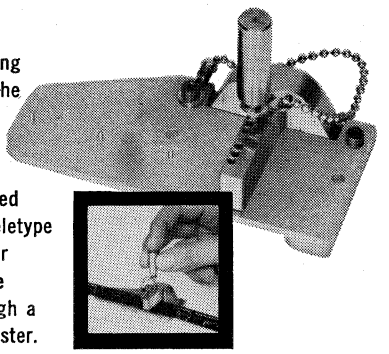
Part #	Delay ± 5%	Impedance ± 10%	Rise Time (Maximum)	Length inch.	O.D. inch.
2-05 2-1 2-15 2-2 2-25 2-3	.05 usec .1 .15 .2 .25 .3	200 ohms	.05 usec for delay of .3 usec	1½" 2½" 3½" 4¾" 5¾" 6"	.375"
3-1 3-2 3-3 3-4 3-45	.1 usec .2 .3 .4 .45	300 ohms	.055 usec for delay of .45 usec	1¾" 3¾" 4" 5⅜" 6"	.325"
5-1 5-2 5-3 5-4 5-5 5-6 5-7 5-8 5-9 5-10	.1 usec .2 .3 .4 .5 .6 .7 .8 .9 1.0	500 ohms	.09 usec for delay of 1.0 usec	1⅛" 1¾" 2¼" 3" 3¼" 3¾" 4¼" 5" 5¾" 5⅞"	.325"
10-1 10-2 10-3 10-4 10-5 10-6 10-7 10-8 10-9 10-10 10-11	.1 usec .2 .3 .4 .5 .6 .7 .8 .9 1.0 1.1	1000 ohms	.09 usec for delay of 1.0 usec	1⅛" 1¾" 2¼" 3" 3¼" 3¾" 4¼" 5" 5¾" 5⅞" 6"	.325"
12-1 12-2 12-3 12-4 12-5 12-6 12-7 12-8 12-9 12-10	.1 usec .2 .3 .4 .5 .6 .7 .8 .9 1.0	1200 ohms	.09 usec for delay of 1.0 usec	1¼" 1¾" 2½" 3" 3¾" 4¼" 4¾" 5½" 6" 6¼"	.325"
18-1 18-2 18-3 18-4 18-5 18-6 18-7 18-8 18-9 18-95	.1 usec .2 .3 .4 .5 .6 .7 .8 .9 .95	1800 ohms	.09 usec for delay of 1.0 usec	1¼" 1¾" 2½" 3" 3¾" 4¼" 4¾" 5½" 6¼" 6¼"	.325"
25-1 25-2 25-3 25-4 25-5 25-6 25-7 25-75	.1 usec .2 .3 .4 .5 .6 .7 .75	2500 ohms	.07 usec for delay of .7 usec	1¼" 2¼" 3¼" 4" 4¾" 5½" 6¼" 6¼"	.325"

See YELLOW SECTION for local offices, telephones, etc.

SET UP YOUR OWN FILING SYSTEM
TO KEEP COMPLETE PRODUCT
INFORMATION IN ONE
ACCESSIBLE PLACE
for full details refer to the inside back cover

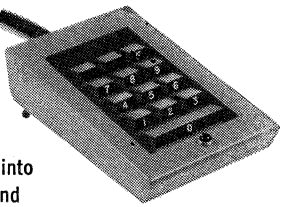
BURROUGHS COMPUTER SYSTEM COMPONENTS

MANUAL TAPE PUNCH



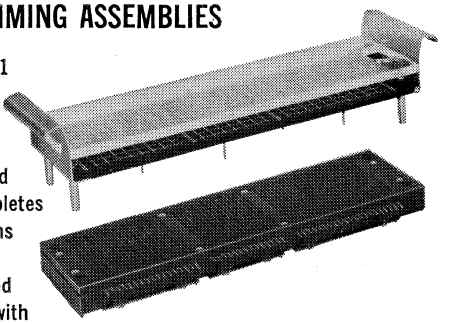
Eliminates the problem of re-inserting perforated tape for repunching in the main perforating unit. A precision unit with particular application as a method for insertion of information into an already prepared tape. It accommodates standard Teletype and Commercial Controls Flexowriter tapes, and corrects up to an 8-hole code. Tape is easily inserted through a guided slot and held in perfect register.

DECIMAL KEYBOARDS



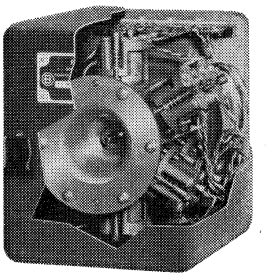
The answer to the widespread need for a modestly priced, versatile manual-input device. Thoroughly proven with the Burroughs 205 and 220 computing systems, the Decimal Keyboard is a 13-key unit that can be readily integrated into a wide variety of data processing and communications systems. Compact, with feather-light touch which provides high speed of input. A 16-key unit is also available.

PINBOARD PROGRAMMING ASSEMBLIES



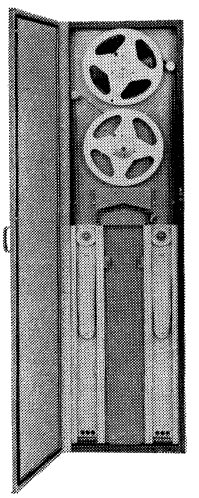
Used in the Burroughs E101 desk-size computer, now individually available as a basic control unit or stored program device. Simple and versatile: a single pin completes a circuit. Complete programs can be quickly changed by inserting previously prepared plug-in units. Expandable, with three types of pinboard receptacle units. Compact: 11¾" by 3⅜".

MAGNETIC STORAGE DRUM



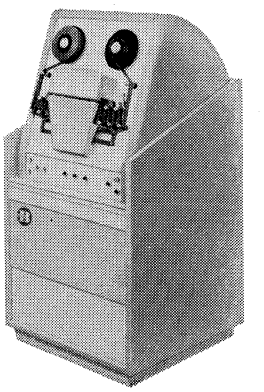
A small, high-speed magnetic drum for intermediate storage—proven in use with Burroughs 205 and 220 computing systems. It buffers information between the computer and various input-output units. Revolves at 21, 600 rpm, permitting access to stored data in average time of 1.4 milliseconds. Easy matching with either transistor or vacuum tube circuitry. Furnished complete, including 10 dual read-write head assemblies and drive motor.

DIGITAL MAGNETIC TAPE TRANSPORTS



Several transports are offered to meet a variety of tape speed and tape width requirements. Bi-directional units operate at speeds up to 75 inches per second. Multiple speed units are also available. Ten-speed transport handles tape at speeds from 1½ to 90 inches per second. All transports incorporate vacuum controlled reel servo systems for gentle tape handling, end-of-tape sensing, fast start and stop, remote and local control, easy threading and dust free operation. A file protection device and air-conditioning manifolds are available. Years of proven reliability in Burroughs computer systems and other digital applications.

PHOTOREADER



Reads 1,000 characters per second... stops on a single character, then reads the next within five milliseconds after restart. The finest and fastest precision perforated paper-tape-reader commercially available as a component. Developed as an input unit for the Burroughs 220 computing system, the Photoreader may be mounted in any standard 19" cabinetry—or ordered already housed in the 220 cabinet, as pictured.

For complete details on any of the above components, write to Component Sales, ElectroData Division, Pasadena, California.

Burroughs Corporation

"NEW DIMENSIONS/ in electronics and data processing systems"

See YELLOW SECTION for Local Offices, Telephone, etc.

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C.E.C. DELAY LINES

Control Electronics Co., Inc. is a leading designer and mass producer of Delay Lines (electromagnetic and magnetostrictive) and Filters (Low, High and Band Pass). On these pages are listed a representative sampling of the over 900 standard Delay Lines stocked by C.E.C.

Literature is available describing all types including Lumped Constant, Distributed Constant, Electrically & Mechanically Variable, Miniature Variable, High Frequency, Systems Delay and Magnetostrictive. Also listed are Low, High, Band Pass and Telemetry Filters.

LUMPED CONSTANT DELAY LINES

C.E.C. offers a complete selection of standard delay lines and fast delivery on custom made units.

Zo in Ω →		50(A)	180(C)	500(F)	1,000(K)	1,500(L)	2000(M)	3000(N)	5000(R)	7500(R)	10000(T)
Time Delay μS	Rise Time μS	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
.25	.015 .025 .05	F17A251AE F10A251AE F5A251AA	F17C251AE F10C251AE F5C251AA	F17F251AE F10F251AE F5F251AA			F5M251AE	F5N251AE			
.50	.03 .05 .10	F17A501AE F10A501AE F5A501AE	F17C501AE F10C501AE F5C501AA	F17F501CE F10F501AE F5F501AE	F5K501AE	F5L501AE	F10M501CC F5M501AE	F5N501AE			
1.0	.03 .05 .10 .20	F33A102CE F20A102CC F10A102AE F5A102AE	F33C102CE F20C102CC F10C102AE F5C102AE	F33F102CE F20F102CE F10F102OC F5F102AE	F10K102CC F5K102CC	F5L102CC	F10M102CC F5M102AE	F10N102CC F5N102AE	F5P102		
1.5	.05 .075 .15 .30	F30A152CE F20A152CC F10A152AE F5A152AE	F30C152CE F20C152CC F10C152AE F5C152AE	F30F152DE F20F152CE F10F152CC F5F152AE	F10K152CC F5K152CC	F10L152DE F5L152CC	F20M152DE F10M152CC F5M152AE	F10N152CC F5N152AE	F10P152CC F5P152AE	F10R152CC F5R152AE	F5T152AE
5.0	.15 .25 .50 1.0	F33A502EF F20A502DE F10A502CC F5A502CE	F33C502EE F20C502CE F10C502CE F5C502CC	F33F502GD F20F502DE F10F502DE F5F502AE	F33K502GD F20K502JC F10K502CC F5K502AE	F10L502CC F5L502AE	F20M502DE F10M502CC F5M502AE	F20N502DE F10N502CC F5N502AE	F20P502DE F10P502CC F5P502AE	F10R502CC F5R502AE	F10T502CC F5T502AE
10.0	.3 .5 1.0 2.0	F33A103GE F20A103EE F10A103EE F5A103CE	F33C103GD F20C103DE F10C103DE F5C103CC	F33F103GD F20F103GE F10F103CC F5F103AE	F33K103JD F20K103DE F10K103CC F5K103AE	F33L103JD F20L103DE F10L103CC F5L103AE	F33M103GD F20M103DE F10M103CC F5M103AE	F33N103GD F20N103DE F10N103CC F5N103AE	F20P103DE F10P103CC F5P103AE	F10R103CC F5R103AE	F10T103CC F5T103AE
20.0	.6 1.0 2.0 4.0	F33A203GE F20A203GF F10A203EF F5A203CE	F33C203JC F10C203GD F10C203DE F5C203CC	F33F203GD F20F203DE F10F203CE F5F203CC	F33K203GD F20K203DE F10K203CE F5K203AE	F33L203GD F20L203DE F10L203CC F5L203AE	F33M203GD F20M203DE F10M203CC F5M203AE	F33N203GD F20N203DE F10N203CC F5N203AE	F33P203GD F20P203DE F10P203CC F5P203AE	F20R203DE F10R203CC F5R203AE	F20T203DE F10T203CC F5T203CC
50.0	1.5 2.5 5.0 10.0	F33A503JF F20A503JC F10A503GE F5A503CE	F33C503JD F20C503JD F10C503DE F5C503CE	F33F503GF F20F503EF F10F503CE F5F503CC	F33K503GD F20K503EF F10K503CE F5K503CC	F33L503GD F20L503DE F10L503CE F5L503AE	F33M503GD F20M503DE F10M503CC F5M503AE	F33N503GD F20N503DE F10N503CC F5N503AE	F33P503GD F20P503DE F10P503CC F5P503AE	F33R503GD F20R503DE F10R503CC F5R503CC	F33T503GD F20T503DE F10T503DE F5T503DE
100	3.0 10.0	F33A104JG F10A104GE	F33C104JF F10C104DE	F33F104GF F10F104CE	F33K104GF F10K104CE	F33L104GF F10L104CE	F33M104GD F10M104AE	F33N104GD F10N104AE	F33P104GD F10P104AE	F33R104GD F10R104AE	F33T104GD F10T104DE
200	6.0 20.0	F33A204JL	F33C204JF F10C204GD	F33F204JF F10F204GD	F33K204JC F10K204EE	F33L204JC F10L204EE	F33M204GD F10M204EF	F33N204GD F10N204EF	F33P204GD	F33R204GD	F33T204JD
500	15.0 50.0	F33A504JL	F33C504JL F10C504GD	F33F504JF F10F504GD	F33K504JF F10K504GD	633L504JF F10L504GD	F33M504GF	F33N504JF	F33P504JF		
1000	50.0 100.0		F20C105YY F10C105GD	F20F105YY F10F105YY	F20K105YY F10K105YY	F20L544YY F10L105YY	F20M105YY F10M105YY	F20N105YY F10N105YY	F20P105YY		
5000							F40M505YY				

TAPPED AS REQUIRED

LUMPED CONSTANT DELAY LINES

BUILT TO MIL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

DELAY TOLERANCE: ±3% +.01 μsec.
IMPEDANCE TOLERANCE: ±10%
ATTENUATION: Less than .2 times the delay to rise time ratio
TEMPERATURE STABILITY: 50 parts/million
OPERATING TEMPERATURE RANGE: −55°C to +125°C
SPURIOUS SIGNALS: less than 5%

MECHANICAL SPECIFICATIONS

CONSTRUCTION: Hermetically sealed in steel case and potted in Epoxy resin
TERMINALS: Compression glass multi-terminal header
MOUNTING: 4 stud mounting
FINISH: Electro-tinned and grey to MIL specifications

Base Size			Ht. Lt.	Code Size
Letter	Length	Width		
A	1 5/16	1 5/16	A	1½"
			B	2"
C	2 5/16	2 1/16	C	2½"
			D	3"
E	3 1/16	2 5/8	E	3½"
			F	4"
G	3 15/16	3 3/8	G	4½"
			H	5"
J	5½	4½	J	5½"
			K	6"
YY Rack Model 19 x 9 x 5¼			L	6½"
			M	7"

STANDARD & CUSTOM DELAY LINES

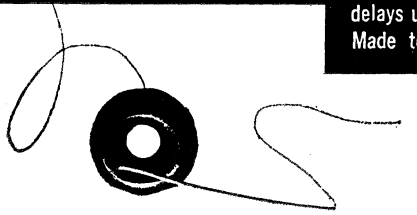
In addition to our offering more than 900 different standard delay lines, we constantly design and produce delay lines to meet particular requirements. No matter how odd or difficult your requirements may seem, we invite you to submit your specifications for our recommendations. Generally we will be able to provide an immediate answer from our diversified experience. On this page are listed some of the custom designed units we have produced – any one, or any combinations of the characteristics listed here can be incorporated into your particular unit.

VARIABLE DELAY LINES

Model	Time Delay Range	Rise Time at Full Delay	Impedance in ohms	Atten in db	Size
V-103A	0–3.1 μsec	.25 μsec	2,700	.8	
V-104A	0–1.2 μsec	.11 μsec	2,700	.4	
V-136	1–4 μsec	.3 μsec	2,700	1	
V-159	0–10 μsec	.7 μsec	75	3	H–6"
V-161	0–.12 μsec	.02 μsec	135	0	W–6"
V-208	0–3.2 μsec	.28 μsec	2,700	1	D–1½"
V-217	0–10 μsec	.7 μsec	1,000	2	
V-385	0–20 μsec	1.5 μsec	200	6	
V-369	1–13 μsec	.9 μsec	250	3	
V-203	0–.5 μsec	35 Mμsec	580	.5	
V-226	0–120 Mμsec	15 Mμsec	100	.5	H–4¼"
V-227	0–300 Mμsec	25 Mμsec	100	1	W–4¼"
V-229	0–1.2 μsec	.15 μsec	2,500	1	D–1½"
V-230	0–3.0 μsec	.25 μsec	1,000	1	
V-231	0–12 μsec	.75 μsec	250	6	
V 364	0–.1 μsec	.01 μsec	50	.5	
V-365	0–.2 μsec	.01 μsec	50	1	Dia.–3" Depth–1"
V-390	0–3 μsec	.25 μsec	750	2	

Magnetostrictive Delay Lines

High storage factor Sonic Delay Lines (Magnetostrictive), available in delays up to 5,000 μsecs. Made to MIL SPECS.



TOROIDS to your specs.

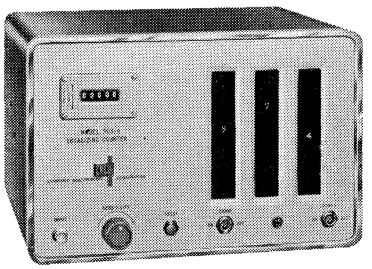
CONTROL *Electronics* • HA 7-7961 • HUNTINGTON STATION, L.I., N.Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

COUNTING and CONTROLLING—

Frequency and Time Interval Measurements with High Speed Digital Recording— Selection of Inline-Readout Equipment

TOTALIZING COUNTERS



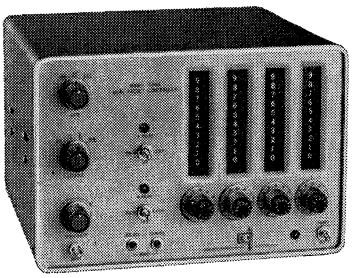
FEATURES: Absolute accuracy, high speed, two outputs (relay and pulse). CMC Series 300A Totalizing Counters are dependable, direct reading totalizing electronic counters especially designed for industrial and laboratory counting. Any electrical, mechanical or optical event which can be converted into electrical impulses can be totalized. Transducers to effect electrical impulse conversion can be photocells, magnetic coils, switches, etc.

APPLICATIONS: Totalize production units of practically any size or shape. For example: labels, canned goods, bottles, pen points, machine parts, pills, electronic components, fruit, etc. Will also totalize revolutions of high speed shafts, etc.

SPECIFICATIONS:

	302A	303A	304A
Decades	2	3	4
Counts per second	0—1,500	0—15,000	0—100,000
Count capacity	9,999,999	99,999,999	999,999,999
Pulse pair resolution		5 microseconds	
Input Requirements		0.05 volt rms	
Price (fob factory)	$295	$325	$375

PRESET CONTROLLERS — Single and Dual



FEATURES: Coincident type, absolute accuracy, direct setting, exceptional versatility. Mechanical Register (optional) to indicate batches (gross, dozen, etc.), gallons, pounds, or total count. Pulse Output—Relay Contact Closure—Variable Contact Closure Time — Automatic or Manual Relay Hold—Totalizing Count.

APPLICATIONS: Batching and packaging, motor control, controlling the exact length of stock in cutting operations, control of high speed machinery, etc. Electrical, mechanical or optical events which can be represented by electrical impulses can be counted and controlled. Transducing devices include photocells, magnetic coils, switches, and other units to translate pressure, temperature, velocity, acceleration, displacement, etc. Series 310 Preset Controllers permit preselection of one number to provide a pulse output and/or relay closure. Series 320 Dual Preset Controllers provides output information at any two preselected counts within the capacity of the instrument.

SPECIFICATIONS:

Single Preset Series	**312A**	**313A**	**314A**	**315A**	**316A**
Decades	2	3	4	5	6
Count Capacity	100	1,000	10,000	100,000	1,000,000
Maximum Counting Rate			40 kc		
Input Sensitivity			0.05 volt rms		
Price (fob factory)	$310	$395	$495	$595	$695
Dual Preset Series		**323A**	**324A**	**325A**	**326A**
Price (fob factory)		$615	$715	$815	$915

FREQUENCY-PERIOD COUNTERS

MODEL 201B

MODEL 211B

Compact, easily portable—for precise frequency and period measurements. Direct read-out. Model 211B Frequency-Period Counter is equipped with the unique CMC inline-inplane readout. It can be easily read up to distances of 150 feet. Basic specifications are the same as the 201B. 211B price is $1175.00 fob factory.

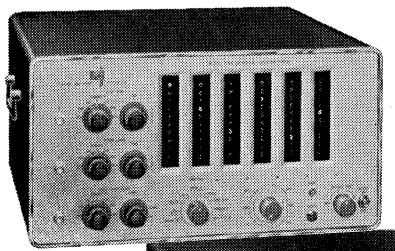
MODEL 200B FREQUENCY COUNTER. The economical Model 200B is designed to allow conversion to a plug-in crystal time base which increases accuracy from 0.1% to 0.0001%. It is also available with 5 decade display at $75.00 additional.

APPLICATIONS: Frequency measurement, period measurement, pressure, temperature, velocity, flow, RPS, RPM, etc., may be measured with suitable transducers.

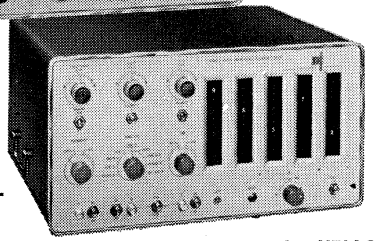
SPECIFICATIONS:	**201B**	**200B**	**203A**
Frequency Range	1—220 kc 0—220 kc (positive pulses)	1—220kc 0—200 kc (positive pulses)	0—1 mc
Input Sensitivity	0.05 volt rms up to 100 kc 0.1 volt rms to 220 kc		0.2 volt rms, direct coupled input
Time Bases	0.1, 1 and 10 secs (crystal oven) 1 cycle of unknown (period)	0.1, 1 second	0.00001, 0.0001, 0.001, 0.01, 0.1 1 and 10 seconds (derived from 1-mc crystal oscillator)
Secondary Frequency Standard	100 kc, 10 kc 1 kc, 100 cps or 10 cps	*100 kc, 10 kc, 1 kc, 100 cps or 10 cps	1 mc; 100, 10, 1 kc; 100, 10, 1 and 0.1 cps repetition rate (signal supplied)
External Standard Input	0 to 100 kc	0 to 100 kc	0 to 1 mc
Price (fob factory)	$700	$425	$960

*When equipped with Model XD-100A Plug-in Crystal Time Base

UNIVERSAL COUNTER-TIMERS



MODEL 226A



MODEL 225B

- Three independent, adjustable trigger-level controls permitting full rated sensitivity at any voltage level between —150 and +300 volts (Model 226A) and —50 and +50 volts (Model 225B).

FEATURES:

- Small voltage increments ordinarily masked by attenuators are easily selected.
- Oscilloscope marker signals facilitate start and stop trigger-level adjustment for time interval measurement of complex waveforms.

APPLICATIONS: Multi-purpose instruments designed for precise measurement of frequency, frequency ratio, period (1/frequency) and time interval. Pressure, velocity, acceleration, displacement, flow, RPS, RPM, etc., may also be measured with suitable transducers. Can also be used as a secondary frequency standard.

SPECIFICATIONS:	**226A**	**225B**
Frequency Range	0—1 mc	0—220 kc
Period Range	3 μsec to 1,000,000 sec	10 μsec to 100,000 sec
Time Interval Range	3 μseconds to 1,000,000 seconds	10 μseconds to 100,000 seconds
Input Sensitivity	0.1 volt rms	0.07 volts rms to 100 kc 0.13 volts rms to 220 kc
Time Base	0.00001, 0.0001, 0.001, 0.01, 0.1, 1 and 10 seconds; external 1 and 10 cycles of unknown (period)	0.001, 0.01, 0.1, 1 and 10 seconds; external 1 and 10 cycles of unknown (period)
Secondary Frequency Standard	1 mc, 100, 10, 1 kc; 100, 10, 1, 0.1 cps	100, 10, 1 kc 100, 10, 1 cps
External Standard Input	0 to 1 mc	0 to 100 kc
Price (fob factory)	$1100	$840

See YELLOW SECTION for Local Offices, Telephones, etc.

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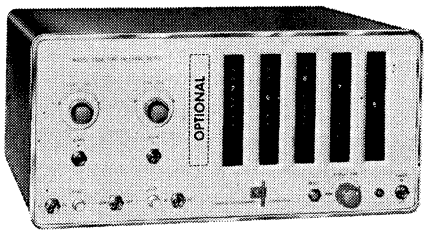
TIME INTERVAL METER



APPLICATIONS: Ballistic measurements, relay timing, photographic timing, testing of mechanical and electro-mechanical timing devices, etc.

The CMC Model 250A Time Interval Meter is designed for precise measurement of elapsed time between two events occurring in the range of 10 microseconds to 1 second. Optional features include extension to 10 or 100,000 seconds. The measurement interval may be started and stopped by independent or common voltages representing optical, mechanical or electrical events.

FEATURES:

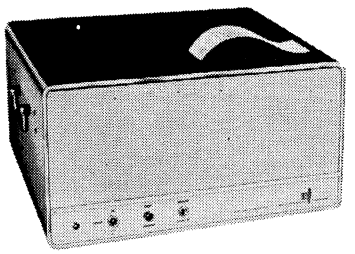
- Two independent, adjustable trigger-level controls permitting full rated sensitivity 0.07 volt rms—at any voltage level between −50 and +50 volts or ac coupled to 300 volts.
- Small voltage increments ordinarily masked by attenuators are easily selected.
- Oscilloscope marker signals facilitate start and stop trigger-level adjustment for time interval measurement of complex waveforms.

SPECIFICATIONS:

Range	10 microseconds to 1 second (10 or 100,000 seconds optional)
Accuracy	±10 microseconds ±1 part in 1,000,000
Input (each channel)	0 to 100,000 cps; direct or ac coupled
Input Sensitivity (each channel)	0.07 volt rms
Secondard Frequency Standard	100 kc
External Standard Input	0 to 100 kc
Price (fob factory)	$645

MODEL 251A TIME INTERVAL METER. Precise measurement of elapsed time between two events in the range of 1 microsecond to 1 second. Price (fob factory) $845.

DIGITAL PRINTER



The Model 400C is a reliable compact instrument designed to provide a permanent printed record of digital data provided by electronic counting instruments. Uses new type simplified, trouble-free matrixes. High speed at moderate cost. Options include analog output, 10 line output from each digit, 1-2-4-8 code converter, built-in inline readout, accumulator, add-subtract solenoid, print line identification and transistorized drive.

SPECIFICATIONS:

Print-Out Capacity	6 digits. Up to 12 digits optional
Print-Out Rate	4 lines per second
Accuracy	Identical to characteristics of counting instrument
Counting Period	Identical to characteristics of counting instrument
Display Time	0.2 seconds minimum. Maximum controlled by counting instrument
Input Requirements	4-line 1-2-2-4 code from counting instrument
Price (fob factory)	$950

INLINE-INPLANE READOUT

The Model 401A Inline Readout represents a new concept in digital read-out instrumentation. It is designed to prevent visual errors caused by lamp failure and other potential sources of inaccuracy. Where contemporary instruments use filament-type lamps for edge-lighted, masked or projection type illumination, the 401A accurately forms each 2¼" high numeral from 40 small, long-life neon lamps. A memory circuit retains the read-out data until receiving a command from the counting instrument, thus preventing confusion in reading while the counting instrument is cycling. The memory circuit may be overridden intentionally to observe low speed cycling. Data may be retained indefinitely by preventing reception of the read-out command from the counting instrument.

SPECIFICATIONS:

Indicating capacity	6 digits
Accuracy	Identical to counting instrument
Signal input	4-line 1-2-2-4 binary decimal code and read command from counting instrument for automatic operation
Price (fob factory)	$770 (6 digit)

INLINE NIXIE READOUT

To fill the demand for a low cost inline readout CMC offers a special decade utilizing the well known Nixie tube. The Nixie readout decade displays data in 1" high illuminated numerals. By replacing the standard decades in most CMC instruments with the Nixie readout decade a display as shown in the photo is obtained. The Nixie readout decade is directly interchangeable in equipment using standard decades without circuit changes. This modification may be made on instruments now in the field or ordered as a modification when purchasing new instruments.

The price of the Nixie readout modification is $60. per decade when purchasing new instruments. Modification to instruments now in the field costs an additional $25. front panel and labor charge.

OTHER CMC INSTRUMENTS

The Model 202-A Time-Function Translator permits instant direct read-out of unknown quantities by translating one function of time into another function of time. A good example is jet engine analysis where translation of fuel flow into pounds, gallons, pounds per hour or gallons per hour, etc., is often required.

The Model 620-A Go-No-Go Gauge is a direct reading frequency counter of the coincidence type which provides three types of output rate information for control and monitoring between any two preselected limits falling in the 1 to 40,000 events-per-second range "High" "In-limits" and "Low".

The Model 620 consists of a basic frequency counter, using dual preset decade counting units, and a relay control circuit. The frequency counter operates as a standard frequency counter and the relay control circuit provides the go-no-go information from data provided by the counter circuit.

CMC instruments carry a one year unconditional guarantee from the date of purchase. Engineering Sales representatives, located in 26 cities through the U.S. and Canada are ready to serve you and demonstrate CMC equipment. Call or write direct to the factory for the new 1959 CMC short form catalog.

TWENTY SEVEN DIFFERENT MODELS of decade plug-in units are available for almost every conceivable digital data display or control problem. Units vary in price from $33.00 to $155.00 depending on function. Special OEM discount prices on request.

In addition to the standard specifications described above, there are 21 different standard modifications and combinations of modifications available to meet your specific requirements. CMC also maintains a separate staff of applications engineers to assist you with problems involving special engineering in fields of digital control and digital data handling techniques.

RUGGED CONSTRUCTION—All CMC instruments feature unitized construction for ruggedness, reduced weight, and functional styling. Integrating the wrap-around cabinet with the chassis results in a sturdy cohesive structure. This unitized concept designs ruggedness and styling into every instrument at lower weight and cost. CMC instruments can also be rack mounted by use of a simple adapter provided at slight additional charge, (option D).

CMC 9 8 7 6 5 4 3 2 1 0

Computer-Measurements Co.

A division of Pacific Industries, Inc.

5528 Vineland Ave. • No. Hollywood, Calif.

Phone STanley 7-0401 • TWX: NHOL 8290

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See YELLOW SECTION for Local Offices, Telephones, etc.

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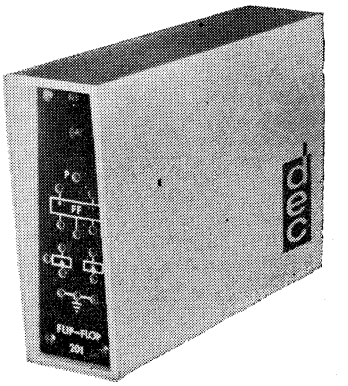
Transistorized Digital

DIGITAL TEST EQUIPMENT

DEC Digital Test Equipment is a coordinated set of fully transistorized 5 megacycle digital computer circuits, packaged in Building Block form, for maximum convenience and flexibility in testing and developing digital systems and components.

All models use the same three power voltages (—3 volts, —15 volts and +10 volts). Logical interconnections are made with patch cords using miniature stacking banana jacks. The DEC Standard Pulse is 2.5 volts in amplitude and 70 millimicroseconds in width. DEC Standard Levels are ground and —3 volts. The general purpose design and versatility of DEC Digital Test Equipment, coupled with its high speed, save valuable engineering time. This equipment is adaptable to a wide variety of laboratory applications and production testing.

DEC Digital Test Equipment utilizes dip solder printed circuits protected by rugged aluminum housings measuring 1¾" x 4½" x 6⅞" overall. Nine units can be accommodated in the standard 5" x 19" x 7" mounting chassis. All necessary accessories, including power supplies and patch cords, are available from DEC.



MODEL	DESCRIPTION	INPUT	OUTPUT	UNIT PRICE*
INVERTER 103	Contains six transistor inverters for use as pulse gates or level gates.	DEC Standard Pulses or Levels.	Level Gate will drive four inverter bases. Pulse Gate will drive Flip-Flop or Delay input.	$113.00
DIODE 110	Contains two 6 input diode negative "or's" each with an inverter output.	DEC Standard Levels for gating. DEC Standard Pulses for pulse mixing.	Level Gate — same as 103. Pulse Mixer will drive Delay input.	89.00
FLIP-FLOP 201	Contains one 5mc Flip-Flop with input pulse gates, output amplifiers, indicator, and complement input.	Gated (clear, set and complement) from pulse gates.	Zero and One output standard levels can each drive ten level gate bases. Carry pulse can drive one pulse gate base.	130.00
DELAY 301	Contains a stable one-shot multivibrator for delays from 0.25 to 500 microseconds.	DEC Standard Pulses.	DEC Standard Pulse will drive 10 pulse gate bases. DEC Standard Level will drive eight level gate bases.	147.00
CLOCK 401	Contains a stable multivibrator type variable frequency oscillator (500 cps to 5 mc).		DEC Standard Pulse will drive six pulse gate bases.	147.00
PULSE GENERATOR 410	Contains circuit using Schmitt trigger to generate DEC Standard Pulses from external signals or push button.	External signal (—2.5 volt DC or AC) or built-in push button.	DEC Standard Pulse will drive six pulse gate bases.	115.00
PULSE AMPLIFIER 601	Contains pulse standardizer, input gates and output power amplifier.	DEC Standard Pulses.	DEC Standard Pulse will drive eight pulse gate bases.	100.00
TUBE PULSER 650	Contains a power amplifier and input gates. Provides pulse compatibility with vacuum tube circuits.	DEC Standard Pulse	15 volt, 0.1 microsecond pulse (positive or negative).	105.00
LEVEL AMPLIFIER 666	Contains an amplifier and two input gates. Provides level compatibility with other digital circuits, including vacuum tube types.	DEC Standard Levels.	Ground and —15 volts.	105.00
RELAY 801	Contains a mechanical relay with transistor amplifier driver for operating mechanical counters, alarms etc.	DEC Standard Levels.	SPDT Relay contacts (up to 2 amperes).	89.00

Write for complete information on DEC Digital Test Equipment.

digital equipment corporation

engineering and manufacturing

* 5% discount on orders of $20,000. or more.

TWX MAYNARD MASS 816

MAYNARD, MASSACHUSETTS

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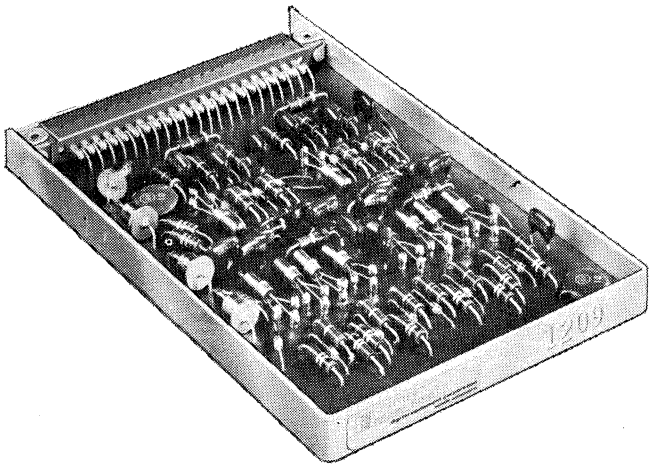
Building Blocks / SPEEDS UP TO 5 MEGACYCLES

SYSTEM BUILDING BLOCKS



DEC System Building Blocks are a fully compatible family of saturated transistor digital circuits. They are used in making permanent or semi-permanent digital computer type systems and in other data handling applications. They operate at any speed up to 5 megacycles.

Only two power supply voltages are used (+10 volts and —15 volts). Circuits and power distribution are designed for marginal checking by varying the +10 volt supply. DEC Standard Pulses are 2.5 volts in amplitude and 70 millimicroseconds wide. DEC Standard Levels are ground or —3 volts. All circuits are designed to provide ease of use and maximum freedom for the logical designer. For example, they use static type Flip-Flops having continuous DC output signals and pulse delays so actions need not occur at any fixed clock rate.

DEC System Building Blocks feature dip solder printed circuits mounted on protective aluminum frames measuring ½" x 4½" x 6". The standard mounting chassis, designed for rack mounting, measures 5" x 19" x 7" and will accommodate 25 standard plug-in units. A full line of accessories, including power supplies, is available from DEC.

MODEL	DESCRIPTION	INPUT	OUTPUT	UNIT PRICE*
INVERTER 1104	Contains four transistor inverters for use as pulse gates or level gates.	DEC Standard Pulses or Levels.	Level Gate will drive four inverter bases. Pulse Gate will drive Flip-Flop or Delay input.	$ 89.00
DIODE 1110	Contains two 6 input diode negative "or's" each with an inverter output.	DEC Standard Levels for gating. DEC Standard Pulses for pulse mixing.	Level Gate — same as 1104. Pulse Mixer will drive Delay input.	75.00
FLIP-FLOP 1201	Contains one 5mc Flip-Flop with input pulse gates, output amplifiers and complement inputs. For use in counters, adders etc.	Direct (clear and set) DEC Standard Pulse. Gated (clear, set, and complement) from pulse gates.	Zero and One output DEC Standard Levels can each drive ten level gate bases. Carry pulses can drive one pulse gate base.	133.00
DUAL FLIP-FLOP 1209	Contains two 5mc Flip-Flops, without complement input, each with a pulse gate and output amplifiers. For use in buffers, controls etc.	Direct (clear and set) DEC Standard Pulses. Gated (clear and set) from pulse gates.	Zero and One output standard levels can each drive ten level gate bases.	168.00
DELAY 1301	Contains a stable one-shot multivibrator for delays from 0.25 to 500 microseconds.	DEC Standard Pulses.	DEC Standard Pulse will drive ten pulse gate bases. DEC Standard Level will drive eight level gate bases.	130.00
CLOCK 1402	Contains a stable multivibrator type variable frequency oscillator (500 cps to 5 mc).		DEC Standard Pulse will drive six pulse gate bases.	130.00
PULSE GENERATOR 1410	Contains circuit using Schmitt trigger to generate DEC Standard Pulses from external signals or push button.	External signal (—2.5 volt DC or AC) or mechanical switch contacts.	DEC Standard Pulse will drive six pulse gate bases.	130.00
PULSE AMPLIFIER 1606	Contains pulse standardizer, input gates and two output power amplifiers.	DEC Standard Pulses.	DEC Standard Pulses on each output can drive eight pulse gate bases.	108.00

Write for complete information on DEC System Building Blocks, including application examples.

digital equipment corporation

engineering and manufacturing

TWX MAYNARD MASS 816

MAYNARD, MASSACHUSETTS

* 5% discount on orders of $20,000. or more.

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FERRANTI

MAGNETOSTRICTION DELAY LINES

FOR COMPUTER, COMMUNICATION, RADAR AND OTHER APPLICATIONS

A wide range of delays, from 10 to 10,000 microseconds, is achieved by the propagation of acoustic waves along a wire transmission medium, using magnetostriction input and output transducers.

RUGGED AND STABLE For military or commercial operating environments.

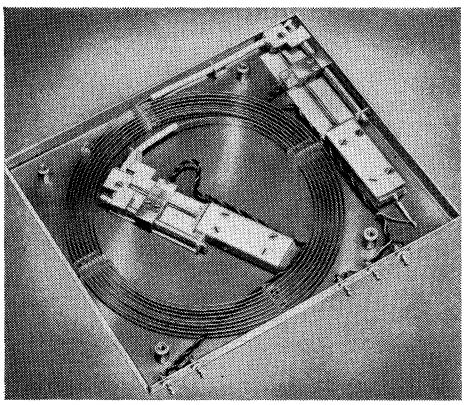
LOW TEMPERATURE COEFFICIENT OF DELAY Nominally about 5 parts per million per °C or approaching zero to special order.

ECONOMICAL AND EASY TO USE Low cost delay elements needing a minimum of associated circuitry.
Driving power about 0.2 watts peak.

Large output signals — uniform output from taps.
No carrier needed for pulsed operation — pulse resolution to one microsecond or better.
Bandpass characteristic with wide pass band Dynamic Range 20 db.
Signal to noise ratio 20:1 or better.
Total delay and tap positions adjustable by user.

SMALL SIZE AND WEIGHT
For example:
1000 microseconds 5″x4″x3/8″ —about 8 oz.
2500 microseconds 9″x10″x3/8″ —about 12 oz.
5000 microseconds 12″x13″x3/8″ —about 1 lb.

TYPICAL COMMERCIAL PACKAGE SPECIFICATIONS
(Taps Can be Supplied Where Required)



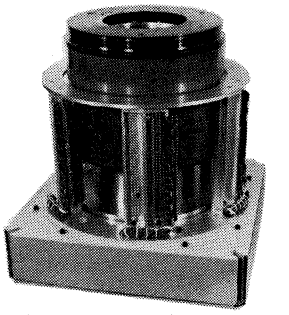
MODEL L-30

Type	Delay Range (Microsecs)	Max. Digit Rate	Max. Center Frequency	Max. Band width (3db)	Size
L20	10-70	1 Mc/s	1 Mc/s	1 Mc/s	Variable
L30	70-1000	1 Mc/s	1 Mc/s	1 Mc/s	6x7x⅜
S30	20-600	1 Mc/s	1 Mc/s	1 Mc/s	4½x5x½
L35	1000-2500	500 Kc/s	500 Kc/s	500 Kc/s	9x10x⅜
L40	1000-3000	1 Mc/s	1 Mc/s	1 Mc/s	12x13x⅜
L40	3000-5000	500 Kc/s	500 Kc/s	500 Kc/s	12x13x⅜

MAGNETIC DRUMS
AVAILABLE TO ORDER

1-12 inch diameter; 1-12 inch lengths — Up to 24,000 rpm.
Capacities 15,000 to 2,200,000 bits — Air or ball bearing
Heads, Switching matrices; Read and Write
Amplifiers supplied using card or chassis mounting construction.

MODEL 1200A



FERRANTI ELECTRIC, INC.

ELECTRONICS DIVISION • 95 MADISON AVE., HEMPSTEAD, L.I., N.Y.

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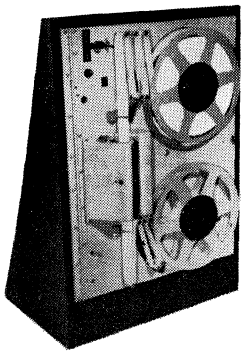
PHOTOELECTRIC TAPE READERS

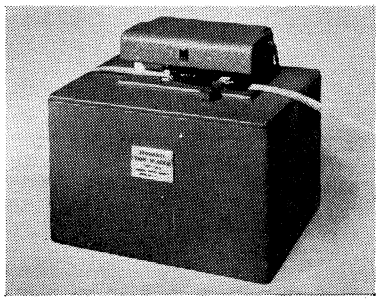
FERRANTI

Operate under computer control . . . Read character by character or continuously . . . Accept all types of perforated tape . . . Accept any code on 5, 7 or 8 hole tape . . . Handle strip or reeled tape . . . Easy and rapid tape loading . . . Tape Wear minimized by friction drive . . . Models available for rack or console mounting.



MODEL 196

MODEL TR5



SPECIFICATIONS

All readers except the TR3 stop on the stop character. The TR3 stops on or before the following character.

	Model	Reading Rate	Tape Widths **	Electronics	Spooling ***	Size
STOCK PRODUCTION UNITS	TR2B	Up to 220 chars/sec.	5 and 7 hole.	Vacuum tube: signal amplifiers: squaring circuit on sprocket hole.	External. Type A11 is suitable.	9" x 11½" x 11¼"
	TR3B	440 chars/sec.	5 and 7 hole.	As TR2B	External.	9" x 11½" x 11¼"
	TR5	Up to 330 chars/sec.	5, 7 and 8 hole.	Solid state: Unit includes 8 signal amplifiers, brake controls and power supplies.	External. Type A11 is suitable.	9" x 11½" x 10"
AVAILABLE TO ORDER	196	Up to 270 chars/sec. in either direction.* 400 chars/sec. to special order.	5, 7 and 8 hole.	Solid state: Total of 8 or 16 outputs with single sprocket output.	1000 Ft. NAB spools	19" x 24" relay rack panel. 2" clearance required in front, 12" at rear.
	197	Up to 270 chars/sec. in either direction.*	5, 7 and 8 hole.	Solid State.	External	13¼" x 8¼" x 11¾"
	206	Up to 200 chars/sec. in either direction.*	7 hole.	Solid State and vacuum tube.	1000 Ft. NAB spools	33" x 17 1/16" x 20 5/16" Sealed Unit
AVAILABLE SOON	TR7	1000 char/sec. Rewind at 2000 char/sec.	5, 7 and 8 hole.	Solid state: Unit includes signal amplifiers, brake controls and power supplies.	1000 Ft. NAB spools	29" x 24" x 48"

*Reversal control at reader or remote under manual or program control. **Accept any code. ***All readers will accept strip tape.

TUBES

New ranges of cathode ray tubes available on short delivery, including:

5/71 series (High resolution .0007" spot size)
5/63 series (High controllable sensitivity 2.5 volts/cm)
21/03QB series (Infra red storage tubes — also available in other sizes)

ALSO AVAILABLE

Cold cathode light sources • Electrometer tubes
X-Ray tubes • Klystrons • Magnetrons

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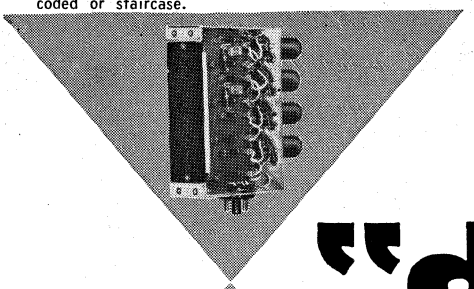
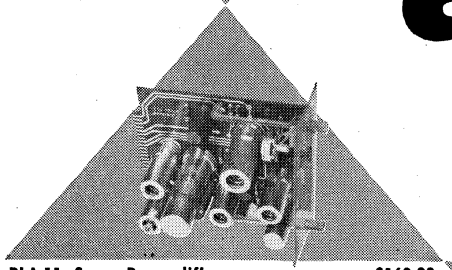
DLD-10 Decade Counter **$35.00**
Maximum Counting Rate: 100 KC; Readout: Neon, 0 to 9; B+: 300v @ 15 ma; Outputs: 4 line coded or staircase.



"digitrol"

building blocks



DLA-11 Servo Preamplifier **$160.00**
Frequency: 60 cps; Gain: 10,000; B+: 300v @ 10 ma; Reference Voltage Range: 1 to 100 volts dc; Adjustable rate damping.

DLA-41 Operational Amplifier
Type: D.C. Chopper Stabilized; Open Loop Gain: 10^7; Output: ± 100 volts @ 20 ma; Drift: Less than 150 microvolts; B+: +300v and −300v.

DLA-20 Power Amplifier
Frequency: 60 cps; Power Output: 14 watts; B+: 300v @ 100 ma.

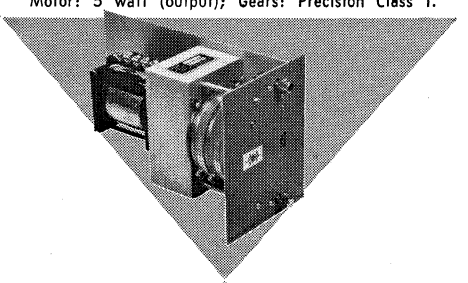
DLD-31 Pulse Gate
Consists of a gated amplifier and a gate control binary; Signal input: + 30V pulse; Signal output: −60V pulse; Binary control inputs: −40 pulse; B+: 300V dc

DLD-60 Crystal Clock
Frequency: 100 KC; Stability: 1 part in 10^6; Output: 50 volts rms; B+: 300V

DLD-61 Frequency Divider
Input: 100 KC; Output: 10 KC to 1 cps (five decade steps); B+: 300V dc

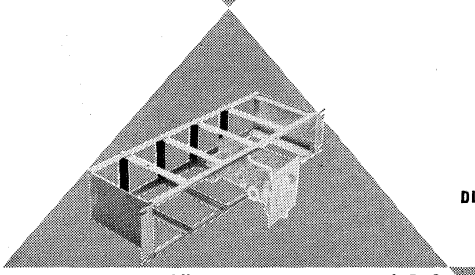
DLD-70 Amplifier Trigger Gate
Consists of gated amplifier and Schmidt Trigger; Input: 0.1V to 100V (adjustable); Output: −75V (rise time less than 0.6 microseconds); B+: 300V dc

DLS-21 Multiplier Potentiometer Assembly **$545.00**
No. of Cups: 2 to 6; Linearity: 0.1% (single turn); Motor: 5 watt (output); Gears: Precision Class I.



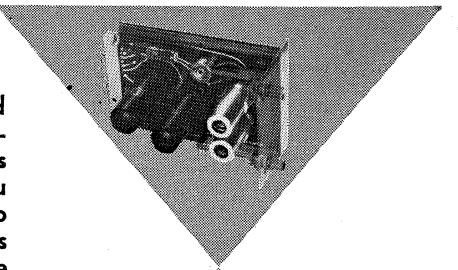
. . . designed for the rapid, economical fabrication of

- Analog Computers
- Decade Counters
- Test Instrumentation
- Control Systems
- Data Processing Equipment



DLX-20 Rack Assemblies **$15.10**
Available in three sizes, to accept any "DIGITROL" module standard 19" rack mounting, 3½" or 5¼" high.

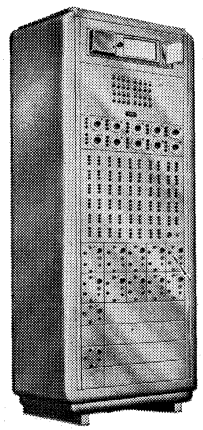
DLA-32 Power Amplifier (with AGC **$47.50**
Frequency: 60 cps; Power Output: 22 watts; B+: 300v @ 150 ma; AGC: Loop gain constant with reference voltage variations from 2 to 100 volts dc.



"Digitrol" Building Blocks are a complete line of modular circuit elements manufactured especially for the design engineer's fabrication of complete systems without detailed, routine circuit development. The use of "Digitrol" Building Blocks will save you engineering manpower, schedule time and DOLLARS!

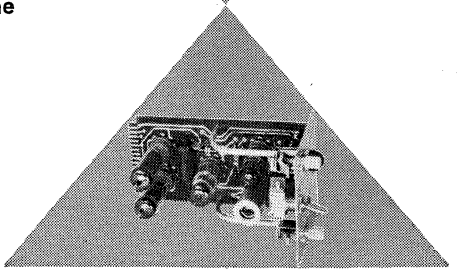
Complete laboratory instruments and special purpose instruments and controls are also available. If EPC knows your problem, they can supply you with a complete instrument built to your personal requirements at costs comparable to standard high volume items.

A few of the many systems that can be assembled are:



"COLLEGIATE" Analog Computer
10—chopper stabilized DC amplifiers
10—coefficient potentiometers
40—summing resistors
5—integrating capacitors
1—two channel recorder

- Servo Actuators
- Servo Multipliers
- Analog Computers
- Time Interval Meters
- Scalers
- Frequency Meters
- Digital Clocks



DLX-11 Voltage Regulator **$46.50**
Output Voltage: 205 to 305 volts DC @ 150 ma; Load Regulation: 0.25% for 100 ma load change; Line Regulations: ± 0.25% for ± 25% input voltage change; Ripple: Less than .005%; B+: Unregulated, unfiltered DC.

electro precision
CORPORATION

ARKADELPHIA, ARKANSAS

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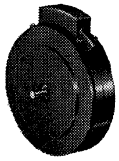
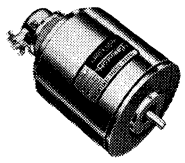
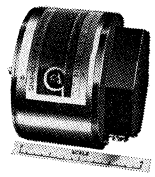
SHAFT POSITION TO DIGITAL ENCODERS AND READOUTS



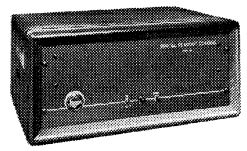
10 bit/turn Shaft Encoder in true Binary... converts shaft position to non-ambiguous true binary data representing input shaft position to 1 part in 1024 for each revolution. Used as input-output devices for true binary digital computers. **No external logic required.**



BCD Shaft Encoder... used where conversion to decimal form with ease is a requirement. All binary lines representing a decimal digit are parallel for ease of recording.

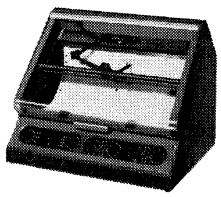


Sine-Cosine Shaft Encoder... presents sine and cosine functions simultaneously and independently. In addition, the limit one, quadrant and polarity data are supplied. Ideal for airborne automatic navigation systems, weapon control and tracking systems.

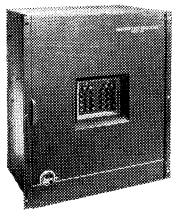


Digital Readout... performs logical brush selection operation in encoders using "V" scan. Also translates the unambiguous BCD encoder representation into parallel decimal form. Suitable for electric printers, lamp banks, etc.

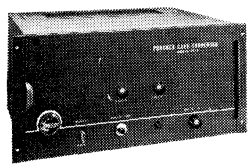
PLOTTING AND RECORDING EQUIPMENT



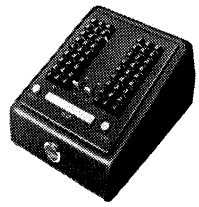
X-Y Plotter... for point or continuous plotting, with positive mechanical drive for recording graphic data. Several models available.



Punched Tape Converter... converts the digital information read from punched paper tape into input signals to the Librascope X-Y Plotter.



Punched Card Converter... converts data from IBM punched cards into analog input signals to the Librascope X-Y Plotter.

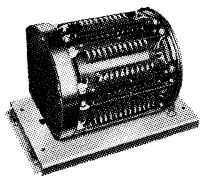


X-Y Decimal Keyboard... consists of a three-decimal bank for each axis with associated plus-minus keys.

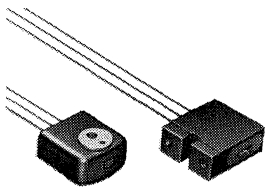
computing components instrumentation & controls

BY LIBRASCOPE

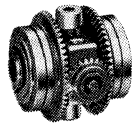
DIGITAL AND ANALOG COMPUTER COMPONENTS



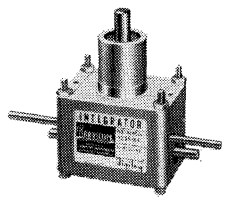
Magnetic Storage Drums... for medium storage applications; capacity 131, 072 non-volatile bits; several speeds; clock frequency 130 kc. Other models available.



Read-Record Heads... for high frequency, non-contact recording applications in magnetic memory systems; high read-back signals. Transistor windings available.

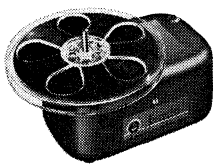


Hollow and Solid Shaft Differentials... designed for high accuracy in additive and subtractive operations... has primary applications to angular velocity, sums and difference, and sequence operations.

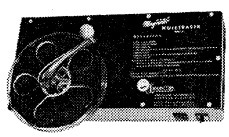


Ball-Disc Integrator... for use in totalizing, rate determination, differential analyzers, closed loop servo-element, variable speed drive, temperature correction, etc.

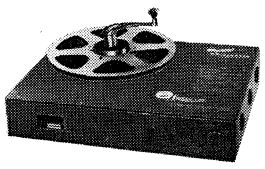
MAGNETIC TAPE BULK ERASING EQUIPMENT



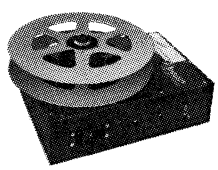
Noiseraser* NHF... home Hi-Fi model removes signals 4 to 6 db below standard erase-head levels. **Takes ¼" tape on reels to 10½".** Plugs into any 110-120V AC circuit.



Noiseraser N-7... professional model for erasing telemetering, automatic machine control, audio, and similar tapes. Takes NARTB **reels to 10½", tapes to 1".**



Noiseraser N-14... larger professional model for applications similar to those of N-7. Takes NARTB **reels to 14½", tapes to 1".**



Noiseraser N-2... automatic turntable model for optimum speed in degaussing video and telemetering recordings. Takes NARTB **reels to 14½", tapes to 2".**

*Registered trademark

COMPUTERS, CONTROLS AND COMPONENTS
Also Process Control Computers,
Automatic Data Logging and Control Systems
for Industry and Government
Write for additional Information

Librascope's use of the LGP-30 computer simplifies complex design and production problems, and assures computer-engineered quality in meeting delivery schedules.

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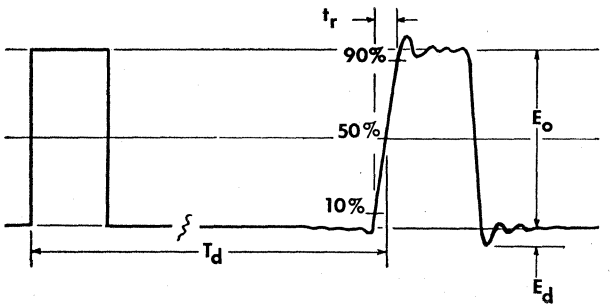
ORBITRAN COMPANY

LUMPED CONSTANT
DELAY LINES

All Orbitran Delay Lines use high quality components and are designed for optimum electrical performance. All units are Epoxy resin impregnated and hermetically sealed with a gray baked enamel finish. Commercial grade lines are recommended where a high quality product is needed and environmental conditions are not extreme. Military Grade Lines will meet all applicable MIL specifications as required by the customer and can be provided in smaller volumes than the Standard Commercial Grade Lines.

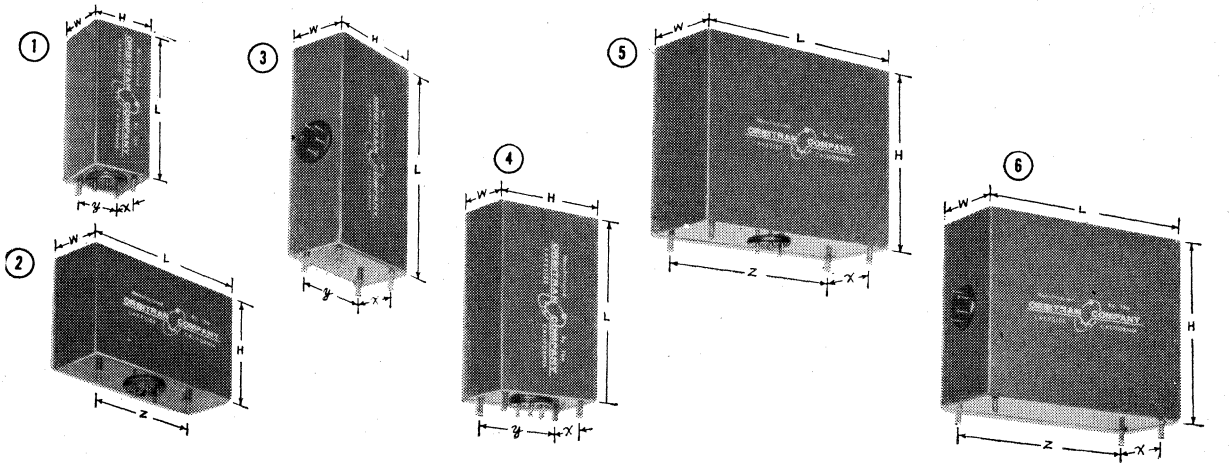


CHARACTERISTICS

- TEMPERATURE RANGE
  $-55°C$ to $+125°C$ – Military Grade
  $0°C$ to $+85°$ – Commercial Grade
- TEMPERATURE COEFFICIENT Less than 50 ppm/°C
- DELAY TOLERANCE = $t_r/4$ Microseconds
- ATTENUATION Approximately 0.12 T_d/t_r db
- DISTORTION Less than 7%
- OPERATING VOLTAGE 500V Max.

DEFINITIONS

- DELAY—(T_d)—The elapsed time between the leading edge of a step input and the 50% amplitude point on the leading edge of the output.
- RISE TIME—(t_r)—The time required for the output pulse (for a step input) to rise from the 10% amplitude to the 90% amplitude point.
- DISTORTION—(E_d)—The spurious signals (ripple, reflections, etc.) appearing on the base line and top of the pulse. Expressed as the percentage of the pulse amplitude.
- ATTENUATION—The loss in average pulse amplitude measured between input and output pulses, expressed in db.
- CHARACTERISTIC IMPEDANCE—(Z_o)—The terminating impedance which produces the lowest amplitude reflection as viewed at the input.



CASE SIZES, AS DESIGNATED BY LAST LETTER IN BASIC PART NUMBER, AVAILABLE IN THE SIX STYLES SHOWN ABOVE.

	A	B	C	D	E	F	H	J	K	M	N	P	R
L	2-5/8	3-1/4	3-1/4	3-1/4	3-7/8	3-1/4	4-5/8	5-11/16	4-5/8	5-7/8	5-11/16	5-7/8	5-11/16
W	1-3/16	1-3/8	1-7/8	1-3/8	1-3/8	1-7/8	1-3/8	1-3/8	1-7/8	1-3/8	2-5/8	1-7/8	3-1/2
H	1-3/16	1-3/8	2	2	2-3/8	2-15/16	2-7/16	2-3/4	3-3/4	3-5/8	2-3/4	5-7/16	3-3/4
X	7/8	7/8	1-3/8	7/8	7/8	1-3/8	7/8	7/8	1-3/8	7/8	2	1-3/8	3
Y	7/8	7/8	1-1/2	1-1/2	1-7/8	2-7/16	1-7/8	1-7/8	3-1/4	3	2-1/4	4-7/8	3-1/4
Z			2	2	2-1/2	2	3-1/2	3-1/2	4	5	5		5

HEADER REQUIRES 7/8" MOUNTING HOLE. STUDS ARE 6-32.

ORBITRAN CO., INC. 11487 WOODSIDE AVE. LAKESIDE, CALIFORNIA

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ORBITRAN COMPANY

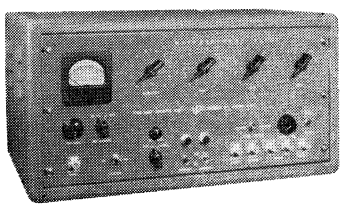
LUMPED CONSTANT DELAY LINES

STANDARD COMMERCIAL GRADE DELAY LINES

DELAY μSEC	RISE TIME μSEC	50 OHM		100 OHM		200 OHM		500 OHM		1000 OHM	
		PART NO.	NET PRICE	PART NO.	NET PRICE	PART NO.	NET PRICE	PART NO.	NET PRICE	PART NO.	NET PRICE
1	0.047			CG1E1H	67.00	CG1E2H	64.00	CG1E5H	64.00	CG1E10H	64.00
1	0.14	CG1M05A	33.90	CG1M1A	33.50	CG1M2A	31.00	CG1M5A	30.00	CG1M10A	29.00
2	0.055			CG2C1M	104.00	CG2C2M	98.00	CG2C5M	98.00	CG2C10M	98.00
2	0.17	CG2H05D	59.00	CG2H1D	58.00	CG2H2D	54.00	CG2H5D	50.00	CG2H10D	48.00
5	0.13	CG5C05M	126.00	CG5C1M	120.00	CG5C2M	111.00	CG5C5M	98.00	CG5C10M	98.00
5	0.24	CG5E05H	91.00	CG5E1H	78.00	CG5E2H	75.00	CG5E5H	67.00	CG5E10H	64.00
5	0.70	CG5M05C	47.00	CG5M1B	40.00	CG5M2B	35.00	CG5M5B	35.00	CG5M10B	33.00
10	0.27	CG10C05M	150.00	CG10C1M	126.00	CG10C2M	120.00	CG10C5M	104.00	CG10C10M	98.00
10	0.47	CG10E05H	107.00	CG10E1H	91.00	CG10E2H	78.00	CG10E5H	81.00	CG10E10J	72.00
10	0.85	CG10H05F	85.00	CG10H1D	70.00	CG10H2D	63.00	CG10H5E	62.00	CG10H10E	58.00
10	1.40	CG10M05C	58.00	CG10M1C	47.00	CG10M2B	41.00	CG10M5B	36.00	CG10M10B	36.00
20	0.55	CG20C05M	183.00	CG20C1M	151.00	CG20C2M	126.00	CG20C5M	117.00	CG20C10N	116.00
20	0.96	CG20E05K	136.00	CG20E1H	107.00	CG20E2H	91.00	CG20E5J	88.00	CG20E10J	81.00
20	1.70	CG20H05F	106.00	CG20H1D	85.00	CG20H2D	74.00	CG20H5E	65.00	CG20H10E	63.00
20	2.80			CG20M1C	59.00	CG20M2C	48.00	CG20M5B	42.00		
50	1.35	CG50C05P	282.00	CG50C1M	194.00	CG50C2M	170.00	CG50C5N	138.00	CG50C10N	137.00
50	2.3			CG50E1K	155.00	CG50E2J	116.00	CG50E5J	98.00	CG50E10J	85.00
50	4.2					CG50H2F	98.60	CG50H5E	38.00		
100	2.7			CG100C1P	282.00	CG100C2N	205.00	CG100C5N	168.00	CG100C10N	144.00
100	4.7					CG100E2K	162.00	CG100E5J	114.00		
200	6.0					CG200C2R	300.00	CG200C5N	201.00		

QUANTITY PRICES SUPPLIED ON REQUEST.

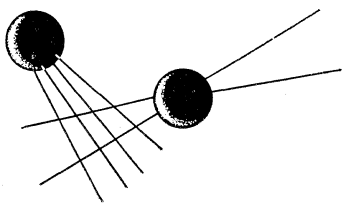
ORDERING INFORMATION To order one of the standard commercial grade Delay Lines, suffix the desired case style number to the basic part number (specify taps as required). The chart above lists the more commonly used lines. For Delay Lines not listed above, please specify Delay, Rise Time, Impedance, Case Style, and Taps. These special lines will be supplied quickly and at costs comparable to the standard lines. For prompt quotations on Military Grade Delay Lines, please furnish the following information: Delay, Tolerance, Rise Time, Impedance, Attenuation, Distortion, Temperature Range, Form Factor, Taps, and all applicable military specifications.



PULSE DELAY GENERATOR

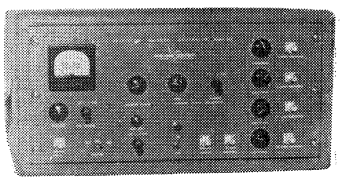
The Model 1000A is a precision instrument which produces a pulse variable in delay from an external or internal trigger. The delay range is 1.0 to 999.9 microseconds in 0.1 microsecond increments. The accuracy is 0.01% and the jitter less than 0.005 microseconds.

NET $975.00



PULSE TRANSFORMERS

The Orbitran Company is now producing a line of Ferrite Core Pulse Transformers with pulse widths ranging from 0.2 to 6 microseconds. These units are Epoxy resin encapsulated, 11/16" in diameter with lead arrangements in either style shown. These Transformers are designed for application where low cost is essential. Prices and further information are available on request.



MARKER PULSE GENERATOR

The Model M2 is an EXTERNALLY triggered marker generator which provides trains of 1, 5, 10, and 100 microsecond spaced pulses. The accuracy is 0.01% and the jitter less than 0.005 microseconds.

NET $825.00

ORBITRAN CO., INC.

11487 WOODSIDE AVE.
LAKESIDE, CALIFORNIA

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UNITS AVAILABLE

Pulse Generator
Pulse Programming Tri-Unit
Pulse Delay
Amplified Flip-Flop
Flip-Flop Storage Decade Unit
Shift Register Decade
Binary Counter
Complementing Flip-Flops
Ladder Network
Pulse Sorter
Reversible Shift Register
Binary-Decimal Counter
Electronic Switch
Reversible Binary Counter
Information Transfer Panel
Comparator Decade
Amplified Gating Unit
Pulse Standardizer Tri-Unit
Exclusive "Or" Tri-Unit
Four Input "Or" Amps
60 Volt Amplifier
Vk Pulse Standardizer
VK Pulse Amplifiers
10 Low Level Amplifiers
Power Supply

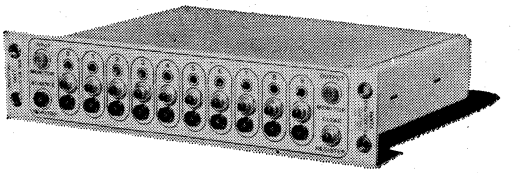
GENERAL CHARACTERISTICS

All of the units utilize PNP computer type transistors in D. C. switching circuitry . . . and the functions operate up to 200KC over a three to one voltage range. Typical rise times are .25 microseconds for — 18 volt levels. Standardized pulses are 1.5 microseconds in width with .2 microsecond rise and fall times. Matched input and output characteristics completely avoid large system problems.

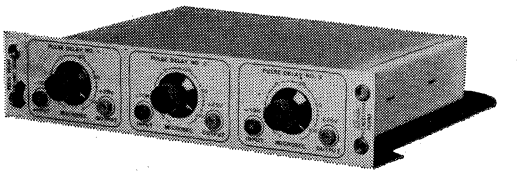
FREE

Send for your copy of *Notes on Transistor Switching Circuitry* and complete specifications on the NAVCOR SERIES 100.

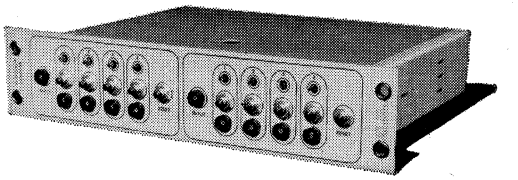
Shift Register Decade Unit



Pulse Delay Tri-Unit



Binary-Decimal Counter Dual Unit



TRANSISTORIZED *DIGITAL* SYSTEM BLOCKS

The concept of completely transistorized system blocks for use in the data handling field was pioneered and commercially developed by NAVCOR. Now — utilizing these system blocks, the pulse generating and programming demands of all projects involving switching transistor circuits up to 200KC are quickly satisfied. Creative engineering by NAVCOR has produced units that can be readily interconnected by back panel patch-board plugs to build-up complete data handling systems. These compatible modules are available from stock . . . delivered complete and attractively packaged, ready to work immediately as an important part of your transistor development program. In addition, Navigation Computer Corporation has the facilities and experience to develop system blocks to specifications.

Navcor

NAVIGATION COMPUTER CORPORATION
1621 SNYDER AVE., PHILA. 45, PA. • HOward 5-7700

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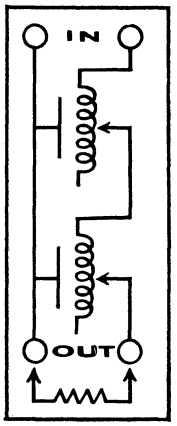
PARSONS MICROPULSE DELAY LINES

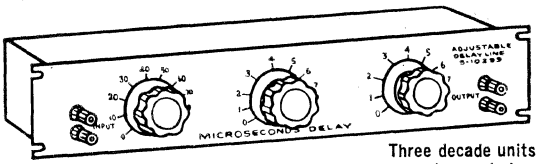
ADJUSTABLE LUMPED PARAMETER DISTRIBUTED CONSTANT

Custom engineered or standard models for laboratory research...
For industrial and military applications

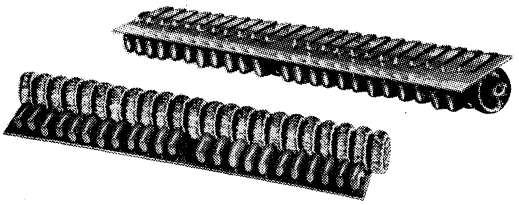
features

1. ***Terminated in own impedence***
   No cathode follower required from a tap
2. ***Miniaturized***
   Convenience
3. ***Rigid construction***
   Durability
4. ***Epoxy Encapsulation***
   Stability
5. ***Silver contact steatite backed rotary switch***
   Long-lasting with simplicity of operation





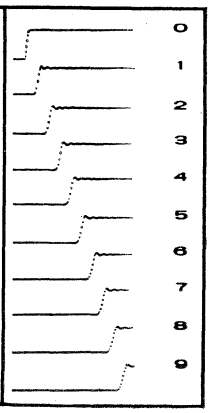
Three decade units rack mounted



Examine Micropulse's internal construction. Notice the carefully made coils and silver mica capacitors, rigidly mounted on Micropulse's own printed wiring board. This assures you that every Micropulse line will be of the same uniform high quality.

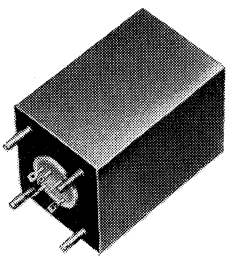
PART NO.	IMPED-ENCE	μSEC STEP	RANGE	MAXIMUM RISE TIME	MAXIMUM ATTENUATION
S-10291	1000	10	0-90 μsec	5 μsec	6 db
S-10290	1000	1	0-9 μsec	.5 μsec	1 db
S-10209	1000	.1	0-9 μsec	.05 μsec	½ db
S-05130	50	.2	0-5 μsec	.13 μsec	1 db

output at 10 positions of S-10290 (0.1 markers)

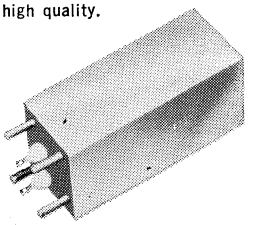


Parsons' engineering experience and facilities are available to design adjustable lines...

- In other impedences, delays and rise times
- Compensated to have the same rise time and attenuation at all taps
- Hermetically sealed to meet MIL specs
- Continuously variable



Custom built models to meet your specifications are a Parsons' specialty.



Delay lines can be packaged into miniature encapsulated, hermetically sealed units with connector and terminal requirements supplied to customer specifications.

These are only a few of the models available.
For complete details call, wire or write PARSONS

PARSONS *means creative electronics*

THE RALPH M. PARSONS COMPANY

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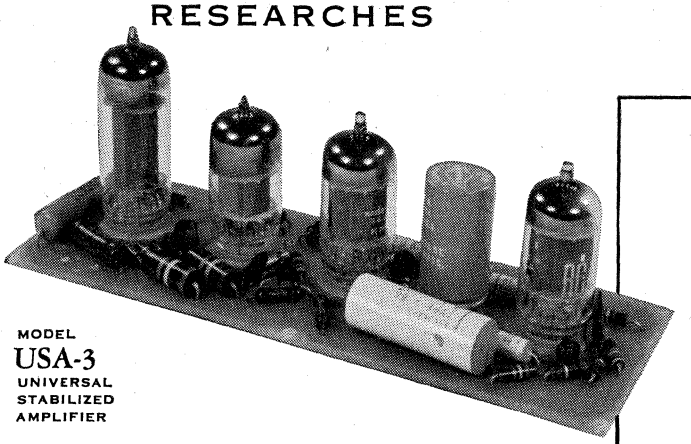
COMPUTOR QUALITY

DC AMPLIFIERS

FROM PHILBRICK RESEARCHES



MODEL
USA-3
UNIVERSAL STABILIZED AMPLIFIER

This unit and K2-W, K2-X and K2-P were designed for and are component parts of the high-quality PHILBRICK Analog Computors.

Ideal for applications to instrumentation, control and analog computation, the USA-3 has such a high inherent gain that the feedback circuitry alone determines the loop gain.

The user, in selecting his own circuitry, can obtain exactly the output characteristic best suited to *his* application. An interesting design feature makes this instrument safe against self-destruction, even under prolonged overload conditions or direct grounding of its output. *Write for ETB-USA-3.*

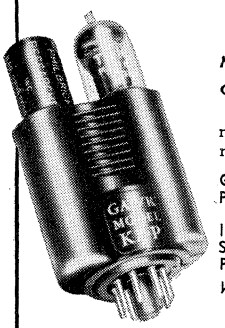
RELIABILITY: No electrolytic capacitors or glow tubes. Designed to prevent self-destruction even when output is short circuited.
NO GRID CURRENT: Grid current at the input is eliminated by a new and unusually simple circuit
PRINTED CIRCUIT: Economy, reliability and compactness
OPEN LOOP D-C GAIN: At least ten million guaranteed, typically well over 10^8
LONG TERM & SHORT TERM DRIFT AND NOISE: Under 100 microvolts
OUTPUT VOLTAGE RANGE: ±115 volts
SIZE: 7" x 2½" board
WEIGHT: 6 oz.
PRICE: $95.00

MODEL K2-W & *MODEL* K2-X
OCTAL-BASED DC AMPLIFIERS

Facilitate rapid set-up, simplify design in instrumentation and control applications, with either one or both of these amplifiers.

They both feature balanced differential inputs for low drift, high input impedance, low output impedance, high performance, and economy of operation.

MODEL K2-W	*MODEL K2-X*
GAIN: 15,000 dc, Open Loop	30,000 dc, Open Loop
POWER REQUIREMENTS:	
4.5 ma @ ±300 vdc,	7.5 ma @ ±300 vdc, reg.
0.6 amps @ 6.3V	0.75 amp @ 6.3V
OUTPUT RANGE: +50V to −50V @ 1 ma	+100V to −100V @ 2 ma
RESPONSE: 2 microsecs rise time	1 microsec rise time
100 kc with unity feedback	250 kc with unity feedback
PRICE: $24.00 Postpaid	$28.00 Postpaid
WRITE FOR ETB-K2-W	*WRITE FOR ETB-K2-X*



MODEL K2-P
OCTAL-BASED STABILIZING AMPLIFIER

For more critical applications where long term drift must be reduced to sub-millivolt levels the model K2-P may be *paired* with either the K2-W or K2-X.

GAIN: 1,000 dc
POWER REQUIREMENTS: 2.4 ma @ ±300 vdc, 0.45 amps @ 6.3 vac, 60 cps
INPUT IMPEDANCE: 1 megohm
STABILITY: Below 100 microvolts
PRICE: $60.00 Postpaid
WRITE FOR ETB-K2-P

For information on circuitry and applications of the amplifiers shown above write for free 28 page Plug-in Amplifier Applications Manual, EM-158.

GEORGE A.
PHILBRICK
RESEARCHES, INC.

285 Columbus Ave., Boston 16, Mass. . . . COmmonwealth 6-5375

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For your convenience, file folders already imprinted with *eem* product section numbers and classifications are available for only $3.50 for a set of 54. These file folders plus *eem* and *eem* CLIP/FILE are the elements of an easy-to-use, up-to-date product information filing system.

Order your file folders today. Be sure to include a check for $3.50 for each set of 54 folders required. For further information on how to set up your own personal filing system, refer to the inside back cover.

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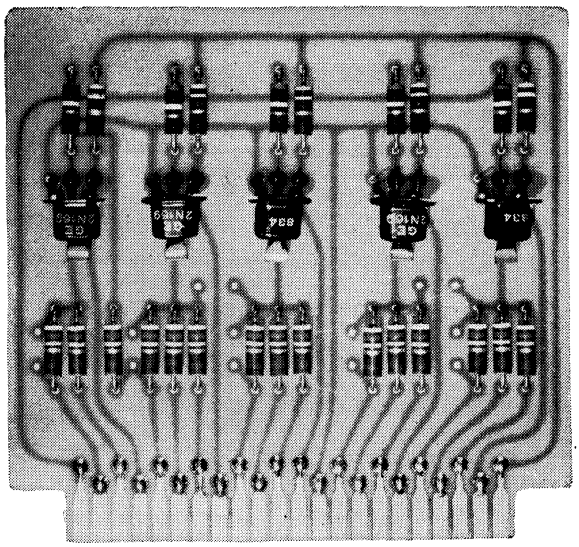
NOR LOGIC

RANSOM RESEARCH NOR LOGIC



In addition to the standard line of diode logic and associated flip flops, etc., *Ransom Research* produces the Series N3 Logical Elements using resistors instead of diodes for the basic logic element. This is the so called NOR logic. Standard *Ransom Research NOR* logic is conservatively rated for operation at 50KC; special transistors may be used to appreciably increase this maximum operating frequency.

Transistor *NOR* circuits are specially designed to take advantage of the low power requirements and relatively low cost of the transistor. This logic employs a reliable and stable transistor circuit, resulting in a single logical element able to solve all logical equations. The basic circuit employs a transistor in the common emitter configuration. This transistor is operated as a switch: when the input voltage exceeds a certain minimum (for NPN transistors a positive voltage) the transistor switches from the cutoff state to saturation. While the transistor is in the cutoff state, the collector to emitter impedance is very high, and therefore the output level (unloaded) is essentially the supply voltage. The output impedance in this condition is therefore the collector load resistance. When the transistor is in the saturated condition, on the other hand, the collector to emitter impedance becomes quite low, and the output is clamped at the emitter voltage. The output impedance of the transistor in the saturated condition is a function of the parameters of the transistor, but, depending on the transistor, this may be as low as several ohms, or even tenths of ohms.

Ransom Research NOR logic elements are available with either NPN or PNP transistors, depending on the output levels desired; a variety of standard RR Computer Elements printed circuit cards provide *NOR* logic elements with a choice of 2, 3 or 6 inputs to each element. In addition, special units are available for particular applications. For additional information regarding RR *NOR* logic, request *Technical Bulletin C-40.*

RANSOM RESEARCH COMPUTER ELEMENTS

Ransom Research also produces a complete line of Computer Elements for high speed logical operations. Such units as diode gates, flip flops, single shot multivibrators, amplifiers, and the like, are available as a compatible series of logical components. All RR Computer Elements are mounted on a $4\frac{1}{2}''$ x $5''$ printed circuit card, and require a 22-pin printed circuit connector. They may also be mounted in our Type R-1 Card Files. Complete technical literature is available on request.

Where the use of our standard Computer Elements is contemplated, *Ransom Research* is pleased to offer advice as to the most effective combinations of RR Computer Elements to meet a specific requirement. There is no charge for this service.

RANSOM RESEARCH DEVELOPMENT SERVICES

Ransom Research will develop and/or produce any control system or data processing system to customer specifications. Most problems can be solved by combinations of RR Computer Elements, but special circuits, such as adders, half-adders, etc., are available or may be designed to meet particular requirements. We invite your inquiries on systems requirements.

Ransom Research

CONSULTING ENGINEERS
TRANSISTOR CIRCUIT SPECIALISTS

TErminal 2-6848

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TECHNITROL Distributed Constant Delay Lines

Stock Items

Technitrol manufactures and stocks a number of types of distributed parameter electrical delay lines. All are manufactured to close tolerances and are very stable with respect to temperature and other environmental conditions. Standard tolerance on delay is ±5%; standard tolerance on impedance is ±20%. Windings carried in stock are listed directly below and specifications for other standard series delay lines that are available on short delivery are listed at bottom of page.

TYPICAL PART NUMBER

SERIES — CASE TYPE — DELAY (μ sec/100)

C25GTS—1200—50

COMMERCIAL GRADE — WINDING — IMPEDANCE

25E SERIES

C25ET-330-25	C25ETS-560-05
C25ETS-330-10	C25ET-1200-25
C25ETS-330-05	C25ETS-1200-10
C25ET-560-25	C25ETS-1200-05
C25ETS-560-10	

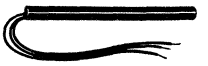
25F SERIES

C25FT-560-50	C25FT-1200-50
C25FTS-560-25	C25FTS-1200-25
C25FTS-560-20	C25FTS-1200-20
C25FTS-560-10	C25FTS-1200-10
C25FT-1000-50	C25FT-2700-50
C25FTS-1000-25	C25FTS-2700-25
C25FTS-1000-20	C25FTS-2700-20
C25FTS-1000-10	C25FTS-2700-10

25G SERIES

C25GT-1200-100	C25GT-2700-100
C25GTS-1200-50	C25GTS-2700-50
C25GTS-1200-25	C25GTS-2700-25
C25GT-1800-100	C25GT-4700-100
C25GTS-1800-50	C25GTS-4700-50
C25GTS-1800-25	C25GTS-4700-25

BD-1000-100



The BD-1000-100 delay line is a one microsecond delay line made up of two six-inch 25F windings, cascaded in one case, and meets the following specifications:

Impedance: 1000 ohms ± 20%
Delay: 1.00 μ sec ± 5%
Rise Time: 0.1 μ sec max.
D. C. Attenuation: 2 db max.
Test Voltage: 500 volts
Case: 6¼" by ½" diameter, Epoxy

STOCK ITEM PRICES
1 to 99
Series 25E, 25F, 25G

Type T case, any impedance, any delay	$4.85
Type TS case, any impedance, any delay	$4.50
Type BD-1000-100	$6.00
Type D5-3300-120	$2.90

D5-3300-120

Type D5-3300-120 is an extremely compact, high impedance line, dip-coated in epoxy resin and has the following specifications:

Impedance: 3300 ohms ± 20%
Delay: 1.2 μ sec ± 5%
D. C. Attenuation: Less than 1 db
Rise Time: Approximately 0.4 μ sec
Length: Max. 2½"
Diameter: Max. 7/16"

Substantial price reduction on quantity purchases, some as low as $1.25 per unit. Write for quotes.

PRICES subject to change, but over past 5 years, they have been consistently down. Large reductions on production quantities of stock items.

Standard Delay Line Specifications

25E SERIES

Maximum delay per 6" stick: 0.25 μ sec
Maximum delay per 3½" stick: 0.125 μ sec
Not recommended for less than .05 μ sec delay
Test voltage: 500 volts dc
Operating temperature: −25°C to +85°C

Temperature coefficient: varies from .0008 μ sec/ μ sec/degree C at maximum impedance of 1200 ohms to .00125 μ sec/ μ sec/degree C at minimum impedance of 330 ohms.

Impedances Available	Rise Time
330 ohms	0.03 μ sec
390 ohms	0.03 μ sec
560 ohms	0.03 μ sec
820 ohms	0.03 μ sec
1200 ohms	0.04 μ sec

Attenuation (mid band): 2 db per μ sec max

25F SERIES

Maximum delay per 6" stick: 0.5 μ sec
Maximum delay per 3½" stick: 0.25 μ sec
Not recommended for less than 0.1 μ sec delay
Test voltage: 500 volts dc
Operating temperature: −25°C to +85°C

Temperature coefficient: varies from .0006 μ sec/ μ sec/degree C at maximum impedance of 2700 ohms to .0012 μ sec/ μ sec/degree C at minimum impedance of 560 ohms.

Impedances Available	Rise Time
560 ohms	.07 μ sec
820 ohms	.08 μ sec
1000 ohms	.09 μ sec
1200 ohms	.10 μ sec
1800 ohms	.12 μ sec
2700 ohms	.15 μ sec

Attenuation (mid band): 1 db per μ sec max

25G SERIES

Maximum delay per 6" stick: 1 μ sec
Maximum delay per 3½" stick: 0.5 μ sec
Not recommended for less than 0.2 μ sec
Test voltage: 500 volts dc
Operating temperature: −25°C to +85°C

Temperature coefficient: varies from .00041 μ sec/ μ sec/degree C at maximum impedance of 4700 ohms to .00072 μ sec/ μ sec/degree C at minimum impedance of 1200 ohms.

Impedances Available	Rise Time
1200 ohms	.15 μ sec
1800 ohms	.16 μ sec
2700 ohms	.17 μ sec
3300 ohms	.18 μ sec
3900 ohms	.20 μ sec
4700 ohms	.22 μ sec

Attenuation (mid band): 0.5 db per μ sec max

25J SERIES

Maximum delay per 6" stick: 3.0 μ sec
Maximum delay per 3½" stick: 2.1 μ sec
Not recommended for less than 0.6 μ sec delay
Test voltage: 500 volts dc
Operating temperature: −25°C to +85°C

Temperature coefficient. varies from .00032 μ sec/ μ sec/degree C at maximum impedance of 7500 ohms to .00055 μ sec/ μ sec/degree C at minimum impedance of 3900 ohms.

Impedances Available	Rise Time
3900 ohms	0.33 μ sec
5600 ohms	0.48 μ sec
7500 ohms	0.53 μ sec

Attenuation (mid band): 0.2 db per μ sec max

Mid band attenuation (db) $= \frac{4.34\,R}{Z}$ R = dc resistance of line Z = characteristic impedance of line

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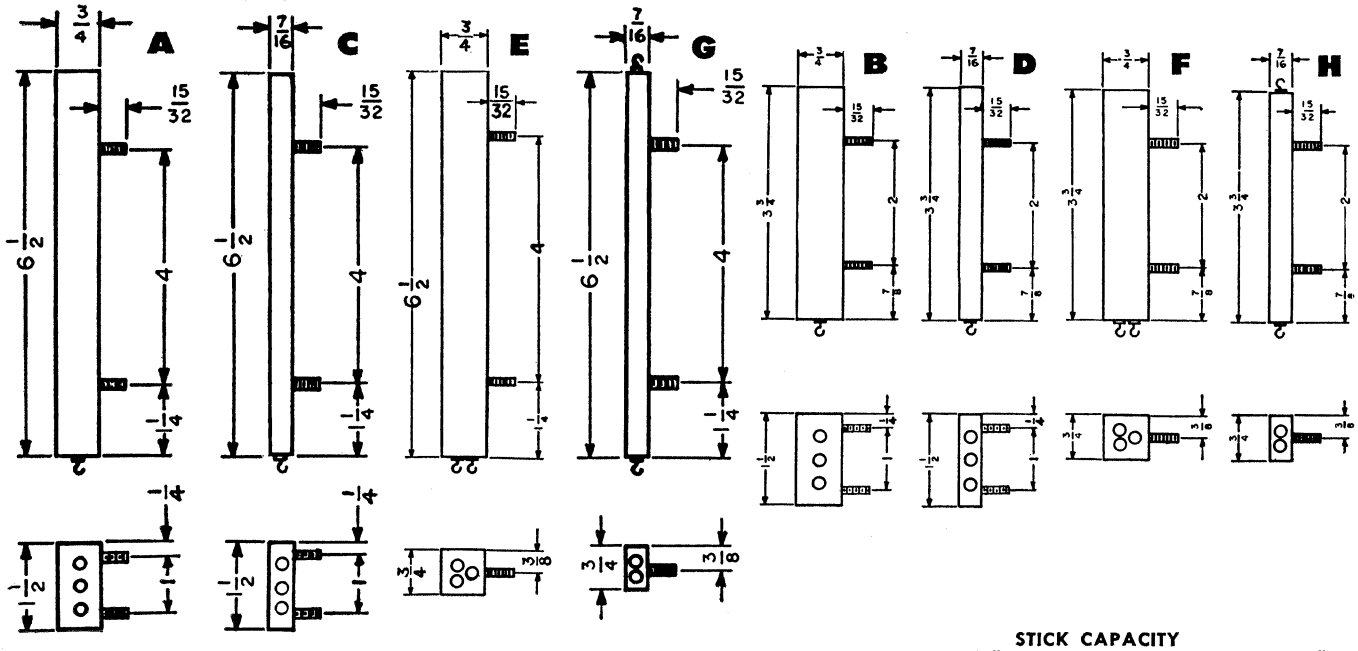
TECHNITROL Standard Delay Line Cases

Metal Cans

Applications: Military— Severe Environment— Multiple Stick

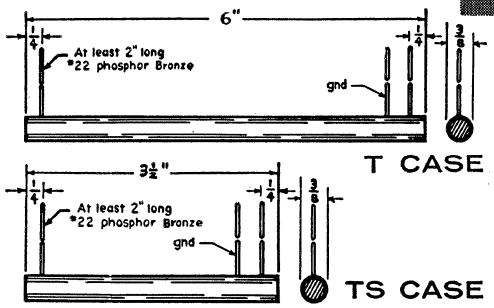


PHYSICAL CHARACTERISTICS
Mounting stud: 6-32 brass, cadmium plated.
Terminals: compression type. Completely sealed; potted in foam.
Finish: gray enamel; zinc chromate primer over electro-tinplate.

	STICK CAPACITY		
A	12 — 6"	E	6 — 6"
B	12 — 3½"	F	6 — 3½"
C	6 — 6"	G	3 — 6"
D	6 — 3½"	H	3 — 3½"

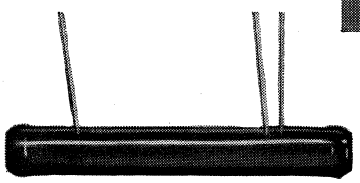
DELAYS BASED ON STICK CAPACITY

Epoxy Cases



Epoxy encapsulation with operating temperature from −25°C to +85°C. Standard stock delay lines are available with over-all lengths of 6″ or 3½″. Other epoxy-case delay lines can be had with lengths in ¼″ steps from 2½″ to 11¼″.

Dip-Coated Delay Lines



For economy, stick is dip-coated in highly moisture-resistant epoxy resin. Ambient temperature range: −25°C to +85°C. Length ranges from 1¾″ to 11″, depending on delay and winding of stick used. Any single stick of any winding type can be supplied with dip coating.

Custom-Built Delay Lines

We are prepared to design and produce lumped constant or distributed constant continuously-wound delay lines to specifications or to meet specific performance characteristics. Variations in delays, impedances and bandwidth can be designed, as well as types of mountings to meet physical and electrical requirements.

Non-stock standard winding delay lines in sample quantities, in any of our standard cases are available with 2-week delivery.

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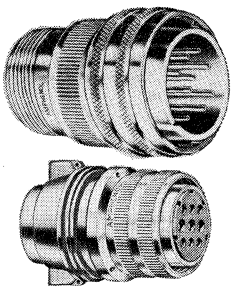
Amphenol

electronic components

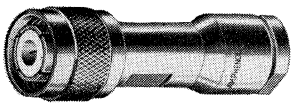


AN/MS CONNECTORS

AN/MS connectors are supplied to the latest issue of MIL-C-5015. Shell types available are 3100, 3102, 3106, 3107 and 3108. Constructions A, B and C, as well as AMPHENOL's new E—"Stub E"—are offered.

Features of AMPHENOL AN/MS connectors include heavily silver-plated contacts with the longest wiping action of any AN/MS contact.

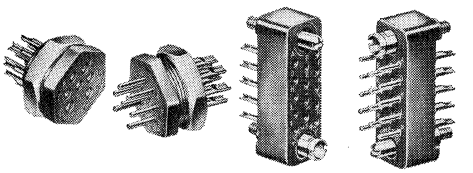
Offered as optional is AMPHENOL'S superior gold-over-silver plating which provides faster, easier soldering and eliminates oxidation problems.



RF CONNECTORS

Series N, BNC, HN, BN, C, LC, LT and UHF are made by AMPHENOL in Mil-approved UG-/U constructions. In addition, there are exclusive AMPHENOL designs—SUBMINAX®, a complete line of highly reliable subminiature RFs, and "Quick-Crimp" BNC connectors, which speed up assembly time by as much as 50%.

Patented "Captivated Contact" construction is available in Series N, HN and BNC. This design "captures" the contact within the connector body to prevent disconnects when cable dielectrics or conductors recede under stress.



RACK & PANEL CONNECTORS

Three different configurations are available in AMPHENOL rack & panel connectors. Miniature hexagon connectors have 4, 5, 7 or 9 contacts; interchangeable hardware makes them unusually versatile. Miniature Rectangular connectors have as few as 7, as many as 34 contacts. AMPHENOL's standard Rectangulars, with 11, 15 or 20 contacts, can be supplied with or without housings and cable clamps. Contacts in all configurations are gold-plated.

Call upon the three AMPHENOL *manufacturing Divisions of* AMPHENOL-BORG ELECTRONICS CORPORATION *for your component needs!*

AMPHENOL

AMPHENOL CONNECTOR DIVISION
chicago 50, illinois

AMPHENOL CABLE & WIRE DIVISION
chicago 38, illinois

AMPHENOL WESTERN DIVISION
los angeles (chatsworth), california

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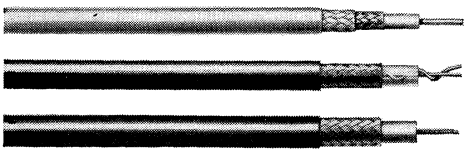
Amphenol

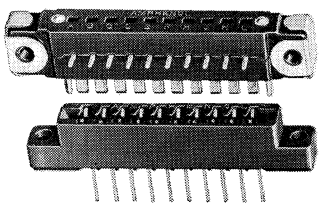
electronic components



COAXIAL CABLE

AMPHENOL coaxial cable and wire products represent the most complete line available to industry. Over 100 RG-/U cables, including a full selection of Teflon dielectric types, are made by AMPHENOL.

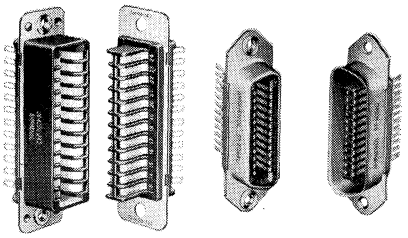
Special types made only by AMPHENOL include "Aljak" aluminum-jacketed Teflon or polyethylene dielectric cables; "Polyfoam" cables with cellular polyethylene dielectrics; Noise-free cables and many others. Subminax® Teflon cables match subminiature RF connectors.



PRINTED CIRCUIT CONNECTORS

AMPHENOL Prin-Cir printed circuit board receptacles feature a "circle lip" contact design that can't be overstressed or "set" even after repeated insertions. Low millivolt drop, long contact life and gold-plating of contacts are other important features. 6, 12, 15, 18 and 22 contacts.

Prin-Cir plugs and adapters which mate with the receptacles are made with 10, 15, 18 and 22 contacts. Contacts are gold-plated, have 6 different tail constructions.



BLUE RIBBON & MICRO-RIBBON CONNECTORS

AMPHENOL's famous Blue Ribbon connectors and the miniaturized Micro-Ribbons are now available in a variety of constructions. Standard Blue Ribbon connectors are made with straight inserts with mounting plates, latch-lock housings or keyed shells. Micro-Ribbons have straight shells or latched shells for cable-to-chassis mounting.

The unique "ribbon"-like contact is gold-plated, has self-wiping, self-cleaning action. Dielectric material is diallyl phthalate.

For precision component parts, rely upon the talents and experience of these AMPHENOL *Divisions of* AMPHENOL-BORG ELECTRONICS CORPORATION:

AMPHENOL

AMPHENOL CONNECTOR DIVISION
chicago 50, illinois

AMPHENOL CABLE & WIRE DIVISION
chicago 38, illinois

AMPHENOL WESTERN DIVISION
los angeles (chatsworth), california

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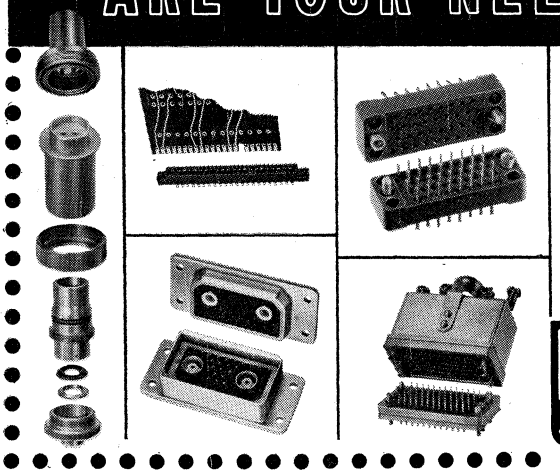
RELIABLE COMPONENTS
ARE YOUR NEED AND OUR SPECIALTY



ANTON PRECISION-BUILT CONNECTORS

incorporate new techniques in hermetic sealing, high-altitude operation, molding and waterproofing. Our facilities include complete design and model making shops as well as the full range of shock, vibration and environmental test equipment. We welcome your "difficult" as well as standard connector design and application problems.

ANTON ELECTRONIC LABORATORIES, INC.

A subsidiary of United States Hoffman Machinery Corporation

1226 FLUSHING AVE., BROOKLYN 37, N. Y.

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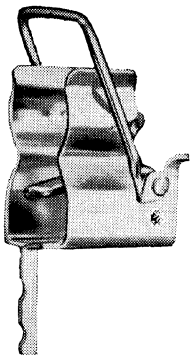


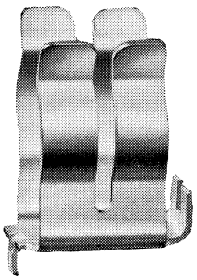
To BuShips Spec. RE28F121B. Also afford greater pressure to reduce heating. Withstand 50-hour salt spray test per AN-QQ-S-91. Available for diameters: 1/4", 9/32", 13/32", 1/2", 9/16", 11/16", 13/16", 7/8", 1" and 1-1/8"; with ejecting or non-ejecting spring; with or without solder/position lug (up to 5/8"). BULLETIN #1.

55¢ to $1.25 ea.

LUCITE CAP NUTS

For superior electronic assemblies. Tighten with your fingers — loosen with a wrench. Make fine lock nuts. Sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 5/16-18. BULLETIN #20. **$34.20 to $39.80/M**

TRANSISTOR CLIPS and HEAT SINKS



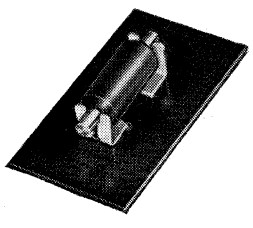
Available for all types and sizes of transistors. Can be provided coated with Durafilm to provide 500 V.D.C. insulation. Cadmium plated spring steel or silver plated beryllium copper alloy #25, for horizonal or vertical mounting. Silver plated beryllium copper alloy #25 with no-twist lug or solder lug. BULLETIN #10 and APPLICATION DATA SHEET gives proper clip for use with each transistor.

10¢ to 50¢ each

BATTERY HOLDERS

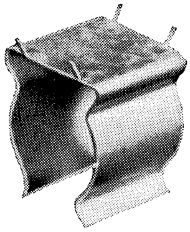
Atlas E-E Corporation manufactures a complete line of battery holders for mercury cells and all sizes of flashlight batteries. BULLETIN #15. **50¢ to 85¢ ea.**

CRYSTAL DIODE CLIPS



Low cost—strong grip. Beryllium copper alloy #25, .0126" thickness. Silver plate, .0002" thickness. Available for terminal pin sizes: .065" to .085" diameter; and for wire leads: .029" to .032" diameter. BULLETIN #9.

$9.90/18.30/M



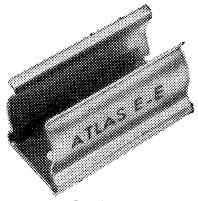
TAB MOUNTED CLIPS

For printed circuitry. Clinched in place by bending tab over under board. Mounting tabs are spaced for 3/64" diameter holes on 0.1" grids and will take five 90° bends without fracture. Beryllium copper alloy #25, copper flashed, electro tinned. Available for diameters: .170", .235", .312", .400", .500", .625", .750", .875", and 1". BULLETIN #32. **46¢ up each**

MICRO-PIN SOCKETS

For solderless circuit component connections. Will take over 20 insertions. Withdrawal force of 8 oz. For .016" and .020" diameters. BULLETIN #50. **25¢ each**

COMPONENT HOLDERS



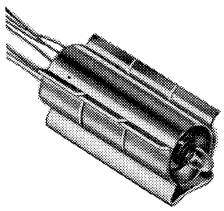
Provide automatic increase in holding power as conditions become more extreme. Withstand vibrations of 90 G's at 500 cycles for one minute and 1750 impact shocks at 200 G's. SAE #1065 annealed carbon steel or beryllium copper alloy #25. Cadmium plated per QQ-P-416A Class Z Type II. Withstand 50-hour salt spray test per AN-QQ-S-91. Available for diameters: .175", .195", .235", .260", .312", .375", .391", .400", .500", .562", .670", .750", .875", 1", 1.125", 1.250", 1.500". BULLETIN #7.

15¢ to 50¢ ea.

N.E.L. INSERTS

For TS Shields. Lower bulb temperatures by as much as 100°C and provide almost perfect electrostatic shielding. BULLETIN #12. **18¢ each**

SUBMINIATURE TUBE HOLDERS & SHIELDS



Withstand up to 20 G's at 500 cycles without resonant frequencies or tube movement. Tests show consistent reductions of 50° to 60° in bulb temperatures. BULLETIN #8 gives all material, plating and tube size specifications.

15¢ & 29¢ ea.

SEND FOR BULLETINS

ON THE FOLLOWING ATLEE PRODUCTS FOR ELECTRONIC APPLICATIONS:

Fuse and Resistor Clips—#2 • No-twist Component Clips—#18 • Crystal Clips#—11
Combination Tube & Socket Holders—#8C • Nylon Screws—#21 • Epoxy Resin Preforms—#26

ATLAS E-E CORPORATION

47 Prospect Street, Woburn, Mass., WOburn 2-5390
3757 Wilshire Blvd., Los Angeles, Calif., DUnkirk 7-8666

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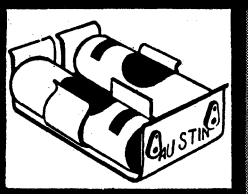
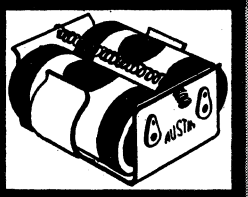
AUSTIN Craft BATTERY HOLDERS

...for any electronic application requiring miniature battery power

Everyday, A/C Battery Holders are finding new jobs to do in electronics—Hi-Fi installations, Radio Control, Automation, Aircraft, Missiles, applications where space limitations or power requirements indicate the need for miniature or sub-miniature battery power.



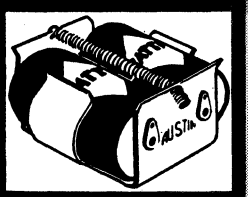
106 TWO CELL "AA" PENCELL BATTERY HOLDER



107 TWO CELL "C" MEDIUM BATTERY HOLDER

A/C Battery Holders are of "clip-clamp" design made of 52S-19 and 24S-T3 aluminum alloys. Contact eyelets are nickel plated brass insulated with stepped fibre washers. Solder lugs are tinned brass for ease in soldering. Tempered coil tension springs are included on models where battery weight or size make them necessary to insure perfect contact. More than just carriers for miniature cells A/C Holders are designed to tenaciously and securely hold batteries assuring perfect contact even in applications which involve extreme shock or vibration.

More than 60 Types and sizes of A/C Battery Holders embracing the holder requirements for most makes of dry and mercury cells, in a wide range of voltages are carried in stock ready for immediate delivery.



108 TWO CELL "D" LARGE BATTERY HOLDER

CATALOG NUMBER	TYPE	DIMENSIONS LENGTH HEIGHT WIDTH	BURGESS	EVEREADY	MALLORY
106	2-CELL	2-1/16 x 3/4 x 1-1/8	Z	915	RM502-R
107	2-CELL	2-1/16 x 1-1/8 x 1-3/8	1	635	TR22-R
108	2-CELL	2-1/2 x 1-7/16 x 1-3/4	2	950	RM42-R
109	1-CELL	2-1/16 x 1-3/16 x 1	1	635	TR22-R
110	1-CELL	2-9/16 x 1-3/16 x 1	2	950	RM42-R
112	3-CELL	2-1/2 x 1-5/16 x 4	2	950	RM42-R
113	1-CELL	2-1/16 x 3/4 x 1-1/8	U15	412	RM412-R
114	2-CELL	2-1/16 x 1-1/8 x 1-1/8	U15	412	RM412-R
123	4-CELL	2-1/16 x 1-1/4 x 1-3/8	Y15	505	RM5020
126	2-CELL	5 x 1-3/8 x 1-3/8	Z4	724	RM42-R
127	1-CELL	2-1/16 x 3/4 x 3/4	Z	505	RM5020
129	3-CELL	2-11/16 x 1-1/8 x 1-3/4	U20	413	RM413-R
130	1-CELL	4-1/4 x 1-1/2 x 1-1/4	21R	964	
134	1-CELL	1-9/16 x 5/8 x 1-1/4	U10	411	*RM411-R
139	1-CELL	1-1/2 x 11/16 x 1-1/4	Y20	506	
140	1-CELL	1-7/8 x 1/2 x 1/2	7	912	
141	2-CELL	1-7/8 x 1/2 x 3/4	7	912	
143	2-CELL	2-1/16 x 3/4 x 1-1/8	Y15	505	RM12-R
145	2-CELL	2-1/2 x 1-7/16 x 1-3/4	Z4	950	RM42-R
146	2-CELL	1-7/8 x 1/2 x 3/4	7	912	
149	1-CELL	3/4 x 5/8 x 5/8		E1	RM-1
151	1-CELL	1-3/16 x 1 x 3/4		E4	RM-4
152	1-CELL	1 x 1 x 3/4		E3	RM-3
154	1-CELL	3/4 x 5/8 x 1/2		625	RM-625RT
155	2-CELL	1-1/2 x 1-1/4 x 1-3/8	Y20	506	M-227
158	1-CELL	1-5/16 x 7/16 x 1/2	NE		
163	1-CELL	2-1/16 x 3/4 x 3/4		E12	RM12-R & TR133-R
166	1-CELL	2-3/4 x 1-7/16 x 1-3/8		302642	302642M
170	2-CELL	4-1/16 x 7/8 x 1-3/8			TR136-R
172	1-CELL	2-5/16 x 11/16 x 3/4			TR165-R

Only partially shown here, complete specification and battery usage charts are available on request.

SPECIAL DESIGNS FOR SPECIAL REQUIREMENTS

A special department has been set up at Austin-Craft to service requests for designs and types which cannot be supplied from the regular in stock line of more than 60 sizes and types. Any special requirement, you may have, can be designed and manufactured, exactly in accordance with your specifications.

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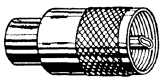
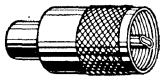
SOLDERLESS COAX CABLE CONNECTORS

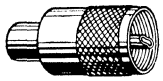
SOLDERLESS COAX CONNECTORS

Model P-11S

Standard male fitting designed for use with the following types of coax cable: RG/U 8, 9, 9A, 10, 11, 12, 13, 63, 79, 87A, 114, 117, 133 and 144. .95 net

Model P-59S

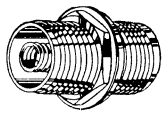
Standard male fitting designed for use with the following types of coax cables: RG/U 59, 62, 71 and 140. .95 net



TERMINATING PLUG

Model MTP-75

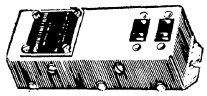
Provides correct termination of 75-ohm cable fitted with P-11S connector and MC Cable Coupler. $1.60 net



CABLE COUPLER

Model MC

A correctly matched, mechanical splice for two similar or dissimilar types of 75-ohm coax cable fitted with P-11S or P-59S connectors. Also used for terminating cable with Terminating Plug MTP-75 or as feedthrough in weatherproof housings. $1.60 net



EXACT MATCH TV ACCESSORIES

ATTENUATOR Model MAT

Provides uniform attenuation from 0 to 45 db, in 3 db steps, in frequency range 0-220 mc. Has 75 'in' and 'out' fittings. $14.60 net

POWER LINE FILTER Model MLF

Provides 60 db RF isoaltion in frequency range 50-1000 mc, between input and output. Handles up to 5 amps. Has two AC outlets and one BX cable input connector. $12.15 net Mounts in B-T radiation-proof Housing Model MRH-A. $37.50 net

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BLONDER-TONGUE LABORATORIES, Inc.

9 Alling Street, Newark 2, N. J.

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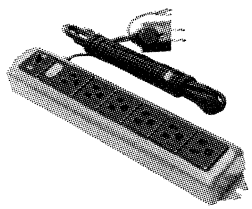
MULTIPLE OUTLET BOXES

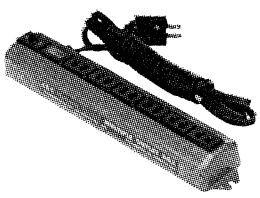
EVER-HANDY, HEAVY DUTY ELECTRICAL EXTENSIONS for

INDUSTRY • SERVICE SHOPS • TEST FACILITIES • ETC.

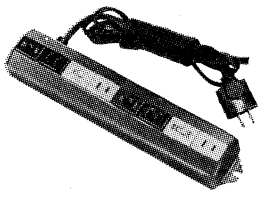
ALL HAVE: Heavy duty drawn cans, fused plugs, heavy duty neoprene line cords, ears for mounting, and all rated 15 amps . . 115 volts.



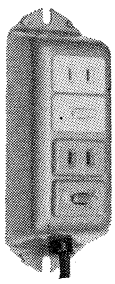
Six outlet, three wire grounding type outlet box in brown hammertone case.
Model MO-DG, $8.50 Net ea.



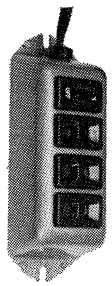
Six sturdy a-c outlets with common control switch and pilot light.
Model MO .... $6.75 Net ea.



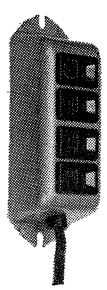
Four switch controlled a-c outlets color keyed for identification.
Model SS ..... $6.75 Net ea.



SS-2
$4.15 Net ea.
Control switch for each outlet color coded for identification



MO-3
$3.90 Net ea.
One switch controls 3 outlets



MO-4
$3.75 Net ea.
4 outlets

MODEL MO & SS AVAILABLE IN CHROME CASE AND WHITE OUTLETS

Each of the above have: 6' heavy duty line cords and brown hammertone case.

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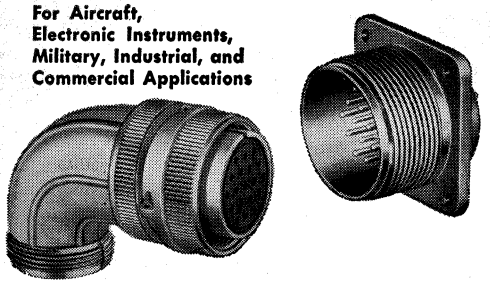
MS (STANDARD)

For Aircraft, Electronic Instruments, Military, Industrial, and Commercial Applications

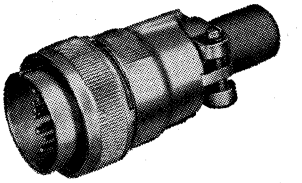


Standard MS-A, MS-B, MS-C... meet Specification MIL-C-5015C. **Plastic inserts.** 15 diameters, 260 insert layouts, 6 shell styles. MS3100 to MS3108 with all accessories. Interchangeability an outstanding feature. Many type assemblies directly available through distributors.

connect with CANNON PLUGS

MS-E

Where Vibration Resistance and Moisture Proofing Are Needed

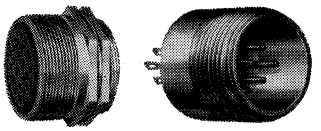


MS-E Series... environment resisting. Meets Specification MIL-C-5015C. Resilient inserts. Completely sealed from cable to cable. Integral clamp and bushing. Grounding lugs. Interfacial sealing with grommet and grommet follower.

The "MS" and associated series connectors offer the

GS (HERMETICALLY-SEALED)

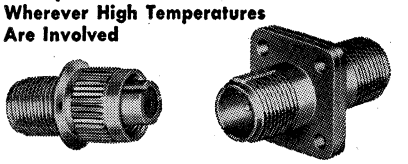
For Use Under Critical Pressure Conditions



Hermetically sealed connectors... with steel shells and contacts to withstand high pressures. Available in GS (MS type), KH, RKH, U, BFH, TBFH. Insulation is Canseal glass material, fused under high temperature to shell and contacts... giving *true hermetic sealing* when soldered or brazed to housing.

STEEL SHELL FIREWALL

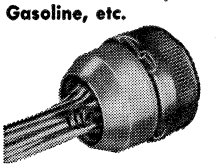
For Open Flame Protection Wherever High Temperatures Are Involved



MS-K and Cannon FW Firewall Connectors... offer you the greatest variety of this type of connector. Cannon made the first firewall connector and continues the leader in the field. Wall—or box-mounting receptacles. Straight or angle 90° plugs. Crimp-on contacts. Inserts of asbestos-filled or glass-filled materials.

CONNECTORS SUITABLE FOR POTTING

For Resistance to Moisture, Fuel Oil, Gasoline, etc.

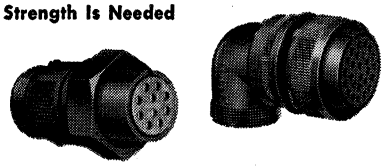


CA06 and CA3106 Types... developed for the Bu Aer Standard MS3106 type minus the end bell. Special plastic "cups" supplied for use as a mold while potting the rear of the connector. Weight saving. Grounding means available. Plastic or resilient inserts.

widest selection of types for all applications to Spec. "MIL"

AF, F (VIBRATION PROOF)

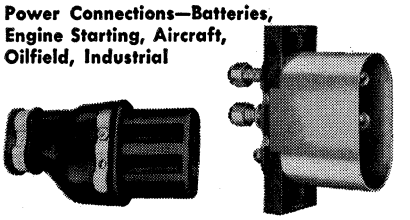
For Points of High Vibration Where Extra Strength Is Needed



Vibration Proof CA310*F Solid Shell, Resilient Insert Connectors... Feature extra strong coupling nuts... in hex, spline, knurled types for airline use. In wall—or box mounting, cord-connecting type receptacles. Straight or angle 90° plugs.

AN EXTERNAL POWER

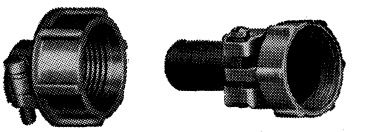
Power Connections—Batteries, Engine Starting, Aircraft, Oilfield, Industrial



CA2551, AN2552, AN3114 and Other Cannon Types Offer Most Complete and Varied Line... in single, double, and three contact fittings. Really rugged! Designed and built for safe, positive connection and long-lasting service.

MS ACCESSORIES

Cable Clamps, Conduit Fittings, Dummy Receptacles, Junction Shells, Dust Caps, Bonding Rings, Bushings, Adapters

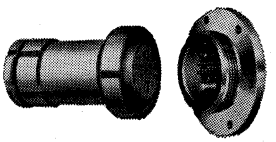


Featuring High-Quality Materials and Workmanship... including AN3057, AN-3057A, AN3420, AN3054, AN3055, AN30-56, AN3058, AN3064, AN3066, AN3068, AN3111, 2120, 2245, 17530, 2209, 2182. Adaptable to all makes of MS connectors.

Cannon Plugs—standard of quality for the industry

W

For Underwater and Severe Moisture Conditions



W Waterproof Series... used underwater and on equipment operating in swamps, rivers, lakes, with underground cables—wherever conditions require thoroughly sealed fittings. Exceptionally rugged. MS type inserts. Acme threads on coupling nuts. Special rubber sealing ring. Special heavy duty cable clamp available.

OTHER SERIES... Audio Types–External Power Connectors–Switching Types–dc Solenoids–Guided Missile Launching Connectors–Miniatures and Sub-Miniatures.

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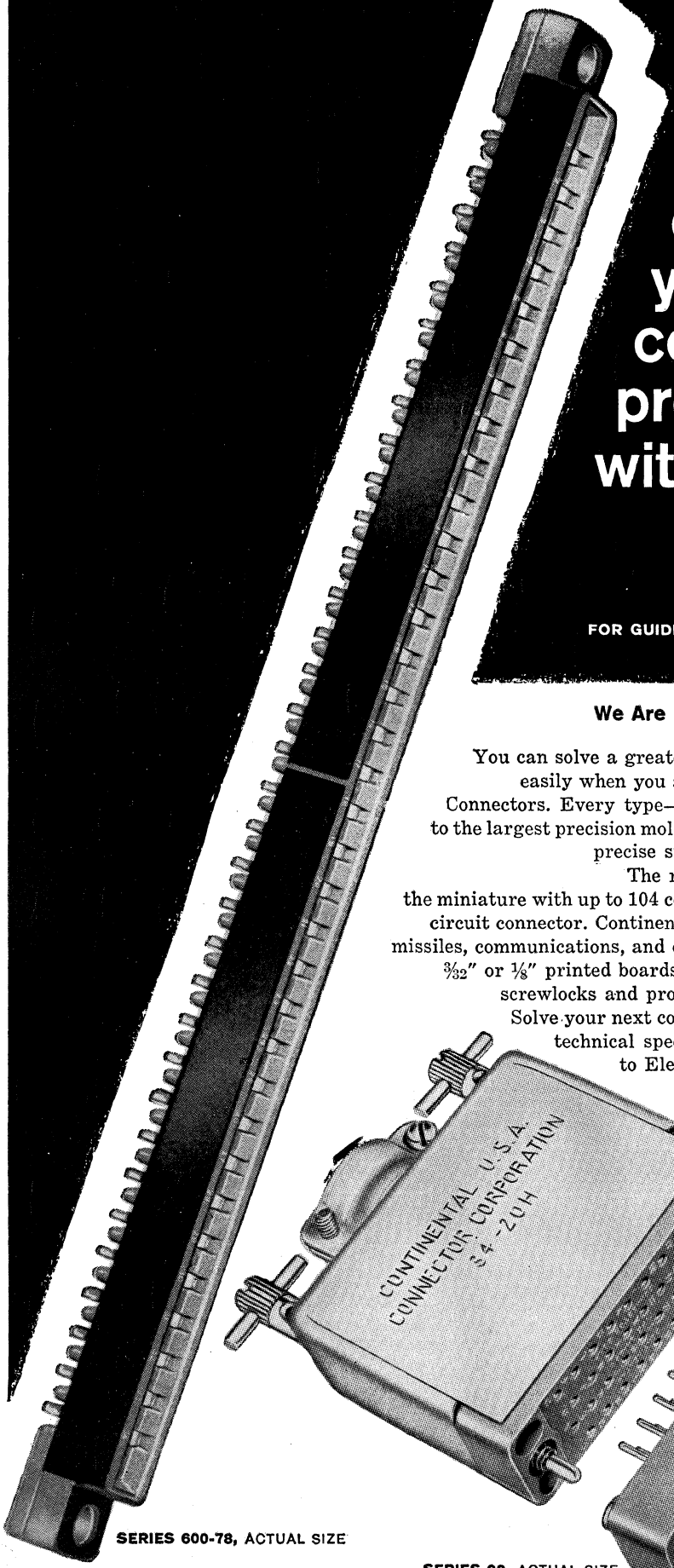
FOR GUIDED MISSILES . . . COMMUNICATIONS . . . COMPUTERS

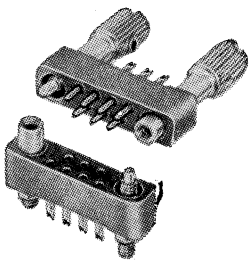
We Are Not Thinking Reliability...We Have Reliability!

You can solve a greater percentage of precision connector problems more easily when you are familiar with the diversified line of Continental Connectors. Every type—from ultra-miniaturized pin and socket connectors to the largest precision molded printed circuit connector known—is made to meet precise standards of reliability. Just a few are shown . . . The ruggedized micro-miniature with up to 44 contacts; the miniature with up to 104 contacts; and largest known precision molded printed circuit connector. Continental manufactures many other connectors for guided missiles, communications, and computers, including printed circuit types for 1/16", 3/32" or 1/8" printed boards, hermetic seal and power types. Hoods, polarizing screwlocks and protective shells are also available for various series. Solve your next connector problem in advance by writing for complete technical specifications on Continental Connectors. Write today to Electronic Sales Division, DeJUR-Amsco Corporation, 45-01 Northern Boulevard, Long Island City 1, New York. (Exclusive Sales Agent)



SERIES 600-78, ACTUAL SIZE

SERIES 20, ACTUAL SIZE



SERIES MM22, ACTUAL SIZE

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electronic components

MANUFACTURED BY CONTINENTAL CONNECTOR CORPORATION, AMERICA'S FASTEST GROWING LINE OF PRECISION CONNECTORS.

See YELLOW SECTION for Local Offices, Telephone, etc.

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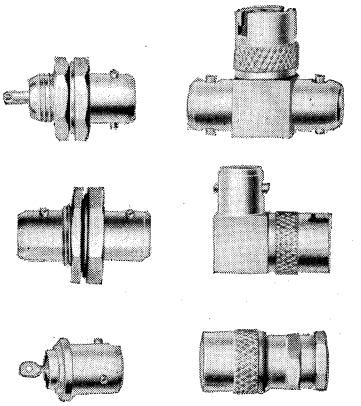
DAGE Coaxial Cable RF CONNECTORS

meet all your circuit design, mounting and environmental requirements

DM series

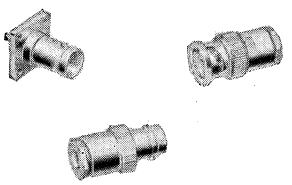
DESIGNED FOR SUB-MINIATURE APPLICATIONS

- Only half the size of standard BNCs
- Twelve polarity groups—two and three lug
- Vibration proof bayonet locking (MIL-C-5015)
- Teflon insulators permit use over wide temperature range with low electric loss
- .002″ silver plating and gold flash affords excellent corrosion resistance



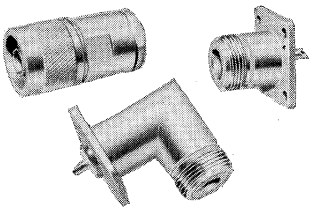
SHOWN ACTUAL SIZE

BNC series



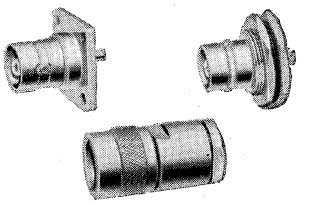
BNC connectors are designed for use with miniature RF cables. Small, lightweight and weatherproof, all have the quick-disconnect bayonet locking feature. Teflon insulators assure low electric loss at high temperatures. Manufactured to MIL-C-3608 specs. Frequency limit: 10,000 mc.

N series



Low voltage, constant impedance connectors for use with medium sized cables. Provide excellent VSWR at frequencies up to 10,000 mc. Available in both weatherproof and non-weatherproof types. Screw type coupling ring locking. Maximum voltage: 500v. Meet MIL-C-71A specs.

C series



A newly developed line of weatherproof connectors for use with medium sized RF cables. Features several design improvements over other connectors, including improved clamping mechanism for excellent cable grip, and a silicone rubber gasket for moisture-proof sealing.

For complete descriptions and specifications see our catalog page in . . .
THE RADIO-ELECTRONIC MASTER

DAGE **ELECTRIC COMPANY, INC.**
67 North Second St. • Beech Grove, Ind.

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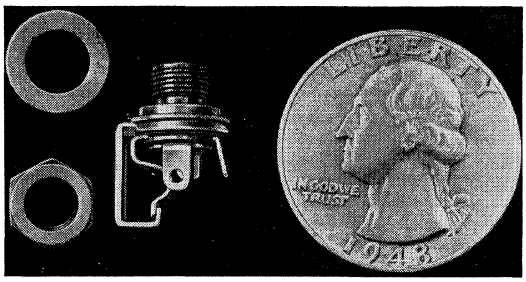
FEDTRO

"MINI-JACKS"

TROUBLE FREE SUB-MINIATURE JACKS

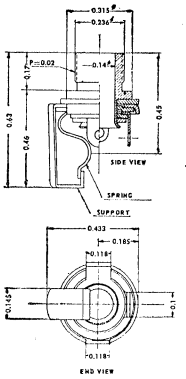
FOR TRANSISTOR RADIOS • DICTATING MACHINES • RECORDERS • HEARING AIDS • ELECTRONIC DEVICES



Fedtro "Mini-Jacks," a new higher standard of quality and dependability in the field of sub-miniaturization. Special trouble-free features include concave positive spring contact; spring made of finest quality beryllium copper with extra hard temper; all significant parts silver plated; support made of silver plated phosphor bronze; parts will not shift or rotate; superior "gripping" of mating plug.

MATING PLUG: Mini-Jacks are designed to function properly with all available *sub-miniature type, 2-conductor phone plugs.* (Such as type usually used on miniature earphone cords and other small molded cables).

CIRCUIT FUNCTION: 2-Conductor, closed circuit jack. Integral contact in the separate switching circuit.



ACTUAL SIZE

AVAILABLE FROM STOCK

PRICE . . . LOWEST in the INDUSTRY

See Fedtro's EEM listing in Sections:
1300 (Cartridges, Earphones, Speakers)
1500 (Capacitors) 3900 (Pilot Lites) 4700 (L-Pads)

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TO KEEP COMPLETE PRODUCT

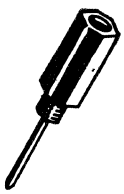
INFORMATION IN ONE

ACCESSIBLE PLACE

for full details refer to the inside back cover

G-C Split Banana Plugs
G-C No. 7730

G-C Banana Jacks
G-C No. 7741



G-C Insulated Phone Tip Plugs
G-C No. 7710

G-C Heavy Duty Phone Plugs
G-C No. 7789

G-C Military Type Phone Plugs
G-C No. 7798

G-C Military Jacks
G-C No. 7801

G-C

PLUGS • JACKS • CLIPS

SNUG FITTING CONVENIENCE

Phone plugs, jacks, and tips available in standard sizes. Fully insulated to protect against shorts and leaks. Makes perfect connections that don't shake loose. A wide assortment of styles and types are yours for every purpose.

FAST DELIVERY IN ANY QUANTITY FROM STOCK through your local Electronic Distributor . . . Write for complete catalog and see the G-C line in the new Radio-Electronic Master.

GENERAL CEMENT MFG. CO.

Division of Textron Inc.

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AMERICA'S QUALITY LINE OF

TUBE-SOCKETS and SHIELDS

ELCO CORPORATION

"M" ST. BELOW ERIE AVE., PHILA. 24, PA., CUmberland 9-5500

JAN SOCKETS AND SHIELDS

Part No.	Description	Designation Per JAN/S28A-3
235 BC or PHSPTD	7 Pin Mica	TS 102P01
238 BC or PHSPTD	7 Pin Ceramic	TS 102C01
169 BC or PHSPTD	9 Pin Mica	TS 103P01
176 BC or PHTSPD	9 Pin Ceramic	TS 103C01
335 BC or PHSPTD	Octal Mica	TS 101P01
336 BC or PHSPTD	Octal Mica, with Bushings	TS 101P02
338 BC or PHSPTD	Octal Ceramic	TS 101C01
337 BC or PHSPTD	Octal Ceramic with Bushings	TS 101C02
342 BC or PHSPTD	Octal Mica, GRC	TS 101P0
121	7 Pin Shield 1⅜"	TS 102U01
120	7 Pin Shield 1¾"	TS 102U02
149	7 Pin Shield 2¼"	TS 102U03
193	9 Pin Shield 1½"	TS 103U01
191	9 Pin Shield 1 15/16"	TS 103U02
195	9 Pin Shield 2⅜"	TS 103U03

RTMA SADDLE TYPE

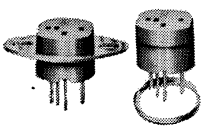
Bottom Mounting
Contact Material: Brass, Cad. Plated

Insulator Mat'l	7-Pin Model	9-Pin Model
Gen. Purp.	100	270
Mica Filled	105	271
Ceramic	220	272

RMA SADDLE TYPE

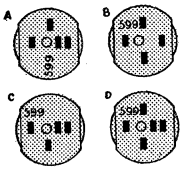
with Ground Lugs, Bottom Mounting.
Contact Material: Brass, Cad. Plated

Insulator Mat'l	7-Pin Model	9-Pin Model
Gen. Purp.	300	370
Mica Filled	305	371
Ceramic	320	372



SERIES 3300 COMBINATION TRANSISTOR SOCKET

Model No.	Saddles	Mtg. Rings
(A) 3301	Flat	
(A) 3304		757
(B) 3306	Flat	
(B) 3307		757
(C) 3309	Flat	
(C) 3310		757
(D) 3312	Flat	
(D) 3313		757



Material: Mica
Contacts: Beryllium Copper, Silver Plated and Gold flashed

"B" SERIES AUDIO PLUGS, RECEPTACLES

B2209, Panel Connector, Male

Model	Contacts	Ozs.
B2209-2	2	2.2
B2209-3	3	2.3
B2209-4	4	2.4
B2209-5	5	2.5
B2209-6	6	2.6

Mates with B2210

B2210, Cable Conn., Female

Model	Contacts	Ozs.
B2210-2	2	3.1
B2210-3	3	3.2
B2210-4	4	3.3
B2210-5	5	3.4
B2210-6	6	3.5

Mates with B2209 or B2212

B2211, Panel Connector, Male

Model	Contacts	Ozs.
B2211-2	2	3.1
B2211-3	3	3.2
B2211-4	4	3.3
B2211-5	5	3.4
B2211-6	6	3.5

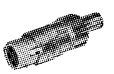
Mates with B2212

B2212, Cable Conn., Female

Model	Contacts	Ozs.
B2212-2	2	3.1
B2212-3	3	3.2
B2212-4	4	3.3
B2212-5	5	3.4
B2212-6	6	3.5

Mates with B2211 or B2210

"EL" SERIES AUDIO PLUGS, RECEPTACLES



EL2213, Panel Connector, Male

Model	Contacts	Ozs.
EL2213-3	3	1
EL2213-4	4	1

Mates with EL2214

EL2214, Cable Conn., Female

Model	Contacts	Ozs.
EL2214-3	3	2
EL2214-4	4	2

Mates with EL2213 or EL2216

EL2215, Panel Connector, Male

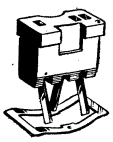
Model	Contacts	Ozs.
EL2215-3	3	2.2
EL2215-4	4	2.2

Mates with EL2216

EL2216, Cable Conn., Female

Model	Contacts	Ozs.
EL2216-3	3	1.9
EL2216-4	4	1.9

Mates with EL2214 or EL2215

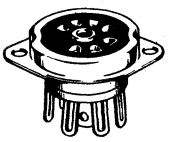


SOCKETS—3 & 4 PIN FLAT IN-LINE

3-Pin—for Point Contact Type and Junction Type Transistors
4-Pin—for Linotetrar Type Transistors

Mica filled castings, beryl. copper contacts

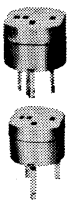
Model No.	Mounting Rings
3-Pin—799BC	3-Pin—777
4-Pin—803BC	4-Pin—777



JAN SADDLE TYPE

Top Mounting
Contact Material: Brass, Cad. Plated

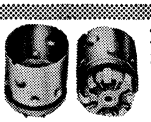
Insulator Mat'l	7-Pin Model	9-Pin Model
Gen. Purp.	240	196
Mica Filled	241	197
Ceramic	113	170



SERIES 3300 COMBINATION TRANSISTOR SOCKET STANDOFF TYPE FOR PRINTED CIRCUITRY

Material: Mica
Contacts: Beryllium Copper, Silver Plated and Gold Flashed, Same Pin Configuration as Series 3300 Shown in Column at Left.

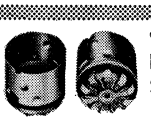
Model No.
(A) 3303
(A) 3305
(B) 3308
(C) 3311



7-PIN SOCKETS FOR PRINTED CIRCUITS SHIELD BASE TYPE

Insulator Mat'l	Contact Mat'l
	Phos. Bronze, Sil. Pl.
Low Loss Mica Filled Phenolic	Model No. 622 PHSP

Where jumpers are required, from center rivet to any contact, add "J" and contact No. to Model No. (Example: 622J1).

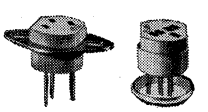


9-PIN SOCKETS FOR PRINTED CIRCUITS SHIELD BASE TYPE

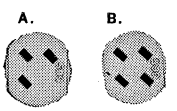
Insulator Mat'l	Contact Mat'l
	Beryl. Copper Sil. Pl.
Low Loss Mica Filled Phenolic	Model No. 623 BC

Where jumpers are required, from center rivet to any contact, add "J" and contact No. to Model No. (Example: 623J1).

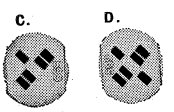
SERIES 3300 COMBINATION TRANSISTOR SOCKETS



for .016" and .030" DIA. PINS



For .030" Dia. Pins



For .016" Dia. Pins

Model No.	Saddles	Mtg. Ring
(A) 3324		757
(A) 3326	Flat	
(B) 3325		757
(B) 3327	Flat	
(C) 3315		757
(C) 3318	Flat	
(D) 3316		757
(D) 3319	Flat	

Material: Mica
Contacts, Beryllium Copper, Silver Plated and Gold Flashed

VENTILATED SHIELD

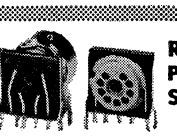
*Brass, Nickel Plated
**Steel, Cadmium Plated

Model No.	7-Pin Height	Model No.	9-Pin Height
121V*	1⅜"	193V*	1½"
120V*	1¾"	191V*	1 15/16"
149V*	2¼"	195V*	2⅜"
127V**	1⅜"	192V**	1½"
126V**	1¾"	190V**	1 15/16"
148V**	2¼"	194V**	2⅜"

CORRUGATED INSERT FOR JAN SHIELDS

Cad. Plated, Beryllium Copper, Matte Black Finish

Model No.	JAN No.	Model No.	JAN No.
929, 7-Pin	TS102U01	932, 9-Pin	TS103U01
930, 7-Pin	TS102U02	933, 9-Pin	TS103U02
931, 7-Pin	TS102U03	934, 9-Pin	TS103U03



RIGHT ANGLE PRINTED CIRCUIT SOCKETS

Model No.—with Continuous Contacts

4006-1 EG 1/16	7-pin without shield base
4007-1 EG 1/16	7-pin with shield base
4008-1 EG 1/16	9-pin without shield base
4009-1 EG 1/16	9-pin with shield base

EG=GLASS FILLED EPOXY BOARD

Example:
4004—1 x 1/16
90° printed circuit socket,
9 pin with shield base,
Mica filled insulator,
Phosphor bronze contacts silver plated,
XXXP Laminated phenolic board
1/16, 3/32, 1/8 thick chassis

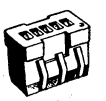
FLAT TYPE SUB-MINIATURE

Insul. Mat'l	Model No.
5-Pin	770 BC
6-Pin	813 BC
7-Pin	790 BC

Mica filled castings, beryl. cop. contacts

Mounting Rings

5-Pin—756 6-Pin—843 7-Pin—768



PRINTED CIRCUIT SUB-MINIATURE

	Model No.
3-Pin	786 BC
4-Pin	805 BC
5-Pin	788 BC
6-Pin	815 BC
7-Pin	792 BC

Mica filled castings.
Contact Material: beryllium copper.

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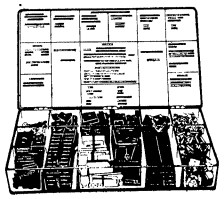
ELCO CORPORATION / VARICON CONNECTORS and PRINTED CIRCUITRY

"M" ST. BELOW ERIE AVE., PHILA. 24, PA., CUmberland 9-5500

WHAT IS THE VARICON CONNECTOR SYSTEM?

Completely new connector system, composed of only 4 basic parts. Completely flexible, too, from assembly standpoint, making it possible to assemble, from these 4 basic parts, connectors with most any required number of contacts.

New Enlarged VARICON KIT

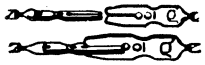


Contains all parts to allow user to make "on the spot" assembly of virtually every type miniature connector in any pin configuration, from 2 contact single tier to 48 contact double tier. Includes Elco's new right-angle Varicon; regular and taper tab male and female contacts; ruggedized end sections; center sections; covers; brackets; cable clamps; screws; nuts; Assembly Instructions; re-ordering sheet. In handsome transparent plastic box.

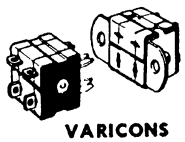
GVK — 1 (GP) LIST 40.00 Each
GVK — 2 (LL) LIST 50.00 Each

Smaller Kits Also Available **GP-1 10.00 — GP-2 13.75**

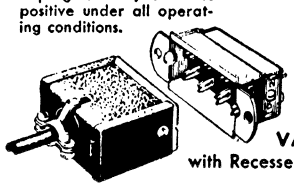
GENERAL SPECIFICATIONS: Current Rating 15 Amps., 115 Volts (in cover); 30 Amps. (in free air) (withstanding voltage between closest terminals 4000 volts); Contact Resistance .0001 ohm. Low Capacitance. All Male & Female components are identical. 300 ohm line spacing. Contacts in use are always under pressure, cannot be overstressed or overstrained.



Patented fork-like contact, same for both male and female connectors; provides "spring" contact with wiping action; remains positive under all operating conditions.

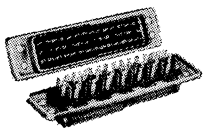


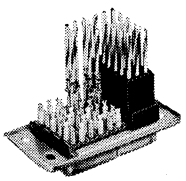
VARICONS with Bracket



VARICONS with Recessed Housing

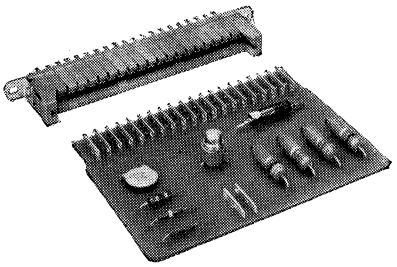
Additional contact surface provided by 45° bevel running down full length of forks. Resulting large contact area provides for high voltage and current capacity; no intermittents, etc.





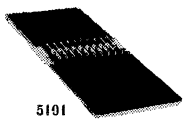
SERIES 8000 SUB-MINIATURE VARICON CONNECTORS

Offers maximum number of contacts in minimum space where increased contact density is requisite. Available in 16, 18, 40, 45, 48, 54 contacts. 8, 24, 32, 64 and 80 contacts available shortly. 40-contact rack-and-panel single-tier connector shown at top; 48-contact double-tier connector, showing wiring connections to contacts and honeycomb insulator pictured below. Write for Bulletin 107.



SERIES 5002 PRINTED CIRCUIT VARICON CONNECTORS

Male contacts mounted on printed circuit board, spaced at .200" centers to match the female connectors. Method of staking the male contacts to board engineered by Elco to provide permanent contact with circuitry without possibility of wear or lifting copper lines. Contact terminations designed to permit connector to be mounted on another p. c. board and staked to unit. For conventional chassis mounting, printed circuit Varicon connectors can be furnished with brackets mounted on ends. Write for Bulletin No. 101A.



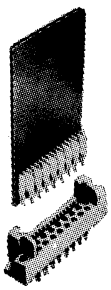
5191

5301

SERIES 5000 BOARD TO BOARD PRINTED CIRCUIT VARICON CONNECTORS

Contacts supplied in disposable contact strips, at .002" spacing. Staking to p. c. board made with special staking tools (see below). Up to 61 contacts supplied on strip. For connecting two boards in tandem in common plane; parallel to each other; perpendicular to each other using one row of contacts; or 2 rows of contacts. Write for Bulletin 107.

Permits any number contacts; any spacing; any contact location; any board thickness, material or connecting angle.



SERIES 7001 SUB-MINIATURE P. C. VARICON CONNECTORS

Male member consists of contacts inserted into pre-punched or drilled holes in sub-module board, and staked directly into printed circuit. Female portion is insulator housing contacts with which sub-module board is mated. Available in 17 contacts. Write for Bulletin No. 106A.

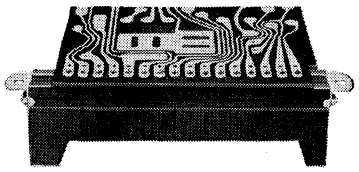
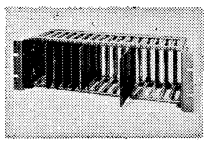
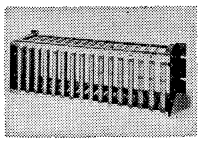


Photo above shows interlocking section, oriented notch, contacts staked to board. Pictured below: female circuit board, and connector with mounting brackets.

"VARIPAK" P. C. CARD ENCLOSURES





Printed circuit board enclosures designed to be adapted to any printed or etched circuitry packaging technique. Provides maximum density from shelf stocked parts. Up to 78 parts may be retained with 8 screws. Fits Standard relay rack or standard electronic cabinet enclosure mounting: 4⅜", 5¼", 7", 8¾", 10½" panel sections. Write for Bulletin A2.

Type	Nominal Panel Hgt.	P. C. Card Sizes Max. Width	Approx. Max. Length
9006-1	4⅜"	3.625	8.500
*9006-2	5¼"	4.500	8.500
9006-3	7"	6.250	8.500
9006-4	8¾"	8.000	8.500
9006-5	10½"	9.750	8.500

*Stock Item

6002

P. C. CONNECTORS

Card edge connector for 1/16" p.c. board. Available in 20 single contacts with wire hole; 22 double contacts with taper tab; 18 double contacts with wire hole. Employs ribbon contacts, the design permitting flexing at bottom, thereby creating almost constant pressure at various board thicknesses within NEMA tolerance limits. Write for Bulletin 103-A.

VARICON CATALOG V-2

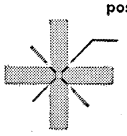
Space limitations do not allow for the complete description of the Varicon Connector System. We will be happy to forward you our Varicon Catalog V-2, upon request on your company letterhead. This profusely illustrated Catalog, with data, specifications and prints is a "must" in your library.

MORE ABOUT VARICON CONNECTORS

Only with Varicons, polarity combinations may be varied on individual units with the same number of contacts, so that accidental mating of dissimilar combinations cannot occur. This is Elco's exclusive "Keying Control" principle.

Varicons were designed with primary consideration of mass production application; for quick and easy soldering of wire, or for solderless connections to contacts. Safe and positive cable retention and simplicity of installation is achieved by means of cable clamps.

Illustrated cross-section of pair of mated contacts shows how additional contact area provides for high voltage and current capacity; positive contact results at all times.



SPOT DELIVERY FROM YOUR NEAREST PARTS DISTRIBUTOR. ALSO SEE OUR "RADIO ELECTRONIC MASTER" PAGES

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Grayhill INC. 569 HILLGROVE AVENUE, LA GRANGE, ILLINOIS • TELEPHONE: FLEETWOOD 4-1040

GRAYHILL BINDING POSTS

All metal parts are nickel plated brass. Insulating washers are non-turn "D" style phenolic to MIL-M-14. Integral solder stud plus two hex nuts for solder lug connections. All posts may be used on panels up to 3/16" thick and are shipped completely assembled.

29-33 SPRING LOADED

For ½" mounting hole. ⅝" dia. insulating washers. Spring loaded head gives 24 oz. of contact force. Designed for rapid connections. Available in red, black, white, yellow, blue, gray, green and brown.

29-3 SCREW TYPE

For ½" dia. mounting hole. ⅝" dia. insulating washers for use in existing equipment or where wider spacing is desirable. Available in same 8 colors as 29-33.

29-1 SCREW TYPE

For ⅜" dia. mounting hole. ½" dia. insulating washers. Allows closer spacing of posts. Available in same 8 colors as 29-33.

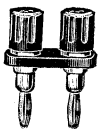
29B11 For use with 29-1 posts. Makes an assembled unit with two posts on ¾" centers. Molded phenolic to MIL-M-14. **29B11-1 (Black) 29B11-2 (Red)**

29-41

Binding Plug (screw type) conforms to same standard as the binding posts. Mounted on a standard banana plug.
29-41R (Red) 29-41B (Black)

29-43

Binding Plug (spring loaded). Head gives 24 oz. contact force. Designed for rapid connections. **29-43R (Red) 29-43B (Black)**



29-42

Twin Binding Plug. Two binding plugs mounted on a molded phenolic base. Banana plugs are on standard ¾" centers. Sold as a completely assembled unit with two screw type heads.

29-44 Same as 29-42 except with spring loaded heads.

TEST CLIPS

The basic clip is available in 4 types of mounting. Designed for panel mounting on test equipment to allow rapid connections without manual opening and closing of jaws. Hex nut allows for tension adjustment of each clip. Clips are nickel plated brass. Length of test clip (excluding mounting base) is 1⅛".

2-0 Threaded stud.

2-1 Banana plug.

2-4 Threaded stud with insulating washers.

2-6 Pin plug.

MINIATURE TEST CLIPS

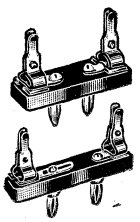
A miniature version of the standard test clip, with the same construction and design, but extends only ¾" above the mounting surface.

2-20 Threaded Stud

2-21 Banana Plug

2-24 Threaded Stud with Molded Phenolic Insulating Washers

TEST CLIP ADAPTERS



2-2 For testing resistors, capacitors and other pigtail type components. Banana plugs are on standard ¾" centers. All metal parts are nickel plated brass. Mounting board is molded phenolic to MIL-M-14. Hex nut under clip allows for tension adjustment of individual clips. Test clip extends 1⅛" above board.

2-7 Similar to the 2-2 except that banana plugs are adjustable from ¾" to 1¼" centers.

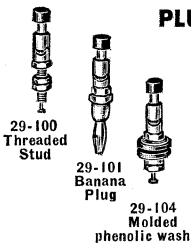
INSULATED TEST CLIPS

COMPLETELY INSULATED (including hinge pin) eliminating the danger of shorting. Molded parts are phenolic to MIL-M-14. .008" thick silver overlay at point of contact. Terminal is silver plated brass. Contact resistance .0015 ohms. All units tested at 500 volts to insure complete insulation.
16-B (Black) 16-R (Red)

TRANSISTOR SOCKET 22-11

Designed for JETEC 30 packaging. Leads fit on 100 MIL grid for printed circuit. Socket fits through ⅜" drilled **or** punched hole and may be fastened with rivets or #2 screws. Terminal numbers are molded into bottom of socket and top face has key rib for alignment with transistor tab. Contacts are wrap around type, silver plated beryllium copper with gold flash. Base is molded mica-filled phenolic per MIL-M-14, Type MFE.

PLUNGER BINDING POST



29-100 Threaded Stud
29-101 Banana Plug
29-104 Molded phenolic washers

Designed to provide fast positive connections, this post is operated by depressing the plunger, inserting lead, and releasing plunger. Spring pressure assures firm positive contact. Only ¾" overall height above mounting surface. Nickel plated brass parts. Red or black molded phenolic button cap.

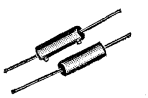
SERIES 31 TEST JACKS

Designed for use on printed circuit boards as test points. Accommodates standard phone tip plugs from .081" to .0825" dia. Rivets to board like an eyelet. Rivet dia. is .114". Jack is silver plated brass with gold flash. Retaining ring is cadmium plated spring steel. Extends ¼" above circuit board.
31-1 (for 1/16" board)
31-2 (for 3/32" board)
31-3 (for ⅛" board)

PLASTIC SLEEVES FOR SERIES 31 TEST JACKS

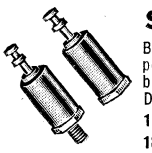
Sleeves snap on and permanently lock in place over test jacks. Molded of thermo-setting plastic. Overall dimensions .245" dia. x .290" high. Available in black, red, green, gray, brown, blue, yellow and white. **31B—(Specify Color)**

COIL FORMS



(Pat. No. 2,653,992)
MOLDED OF MICA FILLED PHENOLIC per MIL-M-14, Type MFE with leads of tinned solid copper wire. Available in lengths from ½" to 1" and diameters from ⅛" to ¼". With or without anchoring posts.

STAND OFF INSULATORS



Body of insulator is molded of mica filled phenolic per MIL-M-14, Type MFE. Terminals are silver plated brass. Overall length excluding mounting stud is 15/16". Diameter is 5/16".
18-1 (Female)
18-2 (Male)

MATING INSULATING WASHERS

For jacks with a ⅜" dia. bushing. Washer for rear of panel has indexing hole that corresponds with the non-turn tab of the jack. Front washer fits under hex mounting nut. Sold in pairs.
21B78-1 (Mica-filled phenolic)
21B78-2 (Black elec. grade phenolic)

MOLDED INSULATING WASHERS

Molded from black electrical grade or mica filled phenolics. Available in eight different sizes for #2 to ⅜" screws. Overall diameters are ⅜", ½", or ⅝".

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See our catalog pages in this year's edition of
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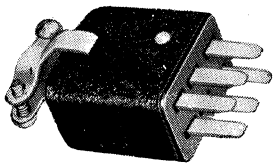
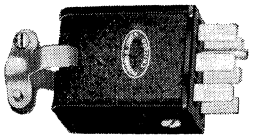
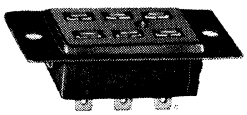
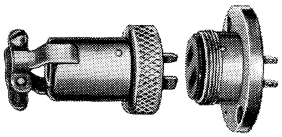
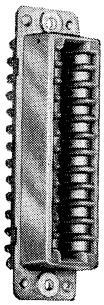
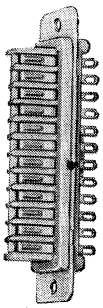
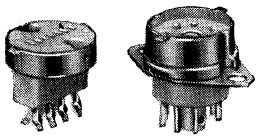
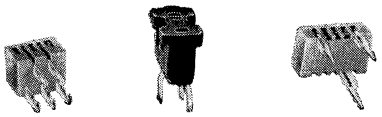
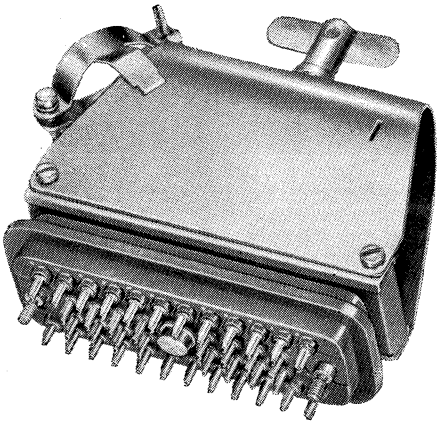
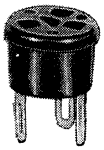
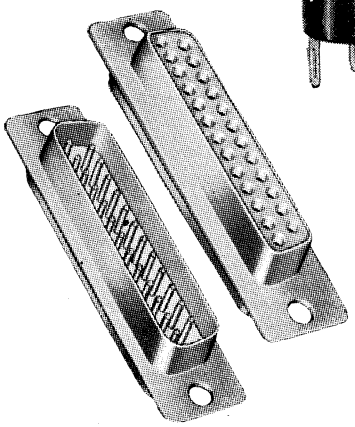
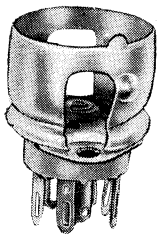
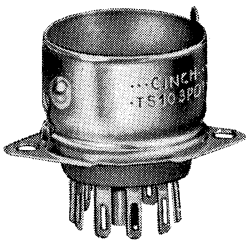
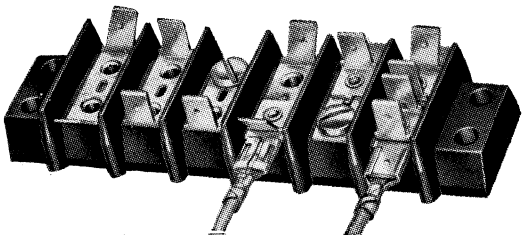
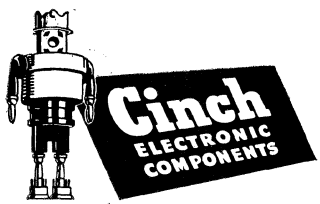
ELECTRICAL Connecting Devices



Please refer to this year's edition of the Radio-Electronic MASTER for full descriptions, specifications, and additional illustrations on our line of products.

Our distributors throughout the country stock most of the items catalogued in the Radio-Electronic MASTER for immediate delivery. Write us for the name of your nearest distributor.



HOWARD B. JONES DIV.
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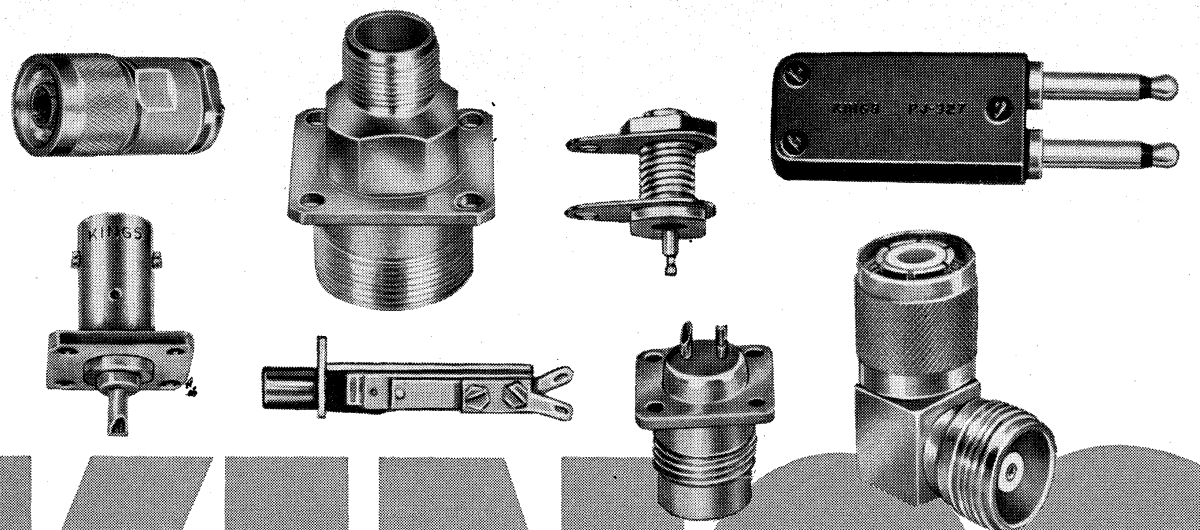
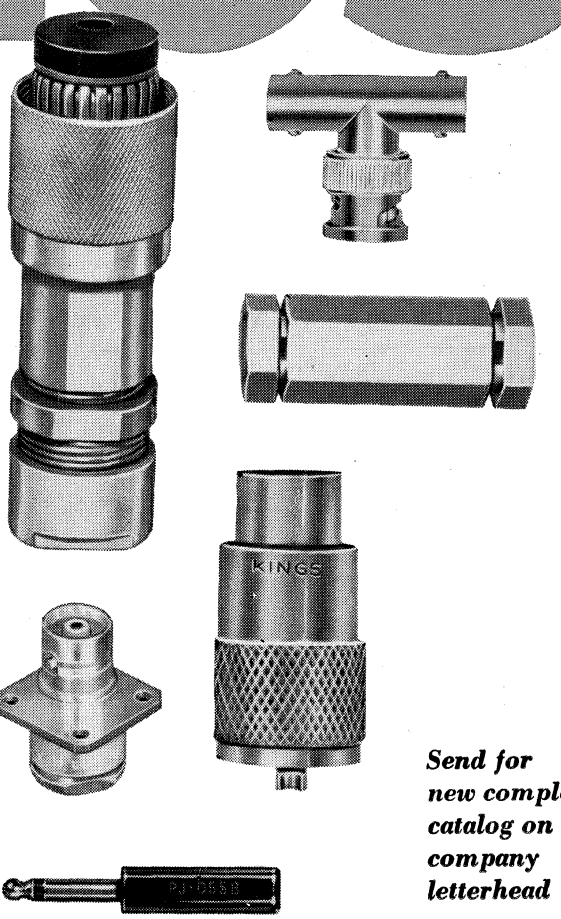


KINGS

A quality manufacturer of coaxial connectors — RF Components — cable assemblies



CONNECTOR SERIES BY KINGS		
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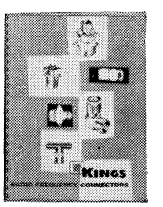
BNC	QDS	SPIRAFIL
C	SKL	STYROFLEX
HN	SM	SUB-MINIATURE
KM	TNC	SUB-SUB-MINIATURE
KP	UHF	CAPTIVATED CONTACT
LC	SC	TELEPHONE PLUGS
LN	TWIN	TELEPHONE JACKS
LT	PULSE	ANTENNA
N	K-MITES	SPECIALS

SPECIAL HITEMP CONNECTORS FOR MISSILEONICS

Send for new complete catalog on company letterhead



KINGS Electronics CO., INC.

40 MARBLEDALE ROAD, TUCKAHOE, WESTCHESTER COUNTY, N. Y • SWIFTWATER 3-5000

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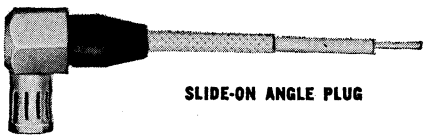
COAX CABLES, CONNECTORS AND ASSEMBLIES

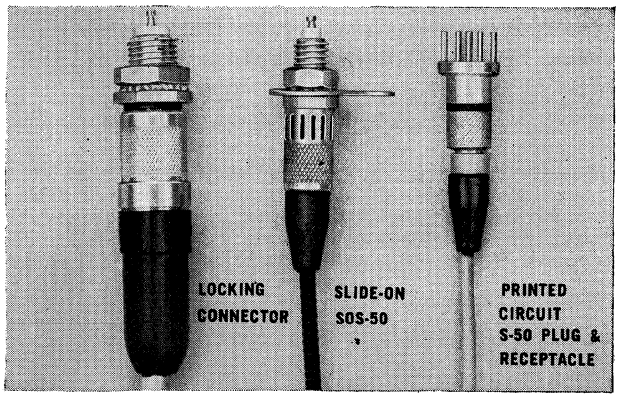


SLIDE-ON ANGLE PLUG

"think small —

ULTRA-MINIATURE CONNECTOR

think microdot"



ALL UNITS SHOWN ACTUAL SIZE

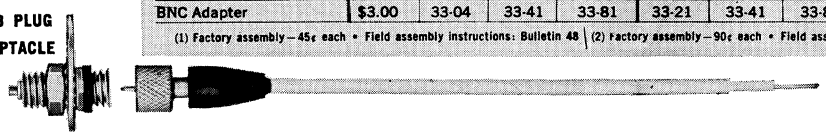
Microdot, manufacturers of micro-miniature connectors and cables offers unequalled advantages in size, weight, versatility and reliability of performance. Over 1,000,000 combinations available from stock in 50, 70, 75, 93 and 95 ohm. Prompt delivery assured.

TYPICAL COAXIAL CONNECTORS (not covered by, but designed towards MIL. C-3608)

Connector Type	Price Each 1-24 Qty.	FOR 50 OHM CABLES Screw "S-50" Series	FOR 50 OHM CABLES Quick Connect "QC-50" Series	FOR 50 OHM CABLES Slide-on "SOS-50" Series	FOR 70 OHM CABLES Screw "S-70" Series	FOR 70 OHM CABLES Quick Connect "QC-70" Series	FOR 70 OHM CABLES Slide-on "SOS-70" Series	FOR 93 OHM CABLES Screw "SS-93" Series	FOR 93 OHM CABLES Slide-on "SOS-93" Series
Straight Cable Plug (1)	$1.50	32-23	32-30	32-55	32-67	32-79	32-87	32-66	32-84
Right Angle Cable Plug (2)	$3.00	32-15	32-26	32-63	32-13	32-27	32-62	32-68	32-83
Cable Jack (1)	$2.00	31-34	31-38	31-53	31-90	31-97	31-95	31-88	31-93
Bulkhead Jack (1)	$2.50	31-33	xx	31-54	31-91	xx	31-96	31-89	31-94
Bulkhead Receptacle	$1.80	31-50	31-50	31-49	31-51	xx	31-49	31-52	31-49
Hermetic Seal Receptacle	$3.50	51-49	xx	51-158	xx	xx	51-158	51-56	51-158
Printed Circuit Receptacle	$1.80	31-59	xx	31-60	31-69	xx	31-60	31-67	31-60
BNC Adapter	$3.00	33-04	33-41	33-81	33-21	33-41	33-81	33-22	33-81

(1) Factory assembly—45¢ each • Field assembly instructions: Bulletin 48 | (2) Factory assembly—90¢ each • Field assembly instructions: Bulletin 45

S-93 PLUG
S-93 RECEPTACLE



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Part No.	RG No.	Price Per Foot 1-99'	Suggested Temperature Range °F	Characteristic Impedance Ohms	Capacitance mmf/ft	Attenuation 400 mc. db/ft	O.D. Inch
50-3804 "Mini-noise"	xx	30¢	—65 +165	55	28	.30	.088
50-3902	xx	18¢	—40 +240	50	28	.25	.067
50-3920CW	RG-196/U	41¢	—100 +400	50	28	.25	.080
70-3902	xx	22¢	—40 +240	70	20	.20	.088
75-3920CW	RG-187/U	56¢	—100 +400	75	20	.20	.110
93-3902	xx	41¢	—40 +240	93	15	.20	.130
95-3920CW	RG-195/U	83¢	—100 +400	95	15	.20	.155
93-3913	xx	19¢	—40 +140	98	12	.20	.130

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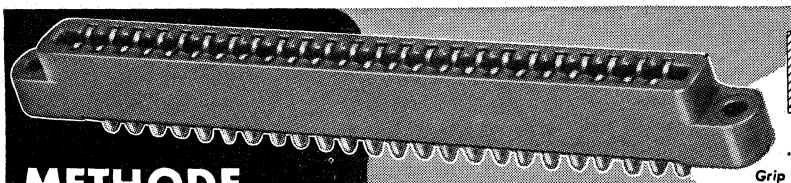

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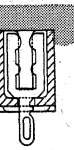

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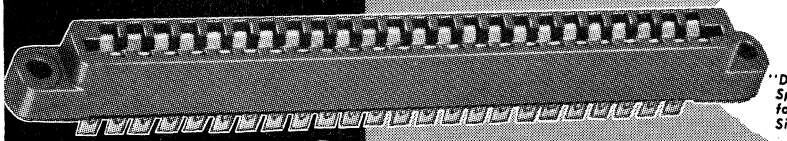

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mueller clips

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(For detailed information, refer to the Mueller Clip pages in the "Radio Electronic Master.")

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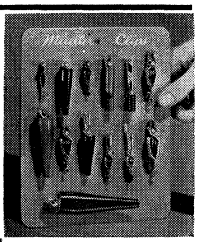

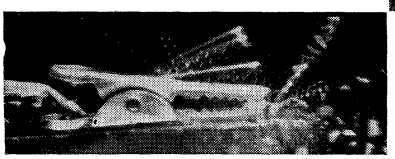

THE STRONG HEART OF A MUELLER CLIP IS ITS SPRING. The flying fragments in this multiple-exposure high speed photo, describe better than words, the strong corrosion-cutting bite given by Mueller's traditionally snappy springs. This is the very heart of our story, told in less than 1/500th of a second.

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¾" DOUBLE PLUG STACK-UP PATCH CORD & TEST LEADS

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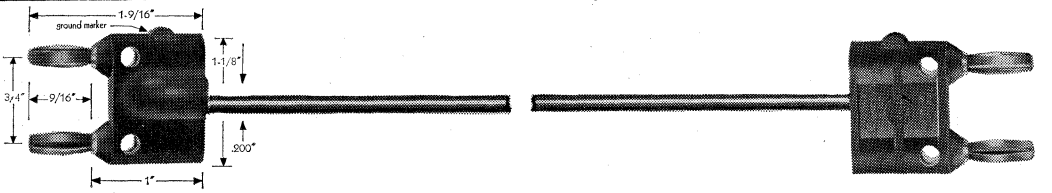

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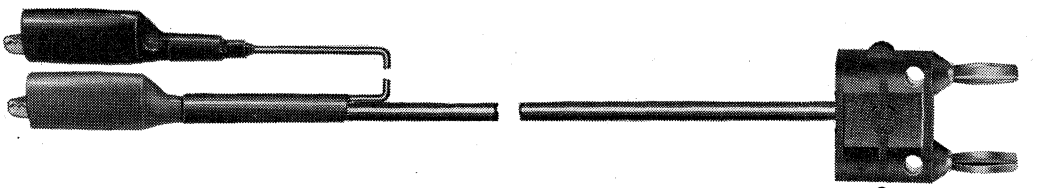
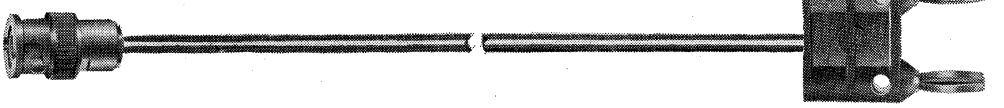


MODEL WITH UG 88C/U MALE BNC CONNECTOR
NET 5.85



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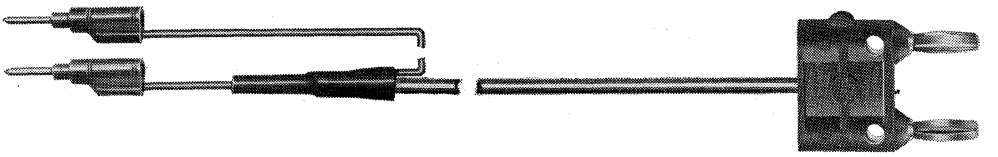
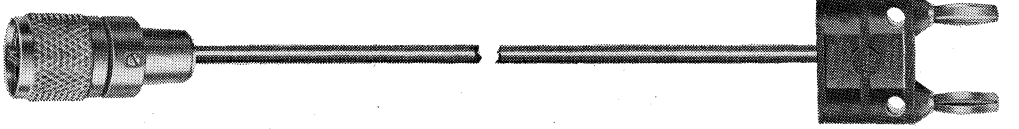
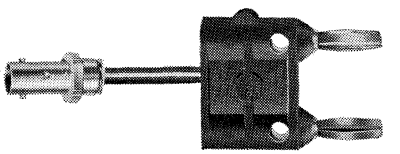
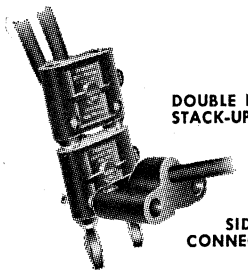


MODEL WITH MALE PLUG UHF CONNECTOR PL 259A
NET 5.85



MODEL WITH UG89/U CABLE JACK BNC SERIES ADAPTER
NET 5.85





DOUBLE PLUG STACK-UP

SIDE CONNECTION

MODELS					SPECIFICATIONS	
Model with Double Plugs	Model with Alligator Clips	Model with UG88C/U Male BNC Connector	Model with Phone Tip Plugs	Model with PL259A Male UHF Connector	Length	Cable Description
2BA-18 2BA-24 2BA-30 2BA-36	2BA-AL-18 2BA-AL-24 2BA-AL-30 2BA-AL-36		2BA-PP-18 2BA-PP-24 2BA-PP-30 2BA-PP-36		18″ 24″ 30″ 36″	Two conductor twisted. 18 gauge wire 65/36 stranding. Vinyl insulation. Vinyl jacket. Nom. Capacity 30 mmf/ft.
2BB-18 2BB-24 2BB-30 2BB-36	2BB-AL-18 2BB-AL-24 2BB-AL-30 2BB-AL-36	2BB-BNC-18 2BB-BNC-24 2BB-BNC-30 2BB-BNC-36	2BB-PP-18 2BB-PP-24 2BB-PP-30 2BB-PP-36	2BB-UHF-18 2BB-UHF-24 2BB-UHF-30 2BB-UHF-36	18″ 24″ 30″ 36″	Shielded microphone cable. Polyethylene insulation. Vinyl jacket. Nom. Capacity 25 mmf/ft.
2BC-18 2BC-24 2BC-30 2BC-36	2BC-AL-18 2BC-AL-24 2BC-AL-30 2BC-AL-36	2BC-BNC-18 2BC-BNC-24 2BC-BNC-30 2BC-BNC-36	2BC-PP-18 2BC-PP-24 2BC-PP-30 2BC-PP-36	2BC-UHF-18 2BC-UHF-24 2BC-UHF-30 2BC-UHF-36	18″ 24″ 30″ 36″	Coaxial shielded cable. Polyethylene insulation. Vinyl jacket. Nom. Capacity 28.5 mmf/ft. RG58C/U.

- Molded polyethylene plug body fully insulated.
- Permits parallel multiple stacking.
- Ground connection clearly marked.
- One piece beryllium copper spring, nickel plated.
- Solder bonded noise-free connection.
- Fits standard banana jacks.

NOTE: Color of plug body to match cable unless otherwise specified. The following additional colors on plug body are available for color coding on special order: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White. The above Models also available on special order in the following cable types: RG55A/U, RG59/U, RG62A/U.

Order from Local Electronic Parts Distributors or Write for List.

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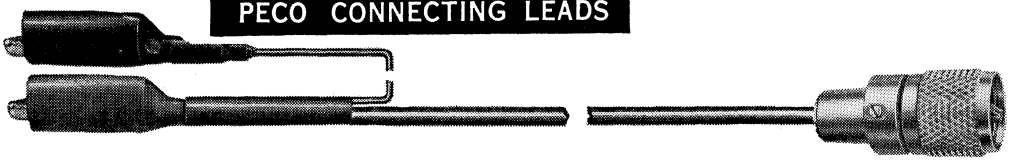
pomona, california

PECO CONNECTING LEADS

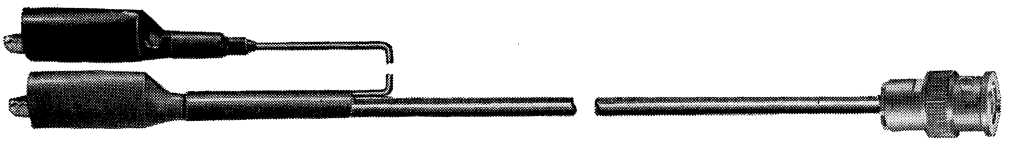
ALLIGATOR CLIPS TO PL259A UHF CONNECTOR
NET 5.85



UG913/U ANGLE BNC MALE CONNECTOR BOTH ENDS
NET 10.85

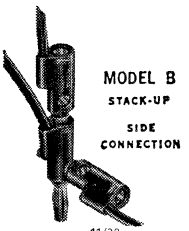
UG88C/U MALE BNC CONNECTOR BOTH ENDS
NET 5.85

ALLIGATOR CLIPS TO UG88C/U MALE BNC CONNECTOR
NET 5.85

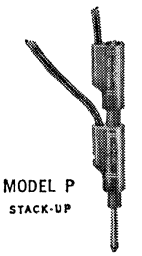


MODELS				SPECIFICATIONS	
Alligator Clips to PL259A UHF Connector	UG913/U Angle BNC Male Connector Both Ends	UG88C/U Male BNC Connector Both Ends	Alligator Clips to UG88C/U Male BNC Connector	Length	Cable Description
AL-B-UHF-18	BNCA-B-18	BNC-B-18	AL-B-BNC-18	18″	Shielded microphone
AL-B-UHF-24	BNCA-B-24	BNC-B-24	AL-B-BNC-24	24″	cable. Polyethylene
AL-B-UHF-30	BNCA-B-30	BNC-B-30	AL-B-BNC-30	30″	insulation. Vinyl jacket.
AL-B-UHF-36	BNCA-B-36	BNC-B-36	AL-B-BNC-36	36″	Nom. Capacity 25 mmf/ft.
AL-C-UHF-18	BNCA-C-18	BNC-C-18	AL-C-BNC-18	18″	Coaxial shielded cable.
AL-C-UHF-24	BNCA-C-24	BNC-C-24	AL-C-BNC-24	24″	Polyethylene insulation.
AL-C-UHF-30	BNCA-C-30	BNC-C-30	AL-C-BNC-30	30″	Vinyl jacket. RG58C/U.
AL-C-UHF-36	BNCA-C-36	BNC-C-36	AL-C-BNC-36	36″	Nom. Cap. 28.5 mmf/ft.

NOTE: Color of plug body to match cable unless otherwise specified. The following additional colors on plug body are available for color coding on special order: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White. The above Models also available on special order in the following cable types: RG55A/U, RG59/U, RG62A/U.

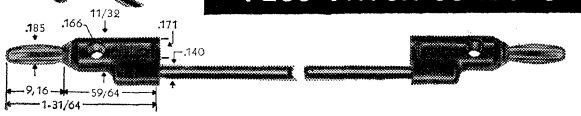


MODEL B
STACK-UP
SIDE
CONNECTION



MODEL P
STACK-UP

PECO PATCH-CORDS & STACK-UP CONNECTING LEADS



MODEL B (BANANA TYPE)

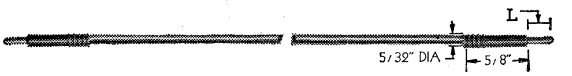
Fits all standard banana jacks. One piece beryllium copper spring. Extra flexible polyvinyl insulated wire 5KV (Spark Test)...18 gauge, stranding 65 x 36 T. C. Plug body molded with durable polyethylene insulation. SPECIFY LENGTH AND COLOR* **NET 1.50**

MODEL M (BANANA TYPE) Miniature

Fits all standard miniature banana jacks with .104 dia. Finish, silver plated. Polyvinyl insulated wire, 20 gauge stranding 41 x 36. Plug body molded with durable polyethylene. Compact size, extended height above jack 35/64. SPECIFY LENGTH AND COLOR* **NET 1.35**

MODEL P (.080 PHONE TIP)

Fits all standard .080 tip jacks. One piece beryllium copper heat treated spring contact and tip. Finish silver plate, gold flash. Extra flexible polyvinyl insulated wire, 20 gauge, stranding 41 x 36 T. C. Plug body molded with polyethylene. Compact size, extended height above jack, 7/8″ dia. 1/4″. SPECIFY LENGTH AND COLOR* **NET 1.50**



MODEL PT080 (.080 PHONE TIP) TIP LENGTH 1/2″
MODEL PM080 (.080 PHONE TIP) TIP LENGTH 1/4″

Fits .080 tip jacks. Insulation molded to plug body and cable. Finish, gold over silver plated. Polyvinyl insulated wire, 22 gauge. Stranding 19 x 34 T. C. Subminiature in size. Compact size 5/32″ dia. Plug body 5/8″ length above jack. SPECIFY LENGTH AND COLOR* **NET .85**

* Stack-Up patch cords above available in 4″, 8″, 12″, 18″, 24″ and 36″ lengths. Colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White.

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SOCKET SAVERS

REDUCED HEIGHT FOR PORTABLE EQUIPMENT • MAXIMUM HEIGHT ABOVE EQUIPMENT 13/16 INCHES

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SEVEN PIN MINIATURE
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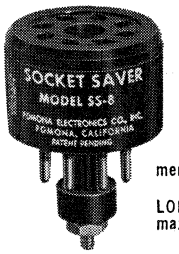

MODEL SS-8
EIGHT PIN OCTAL
NET 1.95 ea.

The Socket Saver is designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. They are easily installed and removed eliminating the necessity of replacing and rewiring sockets on original equipment. Built of quality materials.
BERYLLIUM COPPER
LONG LIFE CONTACTS to give maximum service.

MODEL SS — 789 KIT, Set of Three. NET 5.85

TEST SOCKET TUBE ADAPTERS

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SEVEN PIN MINIATURE
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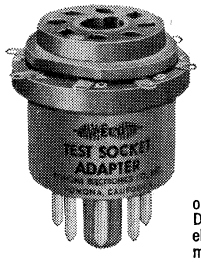
MODEL TVS-9
NINE PIN MINIATURE
NET 1.85 ea.



MODEL TVS-8
EIGHT PIN OCTAL
NET 1.55 ea.

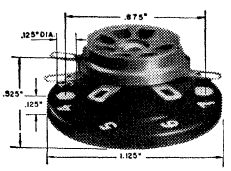
Peco Test Socket Tube Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the bottom of the chassis. They Feature: Extended test tabs for easy use with either alligator clips or test prods; Low loss mica-filled sturdy phenolic construction; Power factor less than 0.010 at 10 Mc; High insulation resistance, the I. R. exceeds 500,000 megohms at 40% R. H., at 24° C; Distributed capacity, inter-element approximately 1 micro-micro farad; High voltage operation, voltage breakdown between elements exceeds 1700 volts AC or DC.

MODEL TVS — 789 KIT, Set of Three. NET 4.95

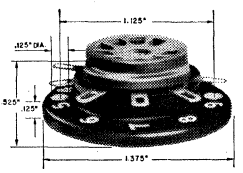
SPECIAL ADAPTERS DESIGNED TO YOUR SPECIFICATIONS.

SURFACE MOUNTED BREADBOARD SOCKETS

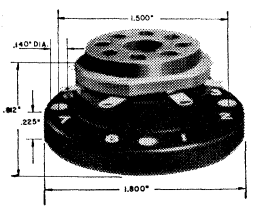
ideal for electronic and experimental use



MODEL XS-7
SEVEN PIN MINIATURE
NET 49c ea.



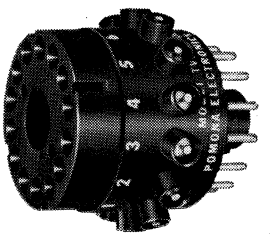
MODEL XS-9
NINE PIN MINIATURE
NET 57c ea.



MODEL XS-8
EIGHT PIN OCTAL
NET 57c ea.

Surface Mounted Breadboard Sockets are used for experimental circuit design, portable and enclosed units, plug-in and packaged assemblies. They feature: An insulated base to prevent connections from shorting to chassis; Eliminates double chassis design; Circuits may be wired in an enclosed unit; The base connections are numbered for easy identification; Grade-A phosphor bronze spring contacts; Standard center to center mounting holes; For ease of installation the 7 and 9 Pin Miniatures may be mounted either in the center or on the sides, the 8 Pin Octal is mounted on the sides; Small mounting holes permit the re-use of experimental chassis.

CRT TEST SOCKET ADAPTER



MODEL TVS-14
DIHEPTAL
NET 14.90 ea.

The PECO TVS-14 TEST SOCKET ADAPTER is ideal for making measurements of cathode ray tubes with a 14 pin diheptal base as in oscilloscopes, radar indicators, industrial television, studio monitors, etc. Sturdy Phenolic Construction: Power Factor less than 0.010 at 10 Mc. High insulation resistance I. R. exceeds 100,000 Megohms @ 50% R. H., 25° C. Low Inter-element capacity, less than 2 micro-micro farad. Voltage breakdown between adjacent elements exceeds 7,500 volts D. C.

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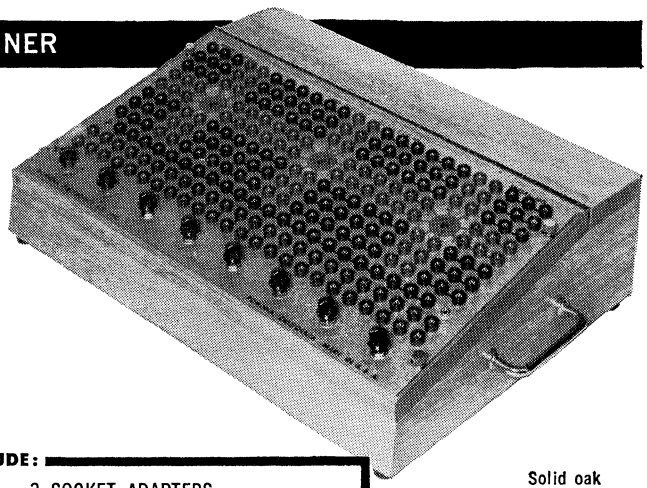
POMONA Electronics CO., INC.

pomona, california

MODEL C-38 CIRCUIT DESIGNER

an engineering tool for rapid synthesis of electronic circuits

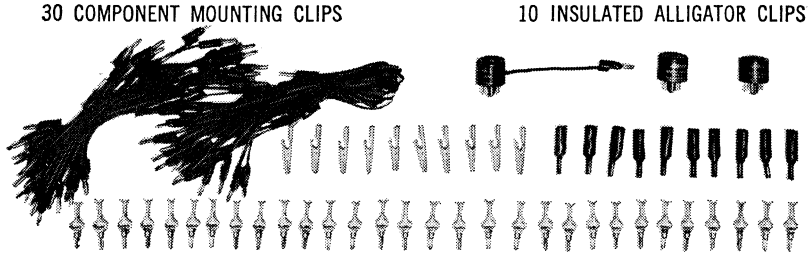
The simplicity and flexibility of the PECO Circuit Designer permits reliable "Quick and Clean" solderless assembly. Saves fabrication time, check-out time lost due to circuit errors and the cost of scrapped chassis. Every component of the Circuit Designer is reusable again and again. Complete with Accessories. **NET 295.00**



Solid oak construction. Finished in modern limed oak. Convenient handles for portability.

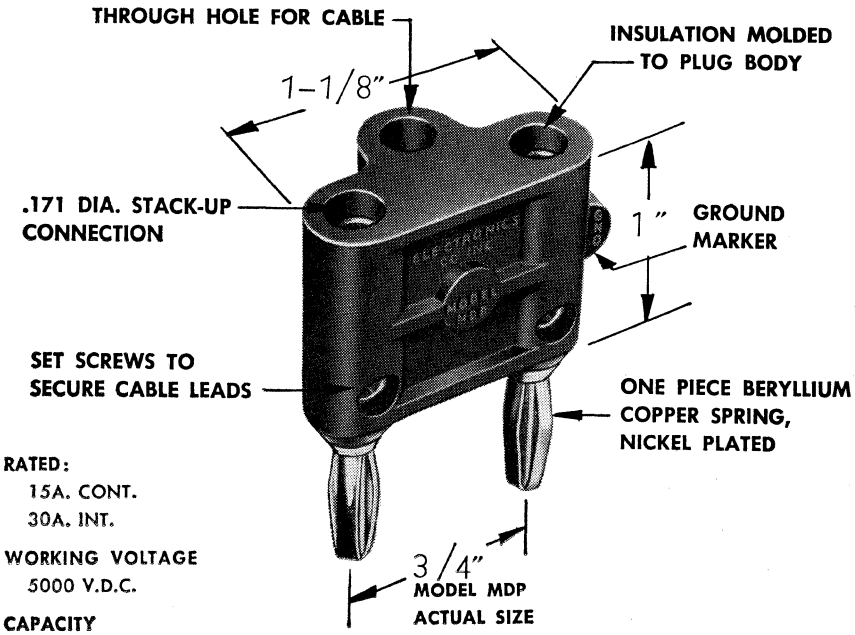
ACCESSORIES INCLUDE:

50 ASSORTED LENGTH PATCH CORDS
30 COMPONENT MOUNTING CLIPS
3 SOCKET ADAPTERS
10 INSULATED ALLIGATOR CLIPS



WRITE FOR FREE BULLETIN FOR ADDITIONAL INFORMATION

¾" MOLDED DOUBLE PLUG ACCESSORIES

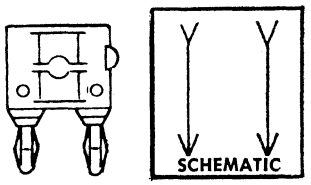


RATED:
15A. CONT.
30A. INT.

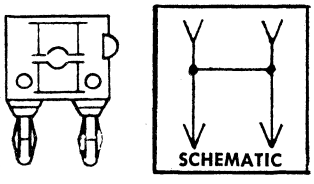
WORKING VOLTAGE
5000 V.D.C.

CAPACITY
0.8 uuf @ 1 Mc.

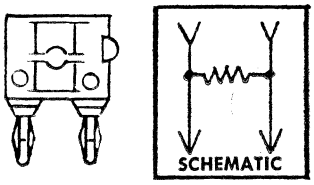
MODEL MDP, Color coded: Available in, Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White.



MODEL MDP MOLDED DOUBLE PLUG ¾" SPACED. **NET 1.42**



MODEL MDP-S MOLDED SHORTING BAR ¾" SPACED, NOISE FREE, SOLDER BONDED INTERNALLY. **NET 1.25**



MODEL MDP-R MOLDED PRECISION RESISTORS 1% tolerance, deposited carbon, values—0.1, 0.2, 0.25, 0.5, 1, 2, 5, 10 Megohms. Each value color identified. ¾" Spaced. **NET 2.75**

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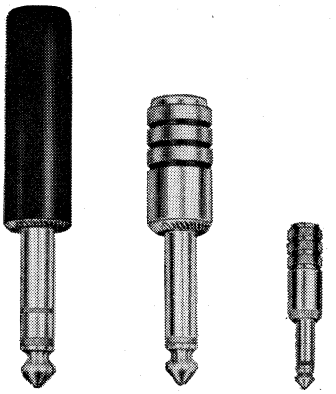
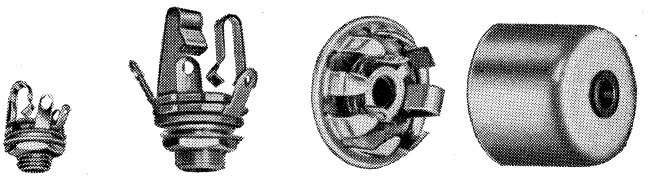
ELECTROCRAFT®

CONNECTORS and SWITCHES

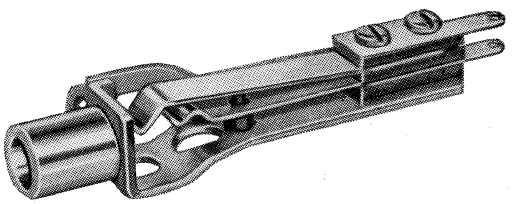


PLUGS . . . in standard ¼″ and .206″ finger diameters and miniature sizes . . . two and three conductor types . . . with screw type, solder lug or combination clamp and solder lug terminals. Metal shielded or plastic handles.

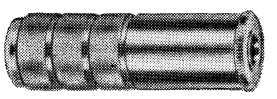


JACKS . . . standard sizes in two and three conductor open and closed circuits and two conductor transfer circuits. Miniatures in two conductor open, closed and transfer circuits.

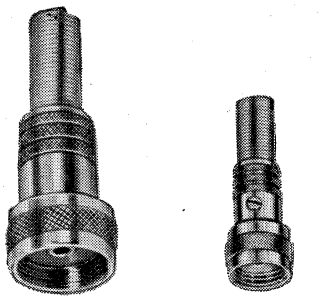
Standard size shielded jacks in 2 and 3 conductor, open and closed circuits; miniatures in 2 conductor open and closed circuits.



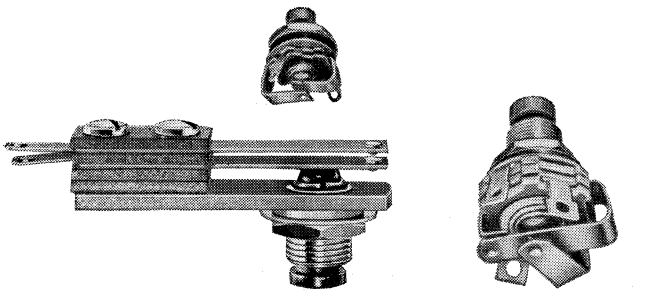
TELEPHONE JACKS . . . in A, B and C frame designs —simple and complex circuits. Fine silver contacts for standard application . . . military types have palladium contacts and are made to Mil-J-641 specification. Also available in "twin" type frame.



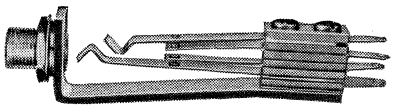
CORD MOUNTED JACKS . . . standard sizes in two and three conductor open circuits, solder lug or screw type terminals, plastic or metal handles. Miniatures in two conductor open circuit, solder lug terminals, metal shielded handles.



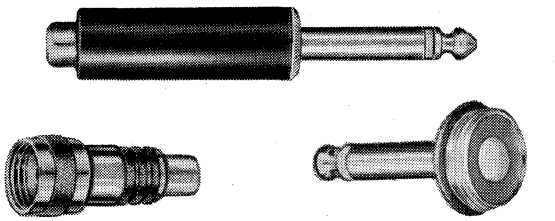
CONNECTORS . . . cord and panel mounted types in both standard and miniature sizes. Male and female connections.



PUSH BUTTON SWITCHES . . . standard and miniature sizes with momentary integral contacts for low level circuits. Momentary fine silver contacts in standard sizes.



LONG FRAME JACKS . . . versatile in circuit arrangements and contact ratings (3 ampere standard stock rating). Ratings up to 10 amperes at 110 volts AC non-inductive load through use of special contacts and suitable current carrying materials.



ADAPTORS . . . designed for use in modifying connections. A complete line is available to make any desired adaptation of standard plugs, phono plugs, miniature plugs, male and female microphone connectors.

All parts, standards and miniatures, are sturdily built to exacting specifications. Write for Catalog giving complete specifications, dimensional drawings and illustrations of ELECTROCRAFT components.

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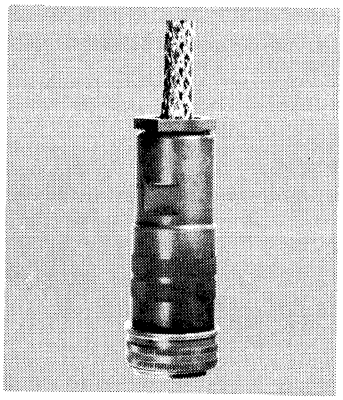
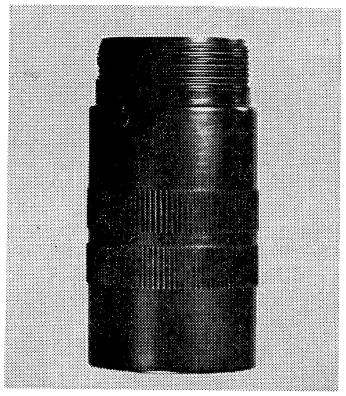
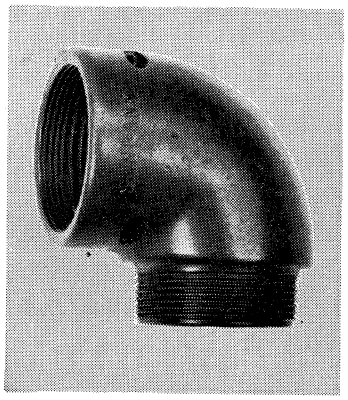
SUNBANK CONNECTOR ACCESSORIES



MS CONNECTOR WITH CABLE GRIP
S6 Series



MS ACCESSORY WITH CABLE CLAMP
S5 Series



RIGHT ANGLE FOR BENDIX PYGMIES
S4 Series

Sunbank Connector Accessories are available for:

STANDARD MS CONNECTORS
(SUNBANK S5 Series)

BENDIX MINIATURE CONNECTORS
(Straight Thru or Right Angle)

DUETSCH MINIATURES

CANNON MINIATURES

ACCESSORIES to mate with
AMPHENOL SERIES 67, 165 and 189

QWL ACCESSORIES—Cable Clamp or Cable Grip.
Also available in 90° or 45° angle.

ACCESSORIES for UMBILICAL CONNECTORS

METAL DUST COVERS for many Connectors
(Bead or Link Chain available, per
Government Specifications)

ACCESSORIES for Adaption from Connector to Conduit.

ACCESSORIES for Adaption from DPD or DPD2
to Cable Clamp

ACCESSORIES to mate with Ordinance Connectors

SUNBANK CONNECTOR ACCESSORY ASSEMBLIES ARE AVAILABLE WITH CONNECTOR, SUNBANK ACCESSORY, CABLE CLAMP OR CABLE GRIP, DUST COVER, ETC.

ALSO AVAILABLE FROM SUNBANK

COAXIAL SOLDER POT ADAPTERS

CABLE BREAKOUT SUPPORTS

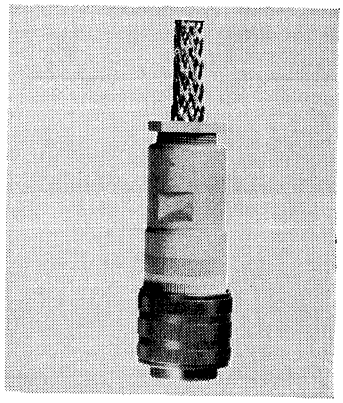
THRU-BULKHEAD SUPPORTS

CONVAIR SEAL ASSEMBLIES
(706227 and others)

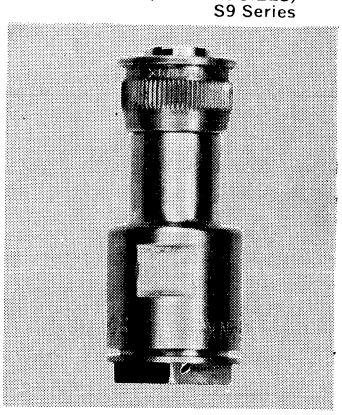
PROTO-TYPE AND PRODUCTION ON ANY MACHINED ITEM

The units illustrated represent only a few of the components which were designed and engineered and are being produced at SUNBANK. It is entirely possible that many SUNBANK units could fit your program without modification, however, any electronic component requirement you may have can be engineered and produced in accordance with your specifications using the latest techniques.

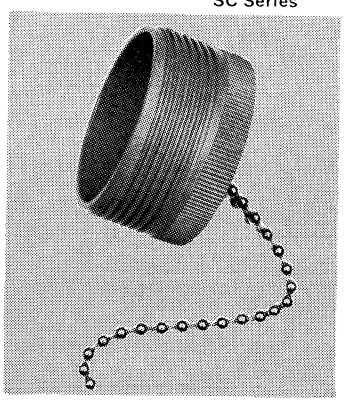
FOR FURTHER INFORMATION CONCERNING SUNBANK PRODUCTS WRITE OR CALL



QWL ACCESSORY
(SPECIAL SIZES)
S9 Series



ACCESSORY FOR MINIATURES
(Internal Clamp)
SC Series



METAL DUST COVER
S7 Series

SUNBANK ELECTRONICS, INC.

515 SO. VARNEY STREET, BURBANK, CALIFORNIA.
VI 9-4286 TH 5-7166

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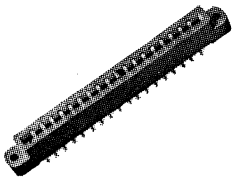
THE ONLY COMPLETE SOURCE FOR YOUR PRECISION CONNECTORS

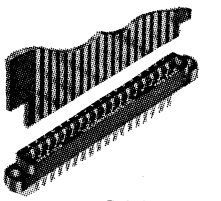
U. S. COMPONENTS

AVIONICS ● AUTOMATION ● COMMUNICATION ● CONTROLS ● INSTRUMENTATION
MISSILES ● PORTABLE EQUIPMENT ● PRINTED CIRCUITS ● TEST APPARATUS

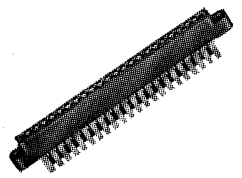


UPCR SERIES
Single Row Printed Card Receptacle
Number of contacts—(Beryllium Copper) 6, 10, 15, 18, 22
Solder wire hole size ..... 1/16"x3/32"
Voltage breakdown between contacts—sea level 2800 V. A.C. RMS.
Current rating ..... 10 amps.
Polarizing pins and contacts—snap-in or out design permitting easy interchangeability.
Pat. #2,853,689.

UPCR-D. Double Row Printed Card Receptacle. Solder Type Terminals
Card range thickness accommodation
UPCR-D ..... .052—.072 (nom. 1/16")
UPCR-93D ..... .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Solder wire hole size ..... 3/64"x3/32"
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating ..... 10 amps.

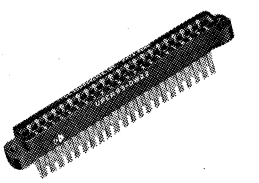


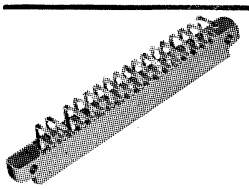
Pat. Pend.



UPCR-DT. Double Row Printed Card Receptacle. Taper Tab Terminals
UPCR-DT ..... uses AMP 78 taper tab
Card range thickness accommodation
UPCR-DT ..... .052—.072 (nom. 1/16")
UPCR-93 DT ..... .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating ..... 10 amps.
Polarizing pins and contacts—snap-in or out design permitting easy interchangeability.
Pat. Pend.

UPCR-DW. Double Row Printed Card Receptacle. Wire Wrap Terminals
Card range thickness accommodation
UPCR-DW ..... .052—.072 (nom. 1/16")
UPCR-93 DW ..... .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating ..... 10 amps.
Polarizing pins and contacts—snap-in or out design permitting easy interchangeability.
Pat. Pend.

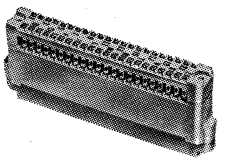


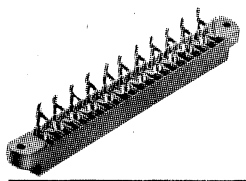


UPCR-RD. Double Row Printed Card Receptacle. Dip Solder. Right Angle Terminals
Card range thickness accommodation
UPCR-RD ..... .052—.072 (nom. 1/16")
UPCR-93 RD ..... .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating ..... 10 amps.

UPCR-D. Double Row Special Design Printed Card Receptacle
UPCR-93D22EAB Illustrated

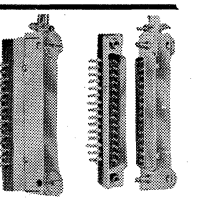
Special designs custom built to requirements. Above unit is typical of many types engineered to suit various applications.

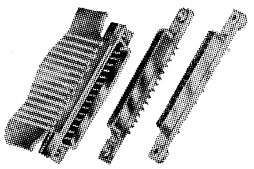




UPCR-SD. Double Row Printed Card Receptacle. Scatter Solder Dip Terminals
Card range thickness accommodation
UPCR-SD ..... .052—.072 (nom. 1/16")
UPCR-93 SD ..... .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating ..... 10 amps.
Pat. Pend.

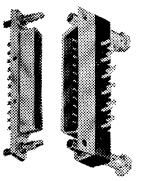
UPCC-SLH SERIES. Hooded Screw Lock
UPCC-M2SL ..... **Male Chassis Screw Lock**
UPCC-F2HSL ..... **Female Hooded Mating Unit**
Available — 7, 11, 15, 19, 23, 32 contacts
Voltage Breakdown between contacts—sea level 2500 V. A.C. RMS.
Male — available solder dip, wire solder turret, taper tab terminals
Female — available wire solder, turret tab terminals

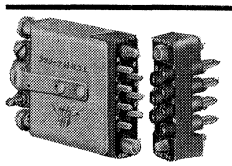




UPCC SERIES. Printed Circuit Connector
Card range thickness accommodation—
Male Dip Solder
UPCC-M ( ) A ..... 1/16"
UPCC-M ( ) B ..... 1/8"
UPCC-M ( ) C ..... 1/4"
UPCC-F ( ) female ..... #20 AWG wire
UPCC-FL ( ) ..... #18 AWG wire
UPCC-FD ( ) ..... Solder dip terminals
Maximum wire size—female ..... #20 AWG wire
Number of contacts 7, 11, 15, 19, 23, 32
Voltage Breakdown between contacts—sea level 2500 V. A.C. RMS.
Current rating ..... 7.5 amps.

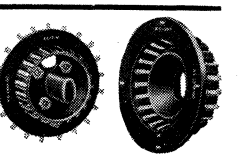
UPCC-SL SERIES. Printed Circuit Screw Lock
Card range thickness accommodation—
Male Dip Solder
UPCC MSL ( ) A ..... 1/16"
UPCC MSL ( ) B ..... 1/8"
UPCC MSL ( ) C ..... 1/4"
UPCC-FSL ( ) female ..... #20 AWG wire
UPCC-FL-SL ( ) ..... #18 AWG wire
UPCC-FD-SL ( ) ..... Solder dip terminals
Number of contacts 7, 11, 15, 19, 23, 32
Voltage Breakdown between contacts—sea level 2500 V. A.C. RMS.
Current rating ..... 7.5 amps.

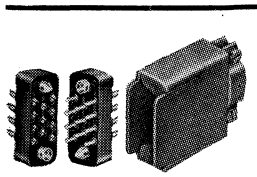




990-SL SERIES. Power Screw Lock
Number of contacts 7, 10, 15, 18
Maximum wire size ..... #16 AWG, wire
Voltage breakdown between contacts—sea level 5300 V. A.C. RMS.
Current rating ..... 10 amps.
990-SL-SDL (solderless) ..... uses AMP 53 taper pin
Patent #2,761,108. Double lead threads. "Twice the speed with double lead."

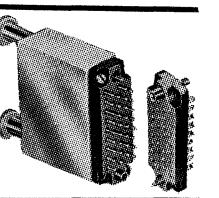
SC SERIES
21 Contact Scope Connector (Typical)
Number of contacts 21
Maximum wire size ..... #16 AWG. wire
Voltage breakdown between contact—seal level 1300 V. A.C. RMS.
Current rating ..... 10 amps.
Other versions custom built upon request.





SMI SERIES. Subminiature
Number of contacts 7, 11, 14, 20, 26, 34
Maximum wire size ..... #20 AWG wire
Voltage breakdown between contacts—sea level 1950 V. A.C. RMS.
Current rating ..... 7.5 amps.
SMI-SDL (solderless) uses AMP 37 taper receptacle
Other configurations upon request.

SMI-SL SERIES. Subminiature Screw Lock
Number of contacts 7, 11, 14, 20, 26, 34
Maximum wire size ..... #20 AWG wire
Voltage breakdown between contacts—sea level 1950 V. A.C. RMS.
Current rating ..... 7.5 amps.
SMI-SL-SDL (solderless) uses AMP 37 taper receptacle
Other configurations upon request.
Pat. #2,761,108



GENERAL NOTE

All Sub-miniature (SMI), Miniature (MI), 980, 990 series Connectors, available with Solder Type, Solderless Type (SDL) and Turret Type (TU) Terminals

Connectors are available with molded bodies made of asbestos filled melamine, glass filled Alkyd, Diallyl Phthalate (BLUE) or Mica Filled Bakelite. All connectors meet or surpass MIL-Q-5923B, MIL-C-8384, MS and NAS specifications wherever applicable. Rigid quality control is applied on a 100% basis for inspection and testing. All Solder cups can be provided filled with 60-40 Solder or projecting terminals can be Solder dipped.

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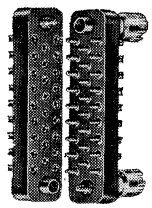
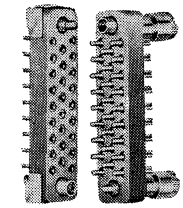


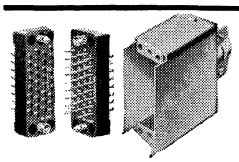
SMI-K SERIES

Subminiature Hoodless Knob Type Screw Lock
Number of contacts 7, 11, 14, 20, 26, 34
Max wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 1950 V. A.C. RMS.
Current rating .....7.5 amps.
SMI-K-SDL (solderless) uses AMP 37 taper receptacle
Pat. 2,761,108. Other configurations on request.

SMI-KC SERIES

Subminiature Hoodless Knob Type Screw Lock
Reentrancy female contact Anti-Rotation Brackets
Number of contacts 7, 11, 14, 20, 26, 34
Max wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 1950 V. A.C. RMS.
Current rating .....7.5 amps.
SMI-K-SDL (solderless) uses AMP 37 taper receptacle
Pat. 2,761,108. Other configurations on request.



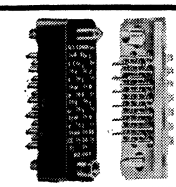


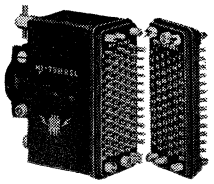
MI-SERIES. Miniature

Number of contacts
7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
MI-SDL (solderless) uses AMP 37 taper receptacle
MIP Series #18 wire — MIW Series #16 wire

HMI SERIES. Hermetic Seal Miniature

Number of contacts
7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
Mates with corresponding MI-F (female) series connectors.



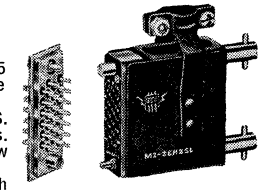


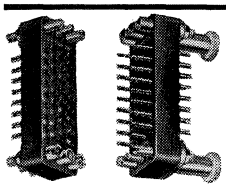
MI-SL SERIES. Miniature Screw Lock

Number of contacts
7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
MI-SL-SDL (solderless) uses AMP 37 taper receptacle
Pat. #2,761,108
ALSO AVAILABLE FOR #18 AWG WIRE
Double lead threads. "Twice the speed with double lead."

HMI-SL SERIES

Hermetic Seal Miniature Screw Lock
Number of contacts
7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
Mates with corresponding MI-FSL (female screw lock) series connectors.
Double lead threads. "Twice the speed with double lead."





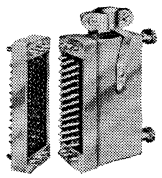
Pat. #2,761,108

MI-K SERIES

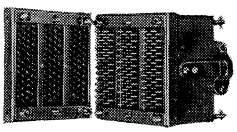
Miniature Hoodless Knob Type Screw Lock
Number of contacts
7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
MI-K-SDL (solderless) uses AMP 37 taper receptacle
ALSO AVAILABLE FOR #18 AWG WIRE

MI-BSL "FBI" SERIES

Miniature Bracket Screw Lock
Number of contacts 34, 41, 50, 75
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
Hoods .....aluminum anodized
Brackets .....die-cast aluminum
MI-BSL-SDL (solderless) uses AMP 37 taper receptacle



Pat. #2,761,108; #2,845,603; #2,845,604

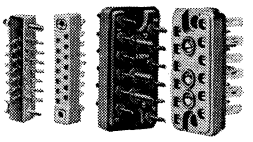


MI-MBSL SERIES

Miniature Bracket Modular Screw Lock
Number of contacts 123, 150, 225
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
Hoods .....aluminum anodized
Brackets .....die-cast aluminum
MI-BMSL-SLD (solderless) uses AMP 37 taper receptacle
ALSO AVAILABLE FOR #18 AWG WIRE
Pat. #2,761,108; #2,845,603; #2,845,604; Additional Patents Pending.
Other configurations upon request.

900-904 SERIES. Miniature

900-901 14 contacts #20 rated 5 amps. 1 guide cont. #8 rated 15 amps.
903 (Hi-Voltage) 5 contacts #20 rated 5 amps. 1 guide cont. #8 rated 15 amps.
902, 904 12 contacts #20 rated 5 amps. 3 contacts #12 rated 10 amps.
Voltage ratings—sea level
900-901 .....1350 V A.C. between contacts
903 .....2500, 5000 V A.C. between contacts
902, 904 .....100 V A.C. between contacts
902, 904 connectors available with hoods—rear and side cable opening—flush and recessed positions.



ALSO AVAILABLE FOR #18 AWG WIRE

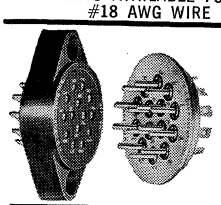
MRO-MRA. Miniature Round

Number of contacts 7, 9
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2100 V A.C. RMS.
Current rating .....7.5 amps.
MRO-SDL—MRA-SDL (solderless) uses AMP 37 taper receptacle

MH SERIES. Miniature Hex

Number of contacts 4, 5, 7, 9, 10
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2100 V A.C. RMS.
Current rating .....7.5 amps.
MH-SDL (solderless) uses AMP 37 taper receptacle
Also available HMH Hermetic Seal. Plug Series.

Pat. #2,848,702

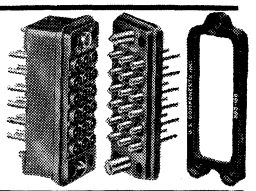


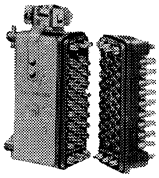
MR-HMR Miniature Relay

Number of contacts 14
Maximum wire size .....#20 AWG wire
Voltage breakdown between contacts—sea level 2600 V A.C. RMS.
Current rating .....7.5 amps.
MR-SDL (solderless) uses AMP 37 taper receptacle
ALSO AVAILABLE FOR #18 AWG WIRE
Other versions custom built upon request

980 SERIES. Power-Guide Pin Spring Release

Number of contacts 12, 18, 24, 34
Maximum wire size .....#16 AWG wire
Voltage breakdown between contacts—sea level 4000 V A.C. RMS.
Current rating .....10 amps.
980-SDL (solderless) .....uses AMP 53 taper pin
Patent #2,658,182



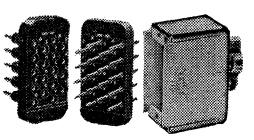


980-SL SERIES. Power Screw Lock

Number of contacts 12, 18, 24, 34
Maximum wire size .....#16 AWG wire
Voltage breakdown between contacts—sea level 4000 V A.C. RMS.
Current rating .....10 amps.
980-SL-SDL (solderless) .....uses AMP 53 taper pin
Patents #2,658,182; #2,761,108

990 and 990S (Short Contacts) SERIES. Power

Number of contacts 7, 10, 15, 18
Maximum wire size .....#16 AWG wire
Voltage breakdown between contacts—sea level 5300 V A.C. RMS.
Current rating .....10 amps.
990-SDL (solderless) .....uses AMP 53 taper pin



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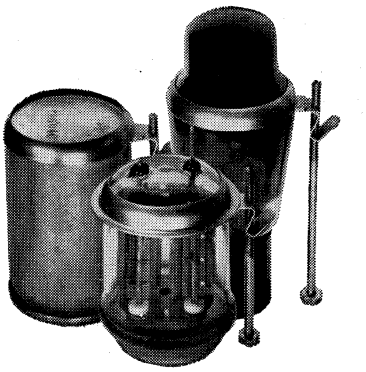
TOP HAT

TUBE CLAMPS

RETAINERS FOR PLUG-IN COMPONENTS



An improved clamp for securing electron tubes, relays, capacitors and other pluggable parts.

POSITIVE Component even when inverted will not loosen under the most severe shock or vibration.

CORROSION RESISTANT Hats and Posts are stainless steel. All materials and finishes comply with Armed Forces Specifications.

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ACCESSIBLE Clamp fits on top of component and can be fastened or released easily without tools.

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The 409 is available with outputs which are linear with pressure or altitude, with outputs which are functional, or with tapped potentiometers, switching segments and other electrical features.

The unit has high case pressure; incorporates the maker's Ni-Span-C aneroid type capsule.

PRICE: Approximately $200.00

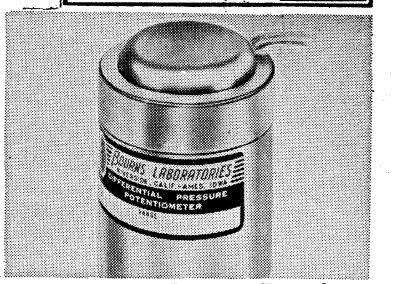
AVAILABILITY: Some pressure ranges from stock; others, 8 to 10 weeks.

SALES OFFICES: See **eem** p. 851 (Yellow Section)

For other Bourns Laboratories products refer to **eem** *pp. 658, 659, 669 (1958 Edition).*

Circle 35 Reader Service Coupon (p. 2)

eem File System Sec.
electronic engineers master



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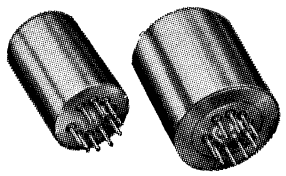
MAGNETIC MODULATORS

Super-sensitive, d.c. to a.c., translation devices of the second-harmonic variety, for converting very small d-c and low-frequency a-c currents into alternating currents of the chosen carrier frequency. One of the biggest advantages of the magnetic modulator, aside from its high sensitivity, is that it can work from d.c. to the highest audio frequency permitted by the carrier employed. When followed by a synchronous demodulator, phase and polarity relationships are preserved.



Part No.	D-C Sensitivity	Minimum Band Width	2nd Harmonic Operating Freq. Range	Operating Temperature Range	Type of Mounting	Dimensions	Price Each
B66	10^{-7} Amps.	0 to 100 c.p.s.	1 to 10 Kc.	*—30 to +250°F	9 Pin Miniature Socket	1 3/16 Diameter X 1 1/4	$28.00
B105	10^{-8} Amps.	0 to 5 Kc.	10 to 100 Kc.	#+65 to 150°F	9 Pin Miniature Socket	7/8 Diam. X 1 3/16	35.00

* No measurable change in sensitivity of the B66 is experienced over the temperature range shown.

The B105 loses sensitivity with increasing temperature at the rate of about 1% per degree F.

High turns ratio transformers to couple the filter to the modulator exciter winding are also desirable and are provided as follows:

Part Number	Function	Dimensions	Price Each
B242	To couple C66 or C68 to B66	1½ Diam. x 7/8	$9.00
B243	To couple C65 or C67 to B105	1½ Diam. x 7/8	9.00

To fully utilize a magnetic modulator, the 2nd harmonic in the exciting current must be as completely removed as possible. To assist in accomplishing this result Low-Pass filters are provided for the excitation circuit as follows:

Part No.	Characteristic Impedance	Insertion Loss—Db.	Cutoff Frequency	Maximum Attenuation Frequency	Maximum Attenuation Db.	Dimensions	Price Each
C66	2200 Ω	0.4 or Less	1.6 Kc.	2.0 Kc.	60 or greater	2 1/16 x 2 7/8 x 1 5/16	$39.00
C68	2200 Ω	0.4 or Less	4.0 Kc.	5.0 Kc.	60 or greater	2 1/16 x 2 7/8 x 1 5/16	39.00
C65	2200 Ω	0.4 or Less	16 Kc.	20. Kc.	80 or greater	2 1/16 x 2 7/8 x 1 5/16	35.00
C67	2200 Ω	0.4 or Less	40 Kc.	50. Kc.	80 or greater	2 1/16 x 2 7/8 x 1 5/16	35.00

Custom designs to your specifications. The above are but a few examples of the transformers we manufacture.

Magnalectric CORPORATION

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Brush Instruments, Div. of Clevite Corp., 3405 Perkins Ave., Cleveland 14, Ohio
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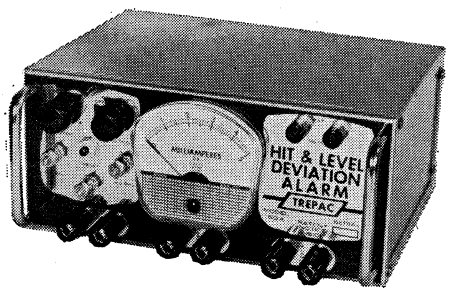

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HIT & LEVEL DEVIATION ALARM

Highly sensitive stabilized transistor-operated, self-powered D.C. comparator and amplifier. Designed to operate unattended in remote areas for several months. Remote alarm and recording device. Remote resetability and indication over telephone pair. Size: 3½" x 5½" x 8".

Monitors a D.C. or A.C. signal level of 0-500 millivolts into 100Ω load. Sensitivity of operation adjustable from ± 5 millivolts. Floating inputs and outputs.

Mode of operation selectable to operate on slow changes in level or momentary "hits" ignoring level changes. RESPONSE TIME OF ALARM AND "Lock-up" is ± 5 millivolts in 2.5 Milliseconds.

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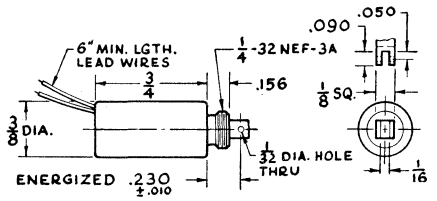
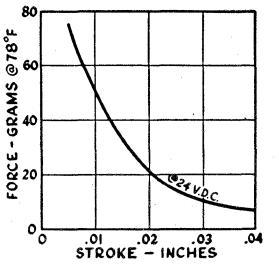
PSP MINIATURE **DC SOLENOIDS**

The PSP Solenoids described on this page are only representative of the hundreds regularly manufactured by PSP for avionics, computers, instruments and ground support equipment. All PSP Solenoids are made in general accordance with MIL-S-4040C specifications, and include: High pressure types operating at pressures to 3000 psi in the plunger cavity . . . high temperature types which operate without fail at ambient temperatures to 600°F. and beyond . . . high voltage solenoids for the 60-125 V D.C. range . . . 115 Volt 400 cycle A.C. units using internal rectifiers . . . as well as miniature and sub-miniature types for a wide range of electronic control operations. PSP engineers will be glad to recommend a solenoid design for your need—or work with you toward solution of your problem.

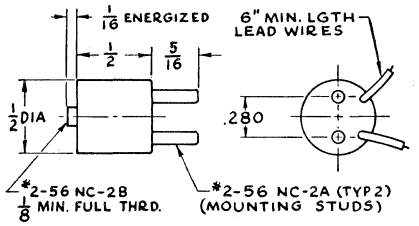
4SD819-2



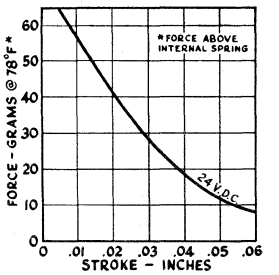
TYPE	DC pull, single coil construction
VOLTAGE RANGE	24 to 30 VDC continuous duty
CURRENT DRAIN	.030 amp. @ 24 VDC @ 78°F
FORCE	10 grams @ .030 stroke @ 24 VDC @ 78°F
TEMP. RANGE	−65°F to +160°F
WEIGHT	Unit 9.2 grams, plunger 0.9 grams



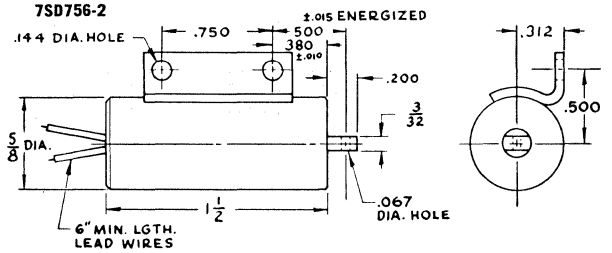
5SD466-5



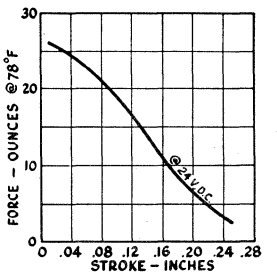
TYPE	DC pull, single coil construction
VOLTAGE RANGE	24 to 29 VDC continuous duty
CURRENT DRAIN	.100 amp @ 28 VDC @ 78°F
FORCE	12 grams above 5 gram internal spring @ .050 stroke @ 24 VDC @ 78°F
TEMP. RANGE	−65°F to +240°F
WEIGHT	Unit 9.6 grams, plunger 0.4 grams



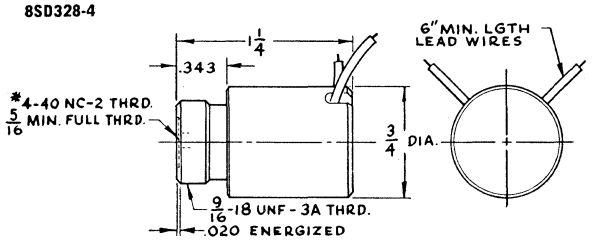
7SD756-2



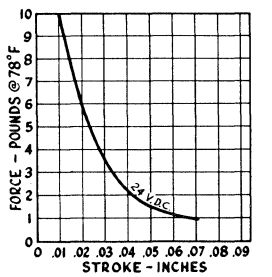
TYPE	DC pull, single coil construction
VOLTAGE RANGE	25 to 29 VDC intermittent duty (20 sec. on, 15 min. off)
CURRENT DRAIN	.800 amp @ 24 VDC @ 78°F
FORCE	22 ounces @ .062 stroke @ 24 VDC @ 78°F
TEMP. RANGE	−32°F to +170°F
WEIGHT	Unit 1.8 ounces, plunger 0.013 ounces



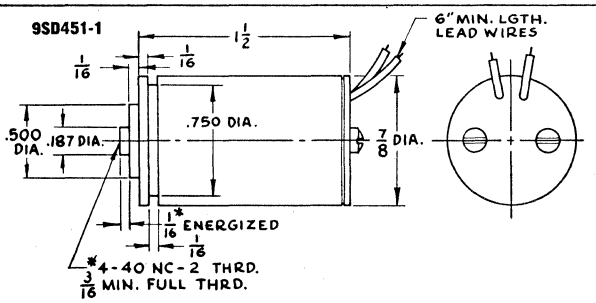
8SD328-4



TYPE	DC pull, single coil construction
VOLTAGE RANGE	18 to 30 VDC continuous duty
CURRENT DRAIN	.535 amp @ 24 VDC @ 78°F
FORCE	6 pounds @ .020 stroke @ 24 VDC @ 78°F
TEMP. RANGE	−65°F to +165°F
WEIGHT	Unit 1.59 ounces, plunger 0.24 ounces

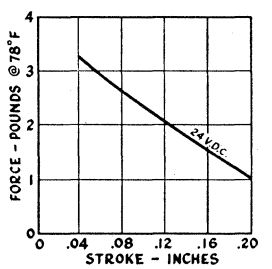


9SD451-1



TYPE	DC push, single coil construction with adjustable stroke*
VOLTAGE RANGE	22 to 28 VDC continuous duty
CURRENT DRAIN	1.0 amp @ 24 VDC @ 78°F
FORCE	2 pounds @ .125 stroke @ 24 VDC @ 78°F
TEMP. RANGE	−65°F to +160°F
WEIGHT	Unit 3.15 ounces, plunger 0.36 ounces

*Plunger shaft threaded into plunger for fine adjustment of stroke. Adjust by means of hex allen key and lock with hex tapered locknut.



Precision Scientific Products

PSP **engineering company**
DIVISION OF INDUCTION MOTORS CORP.
6058 WALKER AVENUE, MAYWOOD, CALIFORNIA • TELEPHONE: LUDLOW 3-4785

Note: This sheet for reference only. Detailed specifications and drawings available on request. See yellow pages for local offices, telephone numbers, etc.

See YELLOW SECTION for Local Offices, Telephones, etc.

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VecTroL® — SUPERSENSITIVE THYRATRON GRID CONTROLS

SERIES VV60/901—FOR 60 CYCLE SUPPLY

PROVIDING LINEAR, FAILSAFE, PHASESHIFT CONTROLLING 1 TO 2 THYRATRONS UP TO...

TYPICAL APPLICATIONS

- Motor and Generator Controls.
- Regulated Power Supplies.
- Voltage and Current Regulators.
- Servo Amplifiers.
- Electronic Temperature Controls.
- Process Control Instrumentation.
- Welding Controls.
- Lighting Controls.
- Automation Speed Program Controls.

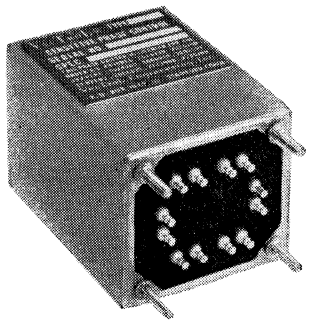
CONTROL FEATURES

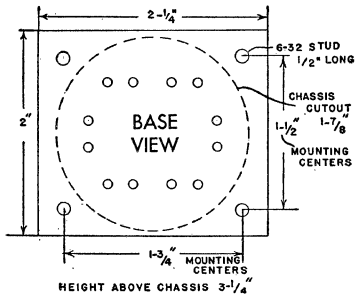
- **FULL CONTROL** — Patented VecTroL Supersensitive Phase Shifting Network applies 60 cycle AC voltage to thyratron grids and varies its phase angle over 270°. Controls output from zero to maximum.
- **FAILSAFE**—VecTroL unit cuts off the thyratron output when control signal is removed. No bias required.
- **NO MISFIRING**—Full grid amplitude at all phase angles.
- **SENSITIVITY**—Controls thyratron output proportionately up to 20 kilowatts with 1 milliwatt DC signal. Provides simple feedback control without amplification of error signal.
- **FOUR CONTROL WINDINGS**—Four isolated control windings may be series or parallel connected for one signal or used separately for 2, 3 or 4 independent signals.
- **ECONOMY**—One VecTroL unit will control one half-wave or two full wave thyratrons.
- **INSULATION**—AC circuit is completely isolated from the control circuits.

All models available immediately from stock

MODELS ALSO AVAILABLE FOR USE WITH THE SILICON CONTROLLED RECTIFIERS AND FOR MIL SPEC APPLICATIONS

20 KILOWATTS WITH THE COMMERCIAL MODEL





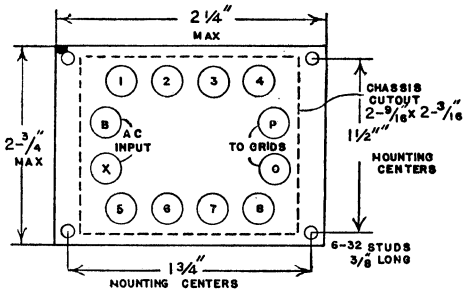
Commercial Models are factory tested for insulation at 1600 volts RMS hi-pot.

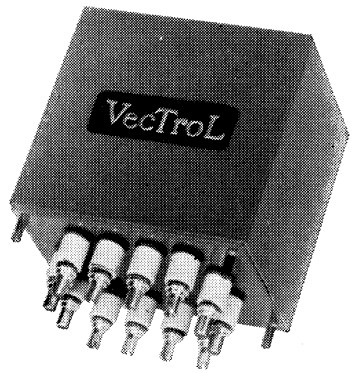
PRICE $35.00 in 100 LOTS

30 KILOWATTS WITH THE HEAVY DUTY MODEL

BASE VIEW FROM UNDERNEATH

Height above chassis 2-7/8"
Terminal Projection below chassis 13/16"





Heavy Duty Models are factory tested for insulation at 2200 volts RMS hi-pot.

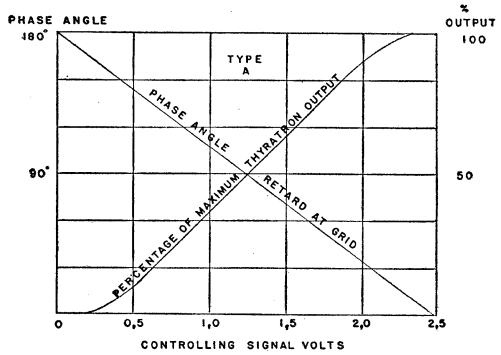
PRICE $54.50 in 100 LOTS

ALTERNATIVE ELECTRICAL TYPES

When ordering, please specify Series VV60/901 Commercial or Heavy Duty Model, also whether Type A or Type C:—

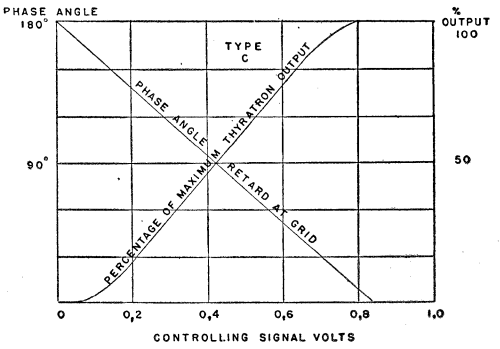
HIGH RESISTANCE TYPE A

Terminals:	1-2	3-4	5-6	7-8	Total
Control WDG Resistance	1350	1350	450	450	3600(ohms)



LOW RESISTANCE TYPE C

Terminals:	1-2	3-4	5-6	7-8	Total
Control WDG Resistance	150	150	50	50	400(ohms)



TYPICAL CURVES

with one or more control windings in series. Control signal voltage is halved by connecting windings in two parallel paths.

SELECTION OF TYPE

- Use type A when signal circuit resistance is high, e.g., for:—
- High voltage direct feedback circuit.
- Photocell circuits.
- Pentode anode circuit.

- Use type C when signal circuit resistance is low, e.g. for:—
- Low voltage direct feedback circuit.
- Motor control circuits.
- Cathode follower circuit, transistor, etc.

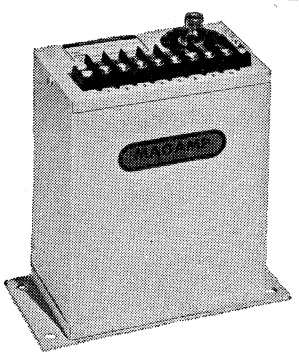
Also, write for details of VecTroL SILICONTROL for gate firing of Silicon Controlled Rectifiers

VecTroL Engineering, Inc. P. O. BOX 1089—DEPT. M-59 STAMFORD, CONN.

STATIC CONTROL DEVICES & COMPONENTS

Director Systems Department
WESTINGHOUSE ELECTRIC CORPORATION
356 COLLINS AVE., PITTSBURGH 6, PA.
(SALES OFFICES IN ALL MAJOR U. S. CITIES)

Manufacturer of
MAGAMP Magnetic Amplifiers
Cypak® Static Control
Selenium Rectifiers



BI-STABLE

APPLICATIONS

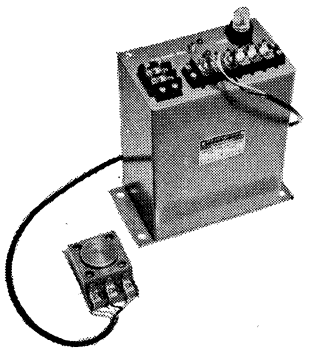
These units employ a unique combination of magnetic and transistor circuitry to achieve an input seneitivity of 5 x 10 -8 watts. All units are supplied with multiple control windings which permit operation from a wide range of source impedances.

The MAGAMP Bistable is also available with a self-contained ajustable reference supply of plus or minus ½% accuracy. The reference supply is internally connected to a separate winding and will provide enough power to displace the operating point by an amount equivalent to a signal input of 1000 times the loop width. With this reference, the bistable can be used in regulating systems to provide a switching sensitivity of 0.1% of full output.

No vacuum tubes, no moving parts, no delicate contacts, and requires no maintenance.

CHARACTERISTICS

Signal Sensitivity: .05 microwatts input produces switching
Drift Level: .05 microwatts
Input Impedance: 1 ohm to 1 megohm
Output: 24 volts dc at 250 milliamperes (6 watts)
Supply Power: 105-125 volts, 55-65 CPS, 15 volt-amperes
Temperature Range: -40°C to 55°C
Internal Reference: ±0.5% stability
Response Time: Average 20 milliseconds
Environmental: MIL-E-5272 shock and vibration
Size: 3″ x 5″ x 7″ (approx.)
Price: Without Reference — **$110** List
Style Number 613C803G01
With Reference — **$145** List
Style Number 613C804G01



PROXIMITY LIMIT SWITCH

APPLICATIONS

The Proximity Limit Switch is suitable for application wherever limits must be placed on the movement of a machine or a machine part. It may be used for many conventional limit switch applications, and will provide dependable service where other switches are subject to frequent failure.

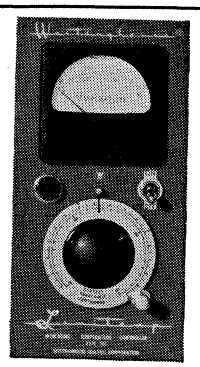
ADVANTAGES

Long Life: The life of the static Proximity Limit switch is independent of the number of operations — no vacuum tubes are used.
Environment-Free: The Proximity Limit Switch will operate dependably where conventional limit switches are subject to failure because of oil mist, iron filings, sand, dust and dirt.
Corrosion-Proof: The limit switch is immune to corrosion and vibration.

CHARACTERISTICS

Excitation: 117 volts ±10% at 60 ±5 cps
Maximum Load Output: 24 volts d-c at 335 ma (with an inductive load — relay or solenoid).
Response Time: 25 milliseconds minimum (total time from actuation of sensing element to final output from control element).
Operations Per Second: 20 maximum
Adjustable Operating Distance: ⅛ inch min. to ½ inch max. and ¼ inch min. to 2 inch max.
Repeatability: Equal to resolution at all gap separations under all conditions.
Temperature Range: Minus 10°C to plus 55°C
Price:

Control	Style No. **317C064G01 $137** List
½″ Sensing Head	Style No. **316C803G01 $ 23** List
2″ Sensing Head	Style No. **316C806G01 $ 63** List



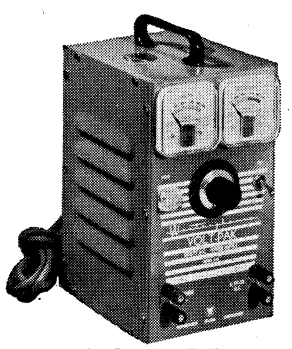
LIMITEMP

APPLICATIONS

This new Westinghouse control device is a medium priced indicating temperature controller of unusually high reliability. The static circuitry employs magnetic and semi-conductor elements of proven reliability. There are no vacuum tubes, no moving parts, no contacts - nothing to wear out.
The new temperature controller may be used to indicate temperature and sound an alarm if temperature exceeds the preset point. Temperatures monitored may include windings of large rotating machines, bearings, process temperatures and many similar applications. The unit may also be used in conjunction with auxiliary relays or static amplifiers to form a low cost complete temperature control system combining calibrated adjustment and indication.
The unusually high reliability of this unit makes it ideal for monitoring or controlling temperature in many critical areas including nuclear controls. Special models can be supplied for military applications. Higher temperature units will be announced shortly.

CHARACTERISTICS

Input: 115 volts, 60 cycles
Output: 24 volts dc at 5 watts
Temperature Range: 100°F. to 400°F.
40°C. to 200°C.
Accuracy: Setting ±1% of range
Indicating ±2% of range
Bandwidth 2% of range
Indication: Calibrated meter and pilot light
Dual-Scale Calibration: °F. and °C.
Versatile: Simple to apply and set
Dimensions: 4″x8½″ H x 8″ D. (Approx.)
Price: Style No. 613C701G01 — $210 List



VOLT-PAK

APPLICATIONS

The Westinghouse Model 646 "Volt-Pak" is a general purpose portable DC power supply for laboratory, production and industrial use. It will serve as a DC source for experimental work, industrial control system check-out, production test equipment and many other applications.

FEATURES

No tubes - No warm-up - No maintenance
Smooth dependable voltage control from zero to full output is obtained from a variable auto-transformer.
Output voltage and current are both measured on separate instruments.

CHARACTERISTICS

Input: 105 to 125 volts, 60 to 400 cycles
Outputs: 1 - 0 to 450 volts DC continuously variable, 250 MA continuous, 500 MA intermittent load. (Milliammeter marked red for intermittent currents)
2 - 6.3 volts AC 3.0 amperes
Regulation: Approximately 15% from 25% to 100% full load.
Ripple: Approximately ¼%
Size: 5½″ wide x 6″ deep x 9″ high
Weight: 20 lbs.
Price Style Number 136A646G01 $115 List

YOU CAN BE SURE...IF IT'S Westinghouse

See YELLOW SECTION for Local Offices, Telephone, etc.

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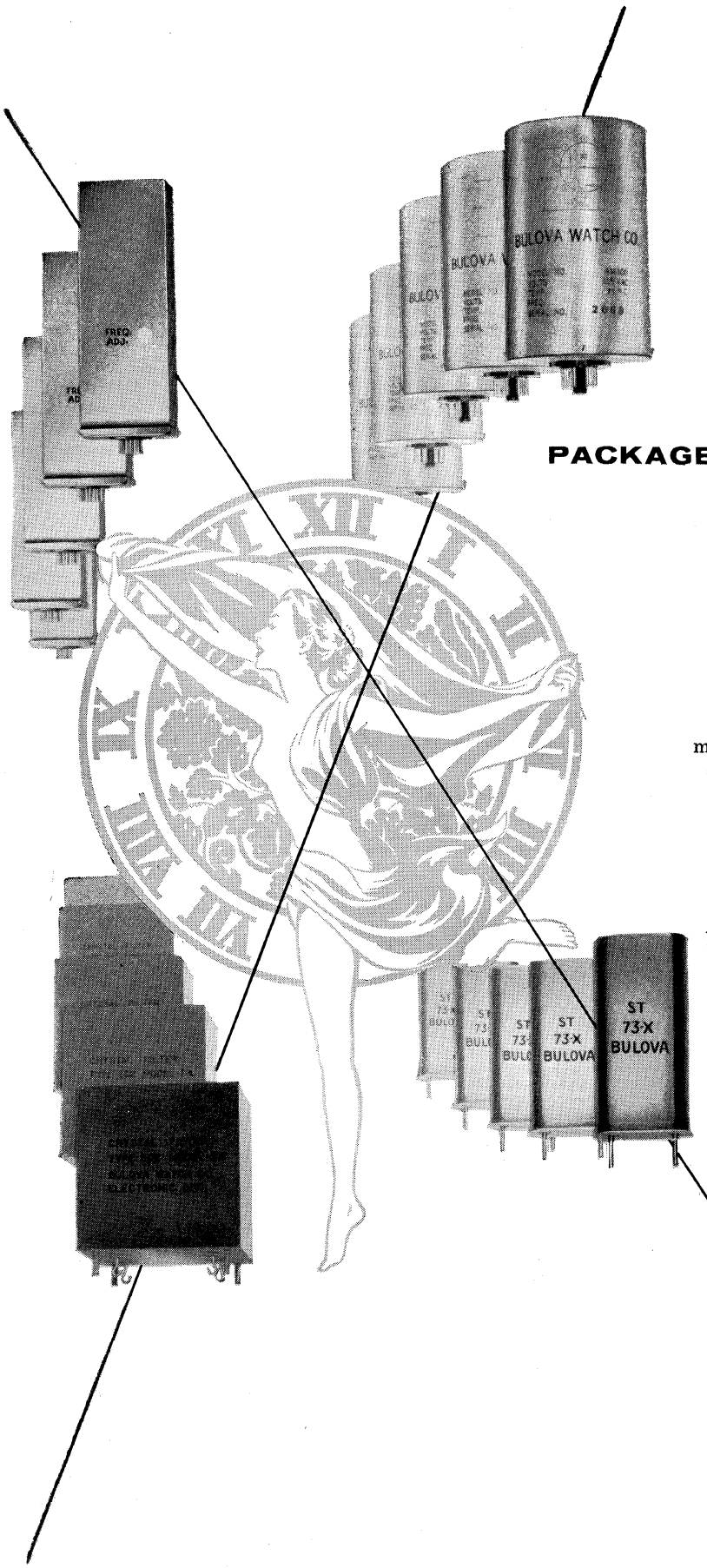

CRYSTALS

OVENS

CRYSTAL FILTERS

PACKAGED CRYSTAL OSCILLATORS

CRYSTALS

Bulova crystals are available for any frequency from 4 KC through 100 mc. Featured are the ST "shock mounted" series from 16 KC through 500 KC. Crystals are available to meet all current military specifications.

OVENS

A complete line of ovens from the multi-purpose AM-100 to the specific application BHC series. Temperature stabilization can be held as close as .1°C. Crystal ovens are available which will hold up to 20 units in the subminiature series.

CRYSTAL FILTERS

Bulova filters can be supplied with center frequencies from 10 KC through 20 mc. Bandwidths of .01% to 8% of center frequency. Slope factors 60/6. (ratio of bandwidth at 60 db to bandwidth at 6 db) as steep as 1.4/1, with single sideband filters having greater slope.

PACKAGED CRYSTAL OSCILLATORS

A complete range of frequencies from 8 KC through 70 mc is available as tube type or transistorized oscillators. The Bulova OS-1 (picture above) will maintain an accuracy of .0012% over −55°C. to +80°C. ambient. This tube type oscillator is available from 180 KC through 50 mc.

Bulova "custom engineering" services are available to fulfill your every frequency control requirement.

WATCH COMPANY

BULOVA

ELECTRONICS DIVISION

For full information and prices,

write: Department EE – 776

40-06 62nd Street, Woodside 77, New York

See YELLOW SECTION for Local Offices, Telephone, etc.

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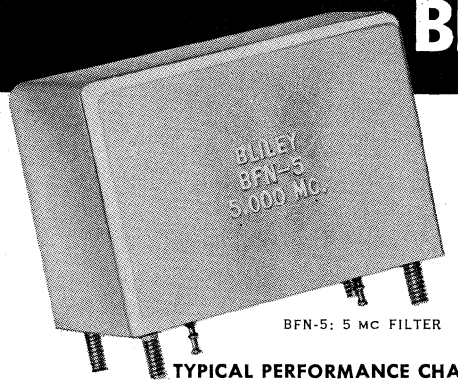
BLILEY CRYSTAL FILTERS



BFN-5: 5 MC FILTER

STANDARD DESIGN—CUSTOM DESIGN

Bliley filter networks are custom designed to meet individual equipment requirements over the range 2 mc to 20 mc; bandwidths from 100 cycles to 100 kc. Complete facilities are available for the development and evaluation of special filter requirements.

Bliley filter networks are now available in three standard designs with characteristics selected for general application in communications systems and particularly in SSB equipment. The compact size and rugged construction of the units makes them especially suitable for use in mobile and miniaturized equipment.

TYPICAL PERFORMANCE CHARACTERISTICS
(standard designs)

MODEL	FREQ.	BANDWIDTH at 6 db.	BANDWIDTH at 60 db.	FORM FACTOR	IMPEDANCE
BFN-5	5.0 mc	3.5 kc.	12 kc.	3.5	1600 ohms
BFN-11	10.7 mc	30.0 kc.	55 kc.	1.8	2700 ohms
BFN-13	13.0 mc	30.0 kc.	55 kc.	1.8	1500 ohms

BLILEY CRYSTALS for COMPLETE SPECTRUM COVERAGE

MILITARY AND COMMERCIAL CRYSTALS

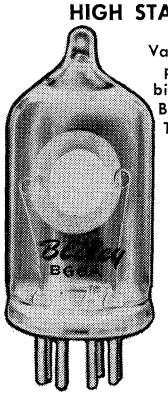
BH6 SERIES
BH9 SERIES
BANTAM BX

BH9, BX and BH6 Series. Miniature and subminiature units hermetically sealed. For range 4 kc. to 125 mc. Military units meet or exceed MIL-C-3098B. BH6, BH9 and BX Series available as plug in or with wire leads.

Special designs are available to meet vibration up to 2000 cps. at 5G. for airborne and missile environments. New exclusive Bliley development for high temperature operation up to 185°C. may be specified for range 40 kc. to 600 kc.

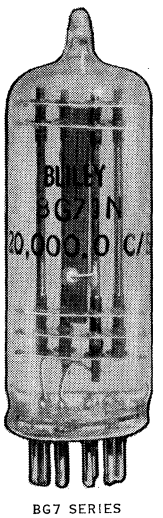
Technical bulletins are available on the complete line of Bliley products. Request information on your specific requirements.

HIGH STABILITY CRYSTALS

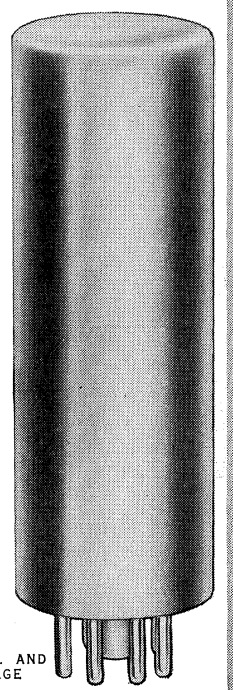


BG6 SERIES

Vacuum mounting and special processing combine high stability with minimum aging in Bliley's sealed-in-glass series. These advanced designs for frequency range 4 kc. to 125 mc are ideal where precision performance and long term reliability are premium considerations. Supplied with temperature control ovens (Bliley types BTC-2 or TCO-11C) where required.



BG7 SERIES


BTC-2 CRYSTAL AND OVEN PACKAGE

CRYSTAL OVENS

TCO-1 SERIES

Oven Type	For Use With Bliley Crystals	Stability	Operating Voltages
BTC-2	Supplied only complete with BG6 Crystal	±0.5°C.	6.3 or 26.0
TCO-11 Series	BG6 or BG7 Series	±0.25°C.	115
TCO-14 Series	2-BH6A	±2°C.	6.3, 12.6 or 26.5
TCO-2L	2-BH9A	±4°C.	6.3 or 12.6

BLILEY BUILDS COMPONENT OVENS FOR TRANSISTORS, COILS AND OTHER CIRCUIT ELEMENTS REQUIRING TEMPERATURE STABILIZATION.

TCO-11 SERIES

Bliley CRYSTALS

BLILEY ELECTRIC COMPANY UNION STATION BUILDING **ERIE, PENNSYLVANIA**

Order from Local Electronic Parts Distributors or Write for List.

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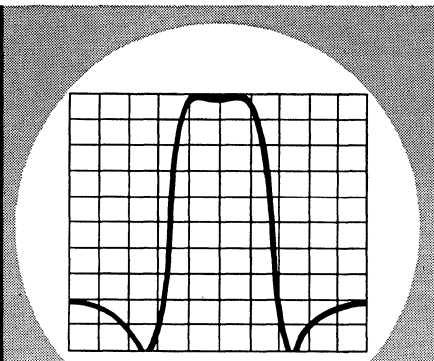
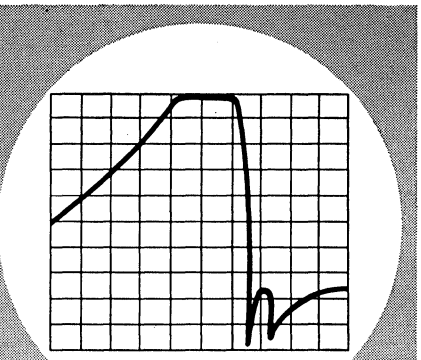
FROM CRYSTALS TO "BLACK BOXES" HEEMCO OFFERS 3-SIGMA RELIABILITY



A. CRYSTAL BANDPASS FILTERS



B. SINGLE SIDE BAND CRYSTAL FILTERS

The 3-sigma reliability for which Heemco products have long been recognized is available not only in crystals, but in filters and frequency sources as well as all types of associated circuitry and "black boxes".

CRYSTALS

Heemco crystal units, both standard and high vibration types, are available from 400 cps up, to fill a wide variety of commercial and military requirements.

FREQUENCY SOURCES

From standard designs, Hill Electronics custom designs and manufactures frequency sources to your particular requirements. Frequencies range from less than 1 cps to above 100 mc. Sizes range from ¾"x¾"x1½".

Specifications for a typical standard unit are:

FREQUENCY: from 150 cps up

OPERATING TEMPERATURE: −65 to +125°C

FREQUENCY ACCURACY: ±.001%

VIBRATION: 5 to 2000 cps at 20g

SHOCK: 100g

SIZE: 2"x2"x4"

ONE OF HILL ELECTRONIC'S RECENT DEVELOPMENTS IS A 3-PHASE FREQUENCY SOURCE, SPECIFICATIONS FOR WHICH ARE AVAILABLE UPON REQUEST.

FILTERS

A. CRYSTAL BANDPASS FILTERS

Center frequency: 400 cps to 30 mc
Band Width: .01% to 13% of center frequency
Selectivity: Ratio of 60db to 6db band widths as steep as 1.4:1
Insertion loss: Usually less than 6db for wide band filters and less than 3db for narrow band filters
Wide Impedance Range
Attenuation: As much as 80db
Passband Variation: ±½db

B. SINGLE SIDE BAND CRYSTAL FILTERS

Center frequency: 400 cps to 30 mc
Band Width: .6% to 10% of center frequency
Steep Side Slope: As steep as 1.0026:1
Wide Impedance Range
Attenuation on steep side: As much as 60db
Passband Variation: ±1db

C. CRYSTAL NOTCH FILTERS

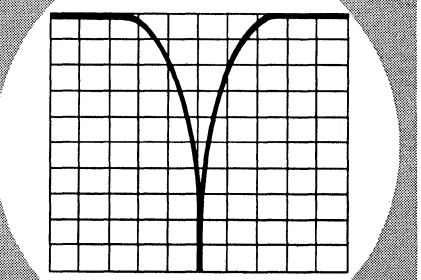
Center frequency: 400 cps to 30 mc
Band Width at 6db: .01% to .8% of center frequency
Insertion loss: Usually less than 3db
Attenuation in the notch: As high as 60db
Passband Variation: Less ±1db

D. CRYSTAL DISCRIMINATORS

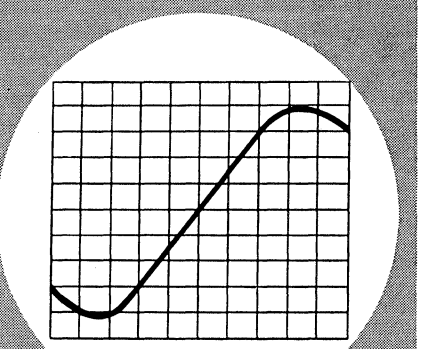
Center frequency: 400 cps to 30 mc
Band Width (peak to peak): .01% to 10% of center frequency
Wide Impedance Range
Output Voltage: Up to 20 volts peak to peak

E. "COMB" SETS

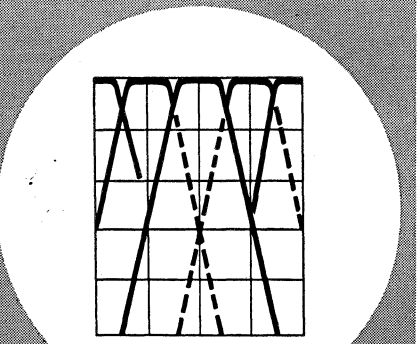
Because of rigid quality controls and long experience in the design and manufacture of our own crystals, we have been particularly successful in production of "comb" sets.



C. CRYSTAL NOTCH FILTERS



D. CRYSTAL DISCRIMINATORS



E. "COMB" SETS

Hill Electronics specializes in the design and manufacture of "black boxes" which utilize frequency sources and/or filters.

HILL ELECTRONICS, INC.

300 north chestnut street • mechanicsburg • pennsylvania

See YELLOW SECTION for Local Offices, Telephone, etc.

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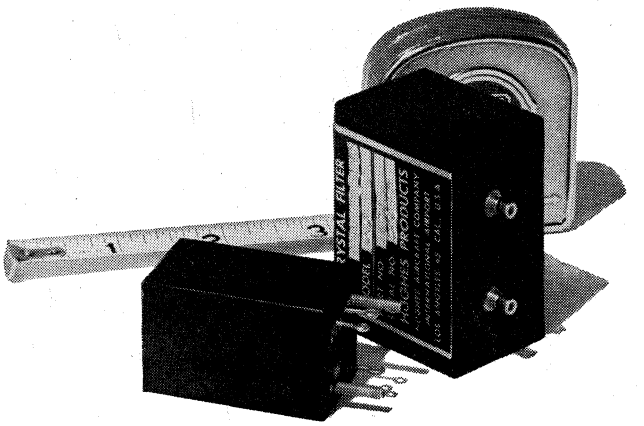

HUGHES PRECISION CRYSTAL FILTERS

Solve filtering problems at center frequencies of 100 kc to 40 mc with fractional bandwidths of 0.01 to 6%.

APPLICATIONS: Radio Communications; Carrier and Multiplexing; Single-Sideband; Telemetering; Radar and Navigation; Doppler Systems; Missile Guidance.

ADVANTAGES: High frequency filtering; High selectivity; Low passband ripple; Low insertion loss; Small size and weight; Excellent temperature stability; Excellent shock and vibration stability; Frequency Shift Systems; Spectrum Analyzers; and High Selectivity Amplifiers.

For a demonstration or further information write **Hughes Products, Crystal Filter Sales,** International Airport Station, Los Angeles 45, California

Creating a new world with ELECTRONICS

HUGHES PRODUCTS

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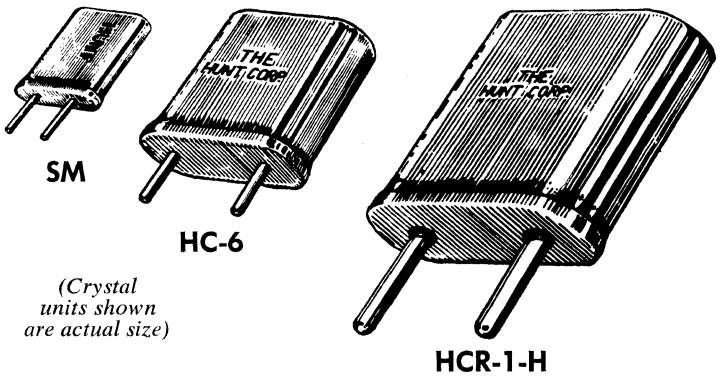
THE Hunt CORPORATION

PRECISION CRYSTALS

CARLISLE, PA.

QUARTZ CRYSTALS HIGH STABILITY CLOSE TOLERANCE

Available in many variations of can sizes, pin types and spacings, or wire leads, Hunt crystals are made to the most exacting specifications, completely temperature tested and hermetically sealed. For use in any application where close frequency control is necessary, in both Military and Commercial equipment.



SM

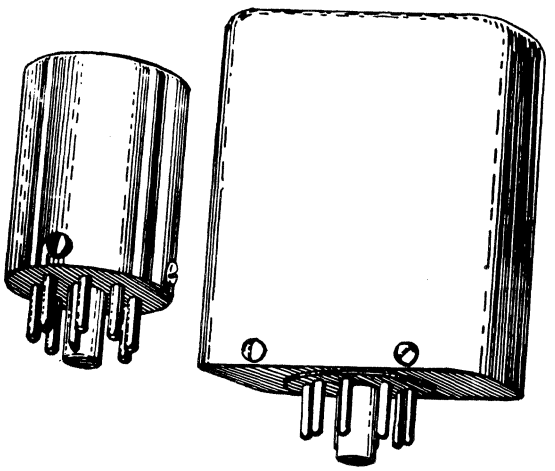
HC-6

HCR-1-H

(Crystal units shown are actual size)

OVENS TEMPERATURE CONTROLLED

Hunt Ovens, designed to accommodate crystals, components or circuitry, are in current production in numerous shapes and sizes to fit customer requirements. Engineered to maintain temperatures as close as 1/1000 degree C, these units are extremely reliable, readily available and competitively priced.



Pictured are two of the standard ovens. Originally designed for crystal applications, the extreme flexibility of these units in mechanical layout and electrical requirements permits their use with diodes, transistors, semi-conductors and other items where close temperature control results in superior electrical stability.

SERVICE & COOPERATION

Hunt Corporation products are the result of continuous effort by an extremely versatile Engineering department. One of the country's largest production staffs is proud of its excellent record for deliveries. An eager spirit of intelligent cooperation and a down-to-earth business attitude are part of the Hunt Corporation's stock-in-trade. Well rated, long established, Hunt has an enviable reputation for tackling any job, no matter how small, and any problem, no matter how large. Ask our customers—then become one.

TELEPHONE CARLISLE 1486

THE Hunt CORPORATION

Pacemaker in Stability

453 LINCOLN ST. CARLISLE, PENNA.

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CRYSTAL FILTERS
in the 10 Kc to 30 Mc range

Model No. 10MA

The following tables summarize the major characteristics of standard Hycon Eastern Crystal Filters. These standard models are stocked for immediate shipment. Custom units may be engineered to your particular specifications of center frequency, bandwidth, selectivity, and impedance level. Detailed information and price lists will be supplied on request.

SYMMETRICAL BANDPASS

Model No.	Center Freq.	Bandwidth (6-db)	Bandwidth (60-db)	Maximum Insertion Loss	Maximum Passband Variation	Impedance Ohms (Nominal)	Case Size L W H
100KPA	100Kc	50cps	200cps	3db	± ½ db	8200	$3\frac{15}{16}$"x$2\frac{13}{16}$"x2"
2215KA	2215Kc	2.8Kc	12Kc	3db	± ½ db	4000	$2\frac{9}{16}$"x$1\frac{5}{16}$"x$1\frac{47}{64}$"
2215KB	2215Kc	250cps	1000cps	3db	± ½ db	4000	$2\frac{9}{16}$"x$1\frac{5}{16}$"x$1\frac{47}{64}$"
10MA	10.7Mc	30Kc	60Kc	3db	± ½ db	2000	$2\frac{3}{8}$"x1" x$1\frac{1}{32}$"
10MB	10.7Mc	15Kc	30Kc	3db	± ½ db	1000	$2\frac{3}{8}$"x1" x$1\frac{1}{32}$"
10ME	10.7Mc	6Kc	15Kc	3db	± ½ db	500	$2\frac{3}{8}$"x1" x$1\frac{1}{32}$"
10MF	10.7Mc	3.5Kc	10Kc	3db	± ½ db	300	$2\frac{3}{8}$"x1" x$1\frac{1}{32}$"
13MA	13Mc	30Kc	54Kc	6db	±1 db	1500	$3\frac{9}{16}$"x1" x1 ½"
13MB	13Mc	15Kc	27Kc	6db	±1 db	750	$3\frac{9}{16}$"x1" x1 ½"

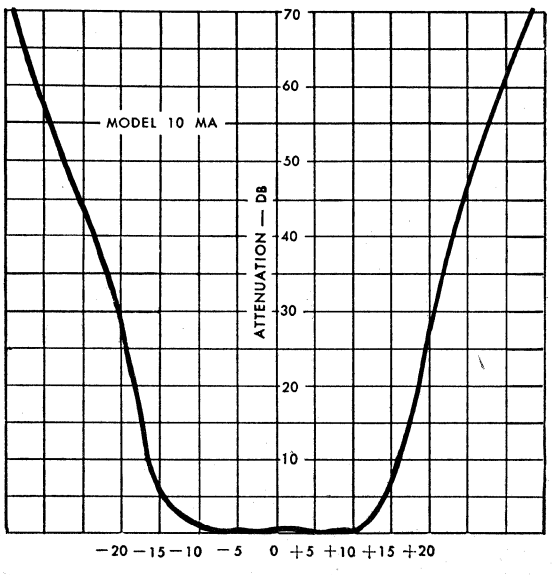
Model No. 2MUA

CRYSTAL DISCRIMINATOR

Model No	Bandwidth	Center Freq	Impedance Ohms	Case Size L W H
13 M-DM	50Kc peak to peak	13Mc	Input 10K Output 500K	$2\frac{3}{8}$"x1" x1 ½"
10 M-DC	50Kc peak to peak	10.7Mc	Input 10K Output 500K	$\frac{15}{16}$"x¾"x1"

SINGLE SIDEBAND

Model No.	Center Freq.	Sideband	Passband	Minimum Attenuation (Unwanted)	Maximum Insertion Loss	Maximum Passband Variation	Impedance Ohms (Nominal)	Case Size L W H
100KUC	100Kc	upper	300 to 6000cps (2db)	60db	10db	± ½ db	8200	$5\frac{3}{8}$"x3" x$2\frac{3}{8}$"
100KLC	100Kc	lower	300 to 6000cps (2db)	60db	10db	± ½ db	8200	$5\frac{3}{8}$"x3" x$2\frac{3}{8}$"
2MUA	2Mc	upper	300 to 6000cps (2db)	60db	3db	± ½ db	3900	$4\frac{3}{8}$"x$2\frac{3}{8}$"x$1\frac{7}{8}$"
2MLA	2Mc	lower	300 to 6000cps (2db)	60db	3db	± ½ db	3900	$4\frac{3}{8}$"x$2\frac{3}{8}$"x$1\frac{7}{8}$"



FREQUENCY IN Kc FROM 10.7 MC CENTER FREQUENCY

- **SMALL SIZE:** Standard units as small as $1\frac{61}{64}$" x $\frac{15}{16}$" x $\frac{19}{32}$"
- **HIGH SELECTIVITY:** Typical Shape Factors = 1.8
- **EXTREME ACCURACY:** Center frequencies accurate to .005%
- **LOW INSERTION LOSS:** Most units = 3 db or less
- **EXTREME STABILITY WITH VARIATION IN TEMPERATURE:** Frequency shift approx. ± .005% total from −55° C to + 85° C.
- **HERMETICALLY SEALED:** No alignment or readjustment necessary
- **WIDE IMPEDANCE RANGE:** simple resonant circuits

HYCON EASTERN, INC.
75 Cambridge Parkway Cambridge 42, Massachusetts

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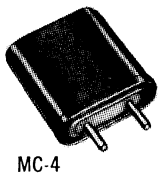
MONITOR QUALITY CRYSTALS & OVENS

30 Years of engineering and manufacturing goes into each Crystal and Oven!

QUARTZ CRYSTALS 400 CYCLES TO 180 MC



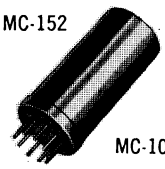
MC-4

MC-6

MC-13

Type	Nominal Frequency Range	Pin Dia.	Pin Spacing	Max. Height	Max. Width	Max. Thickness
MC-4	80kc.-10mc.	.125″	.750″	1.187″	1.125″	.4375″
MC-6	75kc-180mc.	.050″	.486″	.765″	.750″	.343″
MC-18	3.5-180mc.	Wire Leads		.515″	.421″	.171″
MC-13	16-200kc.	.050″	.486″	1.516″	.750″	.343″
MC-131	1.5-100kc.	.050″	.486″	2.00″	.750″	.343″
MC-132	1.75kc.	.050″	.486″	2.500″	.750″	.343″
					diameter	
MC-100	3-5kc.	Noval		1.75″	.75″	
MC-101	1.5-100kc.			2.25″	.75″	
MC-102	1-75kc.	Based		2.75″	.75″	
MC-15	3-2500kc.	Octal		1.75″	1.00″	
MC-151	1.5-100kc.	Based		2.625″	1.00″	
MC-152	.8-5kc.	Octal		2.8125″	1.125″	
MC-152S	.4-1kc.	Based		4.00″	1.125″	

MC-152



MC-100

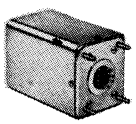
MC-15

Special high vibration type to meet 2 to 2000 cycles at 30 G's available in most frequencies

CRYSTALS AND COMPONENT OVENS

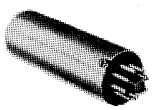
ET OVEN SERIES

Oven for precise temperature control. Made to hold crystals or components. Stability: ± .1°C at 75°C or 85°C. Heater voltages: 115V. Dimension: 4″ long x 1.87″ x 1.43″



PTR SERIES

Oven for crystals or components. Stability: ±.01°C at 75°C. Heater voltage: up to 115V AC or DC. Dimensions: 3.5″ long x 2.5″ x 2.0″.



RM4 SERIES

Small oven for 1 or 2 crystals or can be converted for component use. Stability: up to .5°C at 75°C. Heater voltages: up to 115V. Dimensions: Height 1.64″ or 2.41″. Dia. 1.25″.

YA & YB SERIES

Phenolic oven for crystals to meet severe military specifications. Stability: up to .5°C. Heater voltage: up to 28V. Dimension: 1.96″ or 2.75″ long x 1.42″ x 1.00″.

COMPONENT OVENS

Monitor manufactures a complete line of ovens designed especially for component use. Please inquire for further information.

LOW FREQUENCY TRANSISTOR OSCILLATORS ON REQUEST

Ovens to meet severe vibration requirements, available upon request.

Write for new brochure

MONITOR PRODUCTS COMPANY

South Pasadena, Calif.

Order from local Electronic Units Distributor or write for list!

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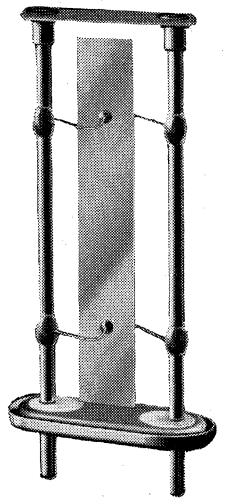
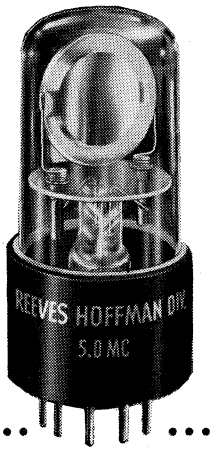
REEVES-HOFFMAN

CRYSTALS, FREQUENCY SOURCES, FILTERS, OVENS

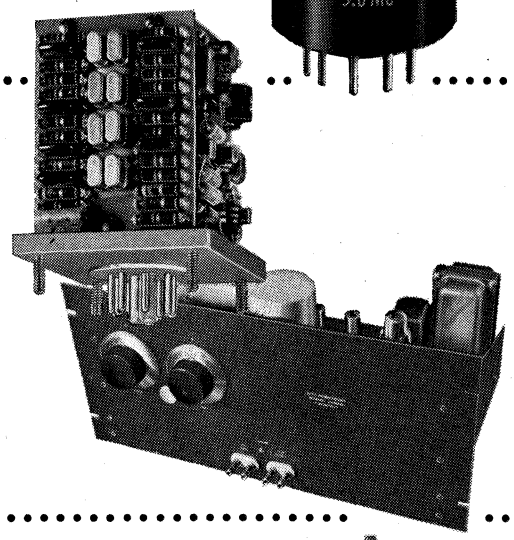




CRYSTALS

STANDARD TYPES of Reeves-Hoffman crystals, for all commercial and military applications, are available in a frequency range from 1 kc to 100 mc. Hermetically sealed in metal holders.

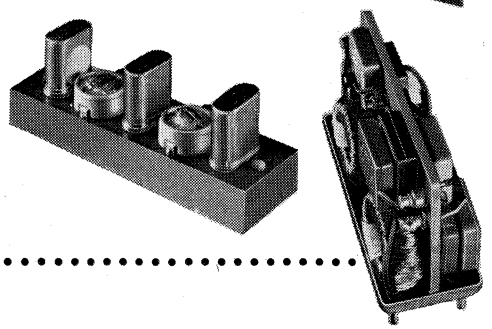
PRECISION TYPES of Reeves-Hoffman crystals, for use in high precision oscillators and secondary frequency standards, are available in a frequency range from 1 kc to 5 mc. Hermetically sealed in glass holders with standard radio tube bases.



FREQUENCY SOURCES

TRANSISTORIZED AND HARD TUBE TYPES of Reeves-Hoffman frequency sources are available in a frequency range from 100 cps to 100 mc. Stability is up to 1 part in 10^7. Packaged to your specifications.

PRECISION FREQUENCY STANDARDS have a basic frequency of 5 mc and are available with auxiliary circuitry for division to 100 kc, 1 mc and 10 mc. Stability is up to 1 part in 10^9 per day. Packaged to your specifications.



FILTERS

CRYSTAL OR LC TYPES of Reeves-Hoffman filters are available in a frequency range from audio to 30 mc.

OVENS

OVENS for precise temperature control are available in three types:

PROPORTIONAL CONTROLLED, for precise frequency standards, hold within 1/100th of 1° C at any fixed ambient.

THERMOSTATICALLY CONTROLLED, for high reliability requirements, hold within 1/10 of 1° C at any fixed ambient.

SNAP-ACTION CONTROLLED, for rugged military requirements, hold within 1° C at any fixed ambient.

Compact, rugged and highly reliable Reeves-Hoffman components are available in standard types or will be designed and manufactured to your specifications. Most units can be designed to withstand up to 10 g at 5 to 2000 cps. Write for complete details.

REEVES-HOFFMAN

DIVISION OF DYNAMICS CORPORATION OF AMERICA
CARLISLE, PENNSYLVANIA

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VALPEY
Quartz Crystals and Ovens

CRAFTSMANSHIP IN CRYSTALS SINCE 1931

TYPE VR6
COMMERCIAL AND MILITARY

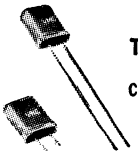
Hermetically sealed in compact metal case . . . frequency range 175 Kc to 100 Mc . . . JAN Type HC-6/U. Pin 0.050" dia., spaced 0.486".

TYPE VR-6
HIGH FREQUENCY FILTER CRYSTALS

For lattice type and single signal filters. Freq. range — 1500 Kc. to 13.000 Mc. Calibration tolerance — ± .002% of true series frequency at any one temp. between 25 deg. C. and 100 deg. C. Spurious — 50 D.B. down or better. Holder type — HC-6/U.

TYPE VR13
COMMERCIAL AND MILITARY

Hermetically sealed in compact metal case . . . frequency range 16 to 175 Kc . . . JAN Type HC-13/U. Pin is 0.050" dia., spaced 0.486"

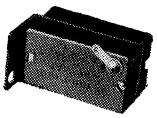


TYPE VM6
COMMERCIAL AND MILITARY

Midget unit with wire leads or .040" dia. pins hermetically sealed in compact metal case . . . frequency range 5 to 125 Mc . . . JAN Type HC-18/U.

TYPE XL100
FREQUENCY STANDARD

100 Kc used extensively in frequency standards. Mounts in ¾" crystal socket or standard 5-prong socket.

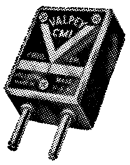


TYPE DFS
FREQUENCY STANDARD

Features separate 100 and 1,000 Kc crystals in same case . . . accuracy ±0.005 percent from −10 deg. C. to +60 deg. C., when used in recommended circuits.

TYPE CM5
AMATEUR AND MARINE

Frequency range 1,000 to 30,000 Kc. Fixed air gap, standard 0.486" x 0.093" or standard octal socket. MIL FT 243.



TYPE CM1
COMMERCIAL, MILITARY AND MARINE

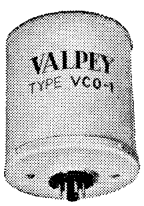
Fixed air gap design, frequency range of 800 to 30,000 Kc. Available in standard ¾" and G.R. ¾", ⅝", ⅞" or 0.850" spaced pins . . . JAN Type HC-1/U.

Crystals in all frequency ranges can be manufactured or developed to meet long term stability and other special requirements.

OVENS

TYPE VCO-1
CLOSE FREQUENCY OVEN

Temperature controlled oven . . . mounts two VR6, VR13, CM1, or CM5 crystals. Heater, 18 watts . . . for 6, 10, 28 or 115V. Fits standard octal socket . . . with pilot lamp connection to thermostat.

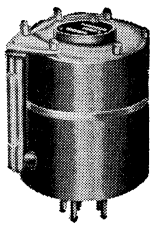


TYPE VCO-2
CLOSE FREQUENCY OVEN

Temperature controlled oven . . . mounts two JAN HC-6/U, HC 13/U, VR13 or VR6 crystals. Heater, 4 or 6 watts . . . for 6, 12.6 or 28V. Fits standard octal socket . . . with pilot lamp connection to thermostat.

TYPE CBC-O
FOR BROADCAST EQUIPMENT

Frequency range . . . 60 to 10,000 Kc. Available for 6, 8 or 10V operation . . . temperature stability to ±0.5 deg. C. Fits standard 5-prong socket.



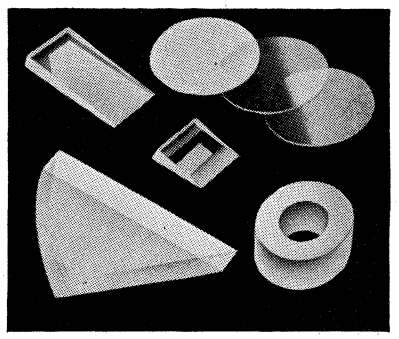
Multi-crystal, high temperature and special oven packages manufactured to meet your specifications in prototype or large quantities.

CRYSTALS FOR ULTRASONIC, DELAY LINES AND OPTICAL APPLICATIONS*

GENERAL SPECIFICATIONS:

Diameter:
±0.001" of specified diameter
Polish:
Optical pitch polish, free from scratches or pits
Edges:
Free from chips and incipient fractures
Flatness:
Flat to 0.000020"
*And other specialized applications

Parallelism:
Parallel to 0.000050"
Plating Metals:
Chrome and gold
Chrome and silver
Chrome and aluminum.
Chrome
Special platings to your requirements
Catalog QC-200 on request

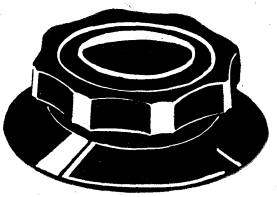


NATURAL QUARTZ, FUSED QUARTZ, TOURMALINE, GLASS AND OTHER HARD MATERIALS TO YOUR SPECIFICATIONS.

VALPEY CRYSTAL CORPORATION

Telephone: GArden 9-4851, 9-4854 • HOLLISTON, MASSACHUSETTS

See YELLOW SECTION for Local Offices, Telephone, etc.



INSTRUMENT KNOBS
Black Bakelite set screw type with brass inserts.

TELEVISION AND RADIO KNOBS
Made of sturdy Tenite with plated gold inlay.

GEE-LAR PRESENTS A COMPLETE LINE OF KNOBS FOR ALL USES

Indicator knobs, selector knobs, tuning knobs, and many others are available from this complete selection. Instrument knobs of black bakelite for all sizes of shafts. Provided with set screw fasteners, clip springs or molded hole mountings. A wide assortment of decorative knobs for television and radio use that are attractively styled to match any cabinet.

FAST DELIVERY IN ANY QUANTITY FROM STOCK through your local Electronic Distributor . . . Write for complete catalog and see the Gee-Lar line in the new Radio-Electronic Master.

GEE-LAR MFG. CO. *Division of G-C Textron Inc.*
LOS ANGELES • **ROCKFORD, ILLINOIS**

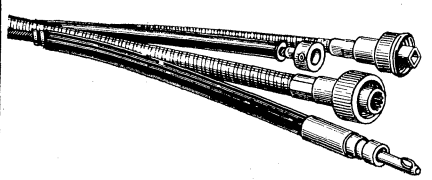
Order from Local Electronic Parts Distributors or Write for List.

KUPFRIAN FLEXIBLE-SHAFTS AND SHAFT COUPLINGS

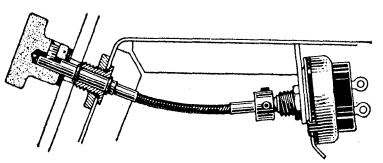
SIMPLIFY YOUR MOTION TRANSMISSION PROBLEMS

FOR • REMOTE CONTROLS, SERVO MECHANISMS, INSTRUMENTATION

flexible shafts



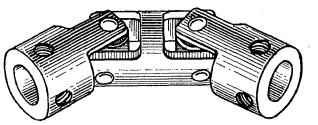
flexible shaft couplings

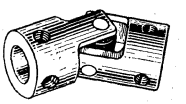


For more complete data request Catalog 5894 which shows a full line of stock parts and assemblies.

universal joints

Moderately priced





CATALOG NO. SINGLE	CATALOG NO. DOUBLE	Bore	Dia.	TH'DS	RECOM. TORQUE
MB 361	MB 496	.1880 .1895	1/2	6–32	20 LB.IN.
MB 360	MB 469	.2503 .2520	1/2	6–32	20 LB. IN.
MB 413	MB 497	.3130 .3146	1/2	6–32	20 LB. IN
MB 408	MB 471	.3755 .3770	3/4	8–32	50 LB.IN.
MB 409	MB 473	.5005 .5020	1	1/4–20	150 LB.IN.
MB 410	MB 517	.6255 .6270	1 1/4	1/4–20	250 LB.IN.

Write for Complete Catalog

oldham couplings

Center block is free-sliding, wear-resistant Nylon that also electrically insulates the ends

Midget

CATALOG NUMBER Aluminum	Stainless	Pl. Brass	Bore Dia.	Outside Dia.	Setscrew Holes	Static Torque
MB-535-1	MB-535-2	MB-535-3	1/8	3/8	4-40 NC-2	(lb. in.) 8
MB-536-1	MB-536-2	MB-536-3	3/16			
MB-537-1	MB-537-2	MB-537-3	1/4			
MB-635-1	MB-635-2	MB-635-3	3/16	1/2	8-32 NC-2	16
MB-636-1	MB-636-2	MB-636-3	1/4			
MB-637-1	MB-637-2	MB-637-3	5/16			

Subminiature

CATALOG NUMBER Alum.	Stainless	Shaft A	Shaft B	Bore A	Bore B
MB-674-1	MB-674-2	1/16	1/16	.063/.064	.063/.064
MB-675-1	MB-675-2	1/8	1/8	.1255/.1270	.1255/.1270
MB-676-1	MB-676-2	1/16	1/8	.063/.064	.1255/.1270
MB-677-1	MB-677-2	1/16	.120	.063/.064	.1205/.1220
MB-678-1	MB-678-2	.120	1/8	.1205/.1220	.1255/.1270

KUPFRIAN MANUFACTURING CORP.

363 STATE STREET BINGHAMTON, N. Y.

See YELLOW SECTION for local offices, telephones, etc.

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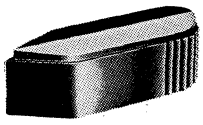
RAYTHEON CONTROL KNOBS AND MECHANICAL COMPONENTS

7 styles in 6 sizes

ROUND | SKIRTED ROUND | DIAL SKIRTED ROUND | POINTER | SKIRTED POINTER | CRANK KNOB



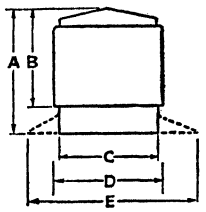
BAR KNOB*

AVAILABLE MODELS for 1/4" shafts

Description	50 Series	70 Series		90 Series		125 Series		175 Series		225 Series	
Style	Cat. No.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.
Round	50-1-1	70-1-2	12	90-1-2	12	125-1-2	6	175-1-2	6	225-1-2	4
Skirted Round	50-2-1	70-2-2	12	90-2-2	12	125-2-2	6	175-2-2	6	225-2-2	4
Dial Skirted Round	50-3-1	70-3-2	12	90-3-2	6	125-3-2	6	175-3-2	2	225-3-2	2
Pointer	50-4-1	70-4-2	12	90-4-2	12	—	—	—	—	—	—
Skirted Pointer	50-5-1	70-5-2	12	90-5-2	12	—	—	—	—	—	—
Crank	—	—	—	—	—	125-6-2	3	175-6-2	2	225-6-2	2

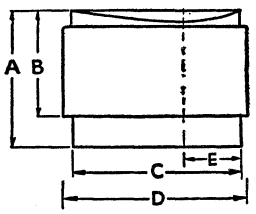
Cat. Nos. above for mirror finish. For matte finish, add "G" to end of number.
*Bar Knob—Cat. No. 1154-G1 (mirror), 1154-G2 (matte)
50 series available 1/8" shaft only

ROUND & DIAL



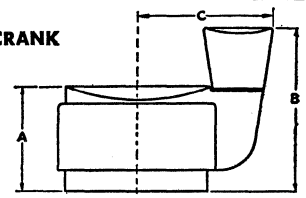
Series	A	B	C	D	E
70	.80	.62	.65	.72	1.14
90	1.03	.80	.83	.93	1.51
125	.87	.70	1.16	1.27	1.82
175	1.09	.85	1.67	1.77	2.45
225	1.11	.89	2.16	2.27	3.01

POINTER

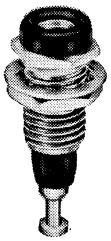


Series	A	B	C	D	E
70	.80	.62	.94	1.06	.32
90	1.03	.80	1.23	1.38	.42

CRANK



Series	A	B	C
125	.87	1.38	1.09
175	1.09	1.77	1.50
225	1.11	1.80	1.75



Standard Test Jack

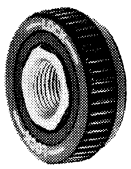
Rugged, high quality construction • Beryllium copper spring pin contact • 9 colors available for circuit coding • Meets the requirements of MIL-STD-242A (ships)

Printed Circuit Test Jacks

Specially designed for printed circuit use • Accepts standard 0.080" test prod • Simple mounting—just insert and dip-solder • 9 brilliant insulator colors for circuit coding

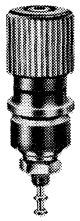
Subminiature Test Jack

Fixed or snap-in contact types available • Fast, easy expansion mounting • Accept standard 0.080" test prod • Colored insulators for circuit coding



Knob Lock

Prevents control movement by shock or vibration • Replaces potentiometer mounting hardware • Neat appearance—matches standard Raytheon knobs • Available in Mirror or Matte finish

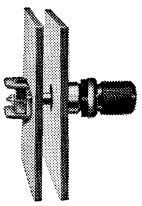


Binding Posts

Provides 5-way connection • High strength nylon and brass construction • Accept standard 0.080" test prod • Available in black or red

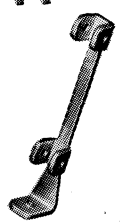
Shaft Lock

For use with screwdriver-adjusted controls • Constant friction drag prevents accidental rotation • Provides seal against dirt and moisture • Replaces standard mounting hardware



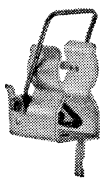
Captive Hardware

Stainless steel construction • Wide assortment of stock sizes • Meets government specifications • Neoprene gasket provides dirt and moisture seal.



Terminal Board Bracket

Provides rigid support under shock or vibration •Mounts single or double panels • Meets military specifications • Cold-rolled carbon steel, cadmium plated.



Fuse and Resistor Clip

Ejector and non-ejector types. Positive mechanical lock. Low contact resistance. Simple to install and use. Meets requirements BuShips Spec 16E4 and MIL-E-16400 (ships). Variety of sizes.

A-6012

RAYTHEON

Excellence in Electronics

Other Products: Resistance Welding Equipment and Ultrasonic Impact Grinders.
Write for complete catalog literature.

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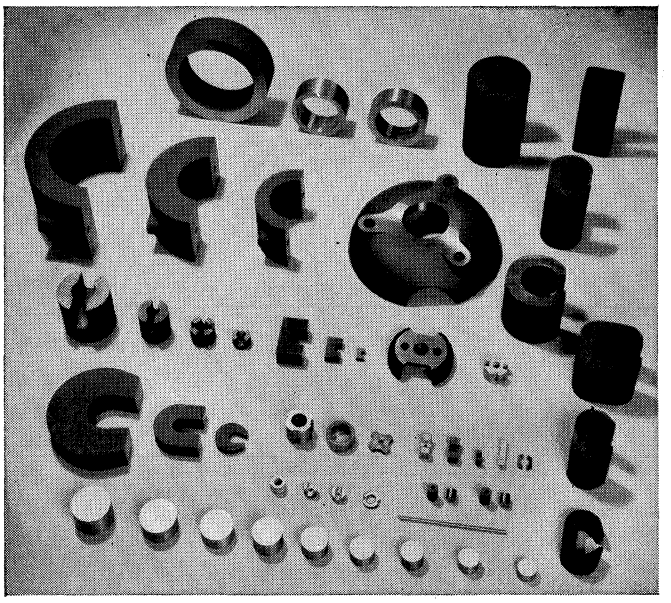
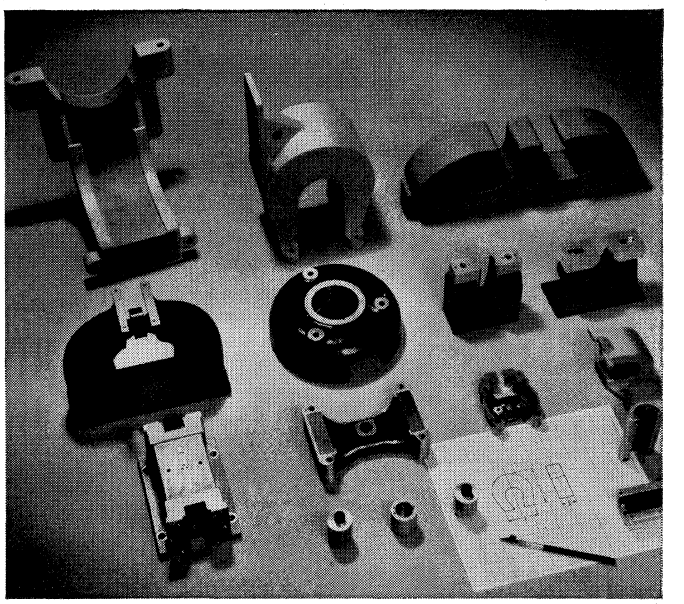
Specify "ARNOLD" for your PERMANENT MAGNET requirements



Typical group of Arnold permanent magnets, both cast and sintered types.



Typical group of permanent magnet assemblies, aluminum jacketed.

ALNICO MAGNETS

Arnold permanent magnets are available in all types of Alnico material, in sizes ranging from large castings weighing over 80 pounds to very small sintered parts weighing less than one gram.

Alnico V can usually be depended upon to deliver the greatest energy product to the magnetic circuit per unit weight of magnet material. It is therefore generally the first choice for a magnetic material except where special physical considerations are paramount.

Special assemblies such as rotors, traveling wave tube magnets, magnetron magnets, etc. may be supplied in an aluminum jacket to facilitate mounting and supply an added protection to the magnet.

Large magnet assemblies may also be supplied for mass spectrometer and other measuring applications where a high degree of stability and uniformity of field is required.

Many sizes and types of Alnico magnets are carried in stock for immediate delivery. For more information, *write for Bulletin GC-106C.*

SPECIAL PERMANENT MAGNET MATERIALS

ARNOX III

Arnox III is a molded-type magnet having high coercive force and moderately low residual induction and energy product. Principal uses are for magnetic requirements which are not stringent, and for a relatively short magnet of reasonable cross section. Accurate dimensions and close tolerances can be economically obtained. These magnets can be premagnetized before assembly, and have very high resistance to demagnetization. Slightly better magnetic properties are obtained in the pressing direction than in other directions.

ARNOX V

Arnox V is a ceramic permanent magnet material composed of highly oriented barium ferrite. It has many times the energy product of Arnox III and is comparable in many applications to Alnico V. Because of its high coercive force, its use is recommended in applications where a short magnetic length is desirable or where extremely high demagnetizing forces may be encountered. In many applications, it may be magnetized prior to assembly.

VICALLOY

Vicalloy is a carbon-free permanent magnet alloy containing about 10% vanadium, 50% cobalt and the balance iron.

Vicalloy may be fabricated in the form of castings, hot rolled bars and forgings, or cold rolled strip, wire and tubing. After suitable heat treatment, the material is quite readily machinable. Vicalloy is available on special order in bar, strip and thin tape for recording purposes. *For more information, write for "The Magneteer," Vol. 2, No. 1.*

CUNIFE

Cunife is a permanent magnet alloy of copper, nickel and iron which is malleable, ductile and machinable, after final heat treatment. The magnetic properties of Cunife are developed by cold working and are directional, with the best magnetic properties found only in the smaller sizes of rods or wires.

WSW 7506

ARNOLD

SPECIALISTS in MAGNETIC MATERIALS

THE ARNOLD ENGINEERING COMPANY, Main Office: MARENGO, ILL.
BRANCH OFFICES and REPRESENTATIVES in PRINCIPAL CITIES

See YELLOW SECTION for Local Offices, Telephone, etc.

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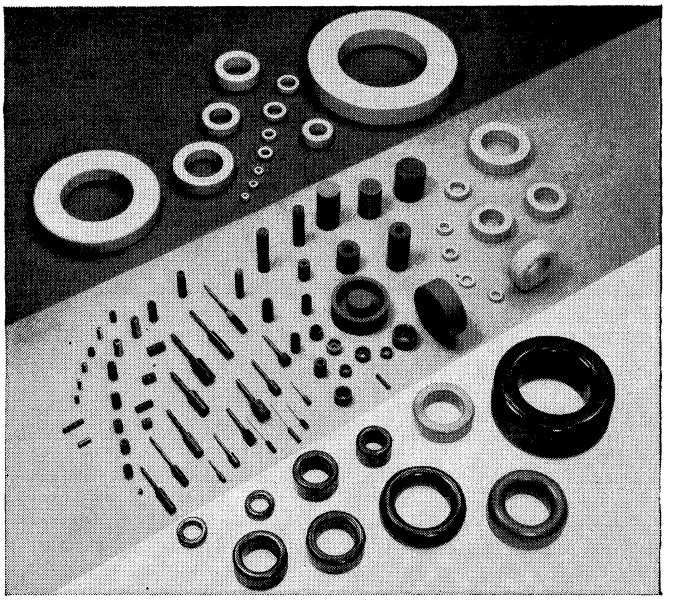
Specify "ARNOLD" for your MAGNETIC CORE requirements

Top to bottom: Tape wound cores, Silectron C, E and O cores, and bobbin cores.



Top to bottom: Mo-Permalloy powder cores, iron powder cores, and Sendust cores.

SILECTRON C-CORES, E-CORES and TOROIDS Arnold C and E cores are made from precision-rolled Silectron strip in 1, 2, 4 and 12 mil thicknesses.

They are supplied in a wide variety of shapes, and in sizes from a fraction of an ounce to several hundred pounds. In addition to standard transformer applications, they may also be supplied for special applications such as saturable reactors, instrument transformers and pulse transformers.

Over 1,000 stock cores are listed in the Arnold Silectron catalog. A wide selection of preferred sizes are carried in stock for immediate shipment. For complete data on C and E cores and Silectron toroids, *write for Bulletin SC-107A.*

TAPE WOUND CORES of High Permeability Materials Arnold tape wound cores are available made of Deltamax, 4-79 Mo-Permalloy, Supermalloy, Mumetal, 4750 Electrical Metal, Silectron, or the new rectangular-loop material, Supermendur. All except Supermendur cores are available in standard tape thicknesses of ½, 1, 2, 4 or 12-mils.

Toroidal cores are made in 30 standard sizes with protective nylon or aluminum cases. Special sizes of toroidal cores are produced to individual requirements. *Write for Bulletin TC-101A. (TC-113A for Supermendur Cores.)*

BOBBIN CORES Arnold bobbin cores are available in a wide range of sizes, tape thicknesses, widths and number of wraps to suit the ultimate use of the core in electronic computer assemblies. Magnetic materials usually employed are Deltamax and Square Permalloy in standard thicknesses of 1, ½, ¼ and ⅛ mil. Bobbins are supplied in ceramic or stainless steel. *Write for Bulletin TC-108A.*

MO-PERMALLOY POWDER CORES Available in a wide range of sizes, from .260" OD to 5.218" OD. They are given various types of enamel and varnish finishes, some of which permit winding with heavy Formex insulated wire without supplementary insulation over the core.

These powder cores are supplied in four standard permeabilities: 125, 60, 26 and 14 Mu. They provide constant permeability over a wide range of flux density, and in many cases may be furnished stabilized to provide essentially constant permeability over a specific temperature range. Large warehouse stocks of preferred sizes are carried for immediate shipment. *Write for Bulletin PC-104B.*

IRON POWDER CORES A wide selection of cores is available, from simple cylinders to special cores of complicated design. The line includes all standard types of threaded cores, cup, sleeve, slug and cylindrical insert cores: for use in antenna and RF coils, oscillator coils, IF coils, perm tuning, FM coils, television coils, noise filter coils, induction heating and bombarder coils, and other low frequency applications. Preferred sizes are carried in warehouse stock for quick shipment. A standard series of iron powder toroids is also manufactured, conforming to the standard sizes proposed by the Metal Powder Industries. *Write for Bulletin PC-109.*

SENDUST POWDER CORES Available in a wide selection of sizes, ranging from .800" OD to 3.346" OD, and in permeabilities of 10, 13, 25, 30, 50 and 80, although not all sizes are available in all permeabilities. They possess magnetic properties generally superior to iron powder cores, but inferior to Mo-Permalloy powder cores in the audio and carrier frequency range. *Write for Bulletin SDC-110.*

SPECIAL MATERIALS

2V PERMENDUR . . . a ferromagnetic alloy of cobalt, vanadium and iron that possesses high flux density saturation properties. Its magnetostrictive properties are useful in many transducer applications. *Write for Bulletin EM-23.*

VIBRALLOY . . . a ferromagnetic alloy of nickel, molybdenum and iron whose temperature coefficient of elastic modulus is controllable over a wide range. It has high ferromagnetic permeability, and a rather high coefficient of magnetostriction. Used in applications where a zero or controlled thermo-elastic coefficient is desired.

BARIUM TITANATE . . . A piezoelectric ceramic widely used in accelerometers, phono pickups, microphones, ultrasonic grinding and cleaning devices and underwater signaling devices. For more information, *write for Bulletin CM-116.* WSW 7507

ARNOLD

SPECIALISTS in MAGNETIC MATERIALS

THE ARNOLD ENGINEERING COMPANY, Main Office: MARENGO, ILL.

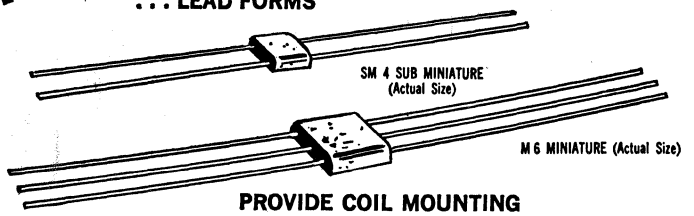
BRANCH OFFICES and REPRESENTATIVES in PRINCIPAL CITIES

See YELLOW SECTION for Local Offices, Telephone, etc.

STANDARD STOCK ITEMS

A-1 PRECISION PRODUCTS

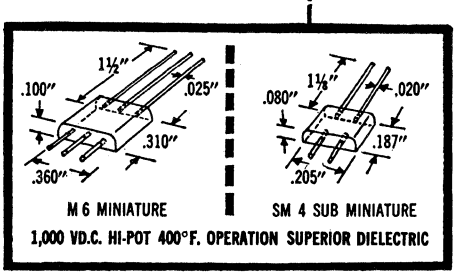
MINIATURE AND SUB-MINIATURE . . . LEAD FORMS



PROVIDE COIL MOUNTING MEANS AND RELIABLE TERMINATION OF FINE WIRES

A-1 LEAD FORMS are unexcelled when used in the construction of transformers, inductors and other miniature electronic components. The oxygen-free wire guarantees hermetic sealing when soldered directly into feed-through glass headers. A-1 LEAD FORMS are excellent for use with cup cores, toroids and steel tape transformers as they eliminate soldering of fine wire to special pins in hermetically sealed headers. These lead forms meet all military requirements on shock and vibration and will withstand 1,000 volts D.C. hi-pot and temperatures of 400°F.

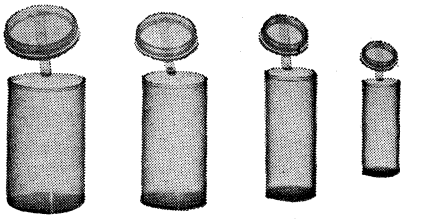
A-1 LEAD FORMS are available with from two to six leads on sub-miniature units, and two to eight leads on miniature units. Higher temperature lead forms up to 700°F. are available on special order.



1,000 VD.C. HI-POT 400°F. OPERATION SUPERIOR DIELECTRIC

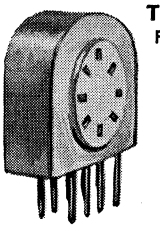
POLY-VIALS

Vial inside diameters: ⅜", ½", ¾", 1¼". Polyethylene vials and covers.



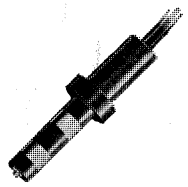
SUBMINIATURE RIGHT ANGLE TUBE SOCKETS

For printed circuitry



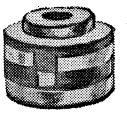
7-PIN
9-PIN

SLIP RINGS AND BRUSHES

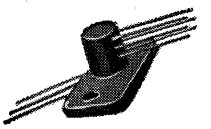


MINIATURE SLIP RING

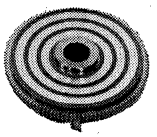
CARTRIDGE TYPE BRUSH



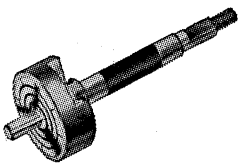
COMMUTATOR



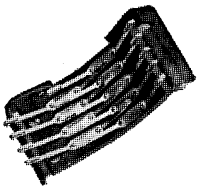
WIPER ASSEMBLY



SLIP RING and GEAR



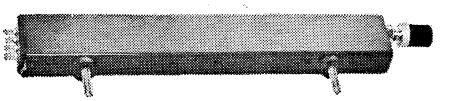
SLIP RING and COMMUTATOR



BRUSH ASSEMBLY

VARIABLE DELAY LINE CASE AND MECHANISM

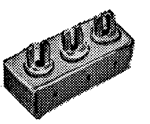
(Complete with exception of delay line element)



CUSTOM MOLDING

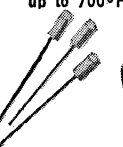
Injection — Compression — Transfer

High dielectric thermo plastics and thermo setting plastics up to 700°F.

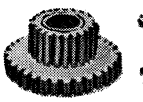


TERMINAL BOARDS

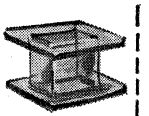
KNOBS



COMPUTOR CONTACT PINS



MINIATURE GEARS



COIL FORMS

WRITE FOR LITERATURE

A-1 PRECISION PRODUCTS CO.
5454 W. Washington Blvd., Los Angeles 16, Calif.

Representative Sales Engineers in major cities throughout the U.S. and Canada

See YELLOW SECTION for local offices, telephones, etc.

SAVE TIME

When ordering products shown in this book or writing for additional information, please be sure to mention *Electronic Engineers Master—eem* and specify.

Manufacturers' Catalog Numbers
and Page Numbers

This will avoid confusion and expedite delivery.

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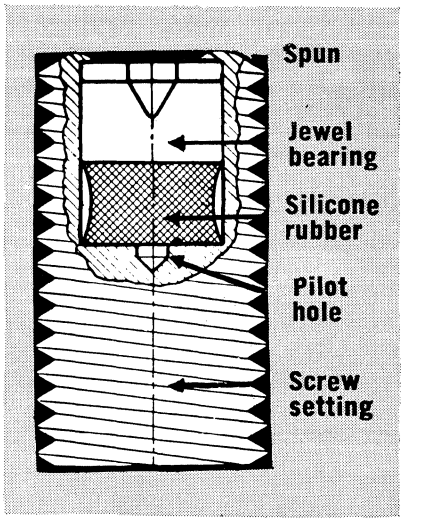
IMPROVE INSTRUMENT PERFORMANCE WITH *Bird* Precision Jewel Bearings

For low torque instruments, control devices and miniaturized aircraft, electrical and timing instruments, Bird Jewel Bearings, of sapphire or borosilicate glass, insure precision performance and longer instrument life.

Bird Jewel Bearings are economical to use yet offer these unique advantages . . . operation without lubrication through great temperature extremes . . . resistance to corrosive fumes and liquids . . . non-magnetic material . . . adaptability to many mounting arrangements.

Manufactured to exact tolerances under strict quality control methods, Bird Jewels are available in a wide variety of styles in standard sizes or supplied to customers' specifications.



CUSHION JEWEL ASSEMBLIES STOP THE SHOCK

Designed to meet the need for increased protection of jewels in meters and meter assemblies that must withstand severe testing and handling conditions, the Cushion jewel setting has given the industry an economical, new method of assembly.

Essentially the Cushion jewel assembly consists of a silicone rubber pad placed beneath the jewel in the assembly, operation. The amount of precushioning, or compression under which the jewel is set, will vary with the ultimate use. A typical assembly would have the jewel start to compress under a fixed load of 30–40 grams; at 500 grams fixed weight, the jewel is depressed approximately .010"–.015". Used with a collared pivot, this type of unit performs very well.

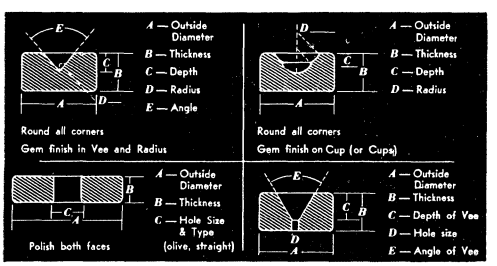
In many instances the Cushion type of mounting has enabled customers to use glass Vee jewels in movements that have a moving element heavier than 750 milligrams. Thus, cushion assemblies have helped the inexpensive glass jewel to compete with the costlier sapphire bearings.

Another advantage that several manufacturers have found in cushioned units is the reduction in jewel damage during assembly. With conventional mountings, excessive tightening can damage or break the bearing or pivot; the cushioned unit provides a factor of safety in assembly, thereby reducing waste and instrument teardown due to poor judgement in bearing adjustment.

If rejects are putting assembly costs way out of line, why not try some samples of Cushion jewel assemblies — they're yours on request.

Bird Quality-Controlled Jewels to Your Specifications

When ordering glass and sapphire jewels it is advantageous to use "stock" sizes where possible for greatest economy. However, if these sizes do not meet your needs, a simple sketch incorporating pertinent specifications will enable the Bird engineering staff to provide prompt quotations and delivery. The diagram shows the information we need to accurately fill orders for various types of jewels commonly used in instruments. Widely used mounting screws for electrical instruments are available in the following range: #1–72, #2–80, #3–56, #3–72, #4–80, #4–90 and 0.100 x 100. Other sizes available to your order. The engineering staff of the Bird Company is at your service for all small bearing problems.



Four types of jewels commonly used, with dimensional data to customize each type for your production. Specify quantity, type, dimension and whether desired unset or set in screws or bushings.

BIRD COMPLETE JEWEL ASSEMBLIES

Special mounting techniques provide assemblies to exact tolerances, in screws or bushings of any style ready for assembly in your product. Complete assemblies save time and money, cut rejects, keep production flowing smoothly.

For further data, please request Bulletin 200

SERVING INDUSTRY WITH FINE JEWELS SINCE 1913

Richard H. Bird & Co., Inc.

1 SPRUCE STREET • WALTHAM 54, MASS.

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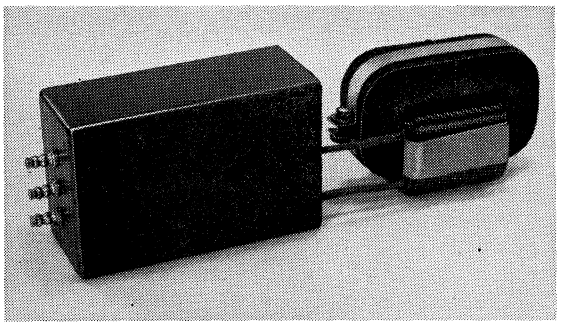
Electronic
ENCAPSULATION CUPS

Built to meet the stringent environmental requirements imposed on electronic components in many airborne and ground-based applications, these Encapsulation Cups are compression molded from a Diallyl Phthalate material which is approved under MIL-M-19833GDI-30. Their overall economy and reliability have given them an even wider field of application, making them suitable for practically any encapsulation application.



ADVANTAGES OFFERED:

A — Lighter Weight finished package because: (1) Encapsulated component can be placed closer to container wall, and (2) container is lighter than metal equivalent.

B — Headers and glass-seal feedthroughs are eliminated, along with the possibility of voltage breakdowns.

C — Costly potting molds are eliminated.

D — Eliminates all soldering and brazing of container and feedthroughs, headers, or mounting studs.

E — Sand-blasted, chemically cleaned and sealed in individual plastic bags.

F — Neat appearance in contrast to open-type units.

G — Allows optimum spacing of terminals and wiring.

H — Easily machined, drilled, sawed, punched, engraved, painted and varnished.

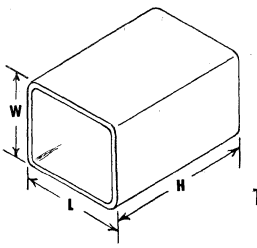
I — Fungus Proof — will not corrode any metal.

J — High Resistance to Acids, Alkalies and Solvents

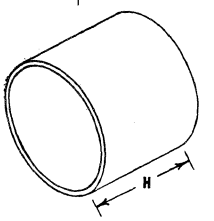
K — Higher Arc Resistance, Lower Dissipation Factor.

Types EC1A, 1, 2, 3 & 4 — Rectangular Cross Section Cups

Stock Number	Overall Size	Wall Thickness
EC1A - 1	.88 x .75 x 1.25 high	.031
EC1 - 2	.94 x 1.06 x 1.63 high	.031
EC1 - 3	1.00 x 1.13 x 1.63 high	.031
EC1 - 4	1.00 x 1.25 x 2.00 high	.031
EC2 - 1	1.16 x 1.44 x 2.38 high	.047
EC2 - 2	1.09 x 1.56 x 2.75 high	.047
EC2 - 3	1.38 x 1.84 x 2.75 high	.047
EC2 - 4	1.63 x 1.84 x 2.75 high	.047
EC3 - 2	2.00 x 2.00 x 3.00 high	.063
EC3 - 3	2.22 x 2.31 x 3.50 high	.063
EC3 - 5	1.94 x 2.41 x 3.63 high	.063
EC4 - 1	2.16 x 3.00 x 4.75 high	.078



Type EC1

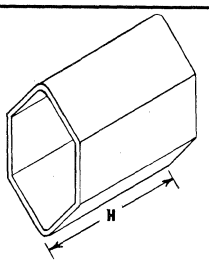


Type EC6

Type EC6 — Round Cross Section Cups

Stock Number	O. D.	I. D.	Wall Thickness	Height
EC6 - 1	.578	.528	.025	.875
EC6 - 3	.750	.687	.031	1.00
EC6 - 5	1.000	.937	.031	1.25
EC6 - 7	1.250	1.187	.031	1.25
EC6 - 9	1.500	1.420	.040	1.50
EC6 - 11	1.750	1.670	.040	2.00
EC6 - 13	2.000	1.920	.040	2.00
EC6 - 15	2.250	2.122	.064	2.50
EC6 - 17	2.500	2.372	.064	2.50
EC6 - 19	2.750	2.622	.064	3.00
EC6 - 21	3.000	2.814	.093	3.00

TYPE EC5



Type EC5 — Diamond Cross Section Cups

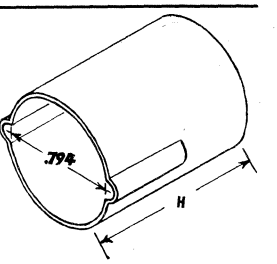
Stock Number	Size Overall	Wall Thickness
EC5 - 1	.66 x .66 x .59 x .88 high	.031

Type EC6A — Round Cross Section Cups — with mounting ears

(Mounting centers are same as I. D.)

Stock Number	O.D.	I.D.	Wall Thickness	Height
EC6A - 1	.856	.794	.031	1.375

TYPE EC6A



PHYSICAL PROPERTIES:

WATER ABSORPTION @ 50°C in 48 hrs.: 0.2%
HEAT EXPOSURE RESISTANCE: 450°F. (Continuous)
MAGNETIC RESPONSE: Absolutely non-magnetic.
Draft angle of cups averages .5°. Dimension tolerances are: H - ±.020", WT - ± .005".

ELECTRICAL PROPERTIES:

DIELECTRIC STRENGTH:
Dry S/T — 350 V/M. Wet S/T — 345 V/M.
Dry S/S — 300 V/M. Wet S/S — 295 V/M.
INSULATION RESISTANCE:
Dry — 3 x 10^5 Meg. Ohms. Wet — 1 x 10^7 Meg. Ohms.

ELECTRONIC PRODUCTION & DEVELOPMENT, INC.

Epoxy Potting, Bonding, Sealing and Molding Resins for the Electronic Industry — Encapsulation Cups — Wire Striping Machines and Wire Striping Inks — 'Mark-O-Line" and Easypeel" Decals and Cable Markers.

EXECUTIVE & SALES OFFICE:
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Phone: BRadshaw 2-7470

FACTORY:
138 Nevada Street, El Segundo, California
Phone: ORegon 8-3963

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GENERAL ELECTRIC TEXTOLITE® LAMINATES

There are more than fifty grades of G-E Textolite industrial laminates to meet the varied requirements of electrical and electronic manufacturers. Available as sheets 36" x 36" and 36" x 72" (plus specific compounds in 36" x 48"), rods (random length 31" x 37"), and 36" tubes with ⅛" to 10" ID. Textolite is uniform in appearance and electrical properties . . . consistently exceeds NEMA standards.

COPPER-CLAD SHEETS FOR PRINTED CIRCUITS

(All copper-clad Textolite sheets are available with 1 oz. or 2 oz. copper on one or both sides.)

11558 G-10 epoxy-glass laminate gives high reliability after roughest treatment. Takes 30 minutes in gold-cyanide plating solution . . . 2 minutes in 500°F. solder bath, without blistering or bond failure. Approved per Specification MIL-P-18177B, Type GEE.

11559 New G-11 self-extinguishing epoxy-glass laminate has 20,000,000 megohms I.R. at 50°C; 500,000 I.R. at 165°C. Retains 65% of room temperature flexural strength at 150°C. Ideal for computers, military electronics. Approved per military Specification MIL-P-18177, Type GEB.

11570 Best quality paper-base XXXPC laminate. Has high insulation resistance, low dissipation factor in humidity. Cold-punches precisely; ideal for automation. Approved per military Specification MIL-P-3115, Type PBE-P.

11572 Low cost XXXPC paper-base laminate. Resists solvents, offers electrical properties surpassing NEMA standards. Particularly recommended for radio and television wiring boards. Approved per military Specification MIL-P-3115, Type PBE-P.

11574 New self-extinguishing epoxy-paper that surpasses any XXXP grade. Has best cold-punching and machining properties, superior electrical characteristics. While not a NEMA or military type, 11574 can be certified to meet your requirements.

STANDARD SHEETS FOR ELECTRICAL STRUCTURAL INSULATION

TEXTOLITE GRADE	NEMA GRADE	MIL-P	DESCRIPTION, APPLICATIONS, CHARACTERISTICS
114	XX	3115, Type PBG	Phenolic binder, paper filler. Excellent mechanical, electrical and machining properties.
2029	XXX	3115, Type PBE	Phenolic binder, paper filler. Low dielectric loss, low water absorption. For radio, X-ray, high voltages.
2053	XP	——	Phenolic binder, paper filler. Low cost, high strength mechanical grade. Excellent hot-punching material.
11541	XXP-IR	3115, Type PBE-P	Phenolic binder, paper filler. High insulation resistance, low cost. Excellent hot-punching material.
11570	XXXPC	3115, Type PBE-P	Phenolic binder, paper filler. Best quality paper base. High insulation resistance, low dielectric loss. Can be precision-punched at room temperatures.
11572	XXPC	3115, Type PBE-P	Phenolic binder, paper filler. Low cost, high insulation resistance, low water absorption. Resists solvents.
11545	N-1	15074	Phenolic binder, nylon filler. Excellent electrical and good mechanical properties under humid conditions.
11556	G-7	997, Type GSG	Silicone binder, glass continuous weave filler. Excellent electrical properties under high temperature conditions.
11508	G-5	15037, Type GMG	Melamine binder, glass medium weave filler. Superior to phenolic grades in arc and fire resistance. Continuous filament glass cloth base.
11546	G-10	18177, Type GEE	Epoxy binder, glass continuous weave filler. High insulation resistance, very low water absorption, highest bonding strength of all glass-base laminates. High stability in humidity.
11559	G-11	18177, Type GEB	Epoxy binder, glass continuous weave filler. Self-extinguishing, retaining more than 65% flexural strength at 150°C. High I.R., high bond strength, extremely low moisture absorption.
11574	——	——	Epoxy binder, paper filler. New self-extinguishing laminate surpassing any XXXP grade. Best cold-punching and machining properties, high insulation resistance, superior electrical characteristics.

For data on the full line of Textolite Industrial Laminates, see Sweet's Product Design File, Catalog 2b/Gen. Independent, local fabricators assure speedy delivery of Textolite parts, and our experienced Technical Service department will save you valuable engineering time on special problems. To contact your nearest fabricator or General Electric Sales Office, Distributor, or Representative, check the Yellow Pages under "Plastics". Or write: Laminated Products Dept., Section EEM-59, General Electric Co., Coshocton, Ohio.

Textolite®
INDUSTRIAL LAMINATES
GENERAL ELECTRIC

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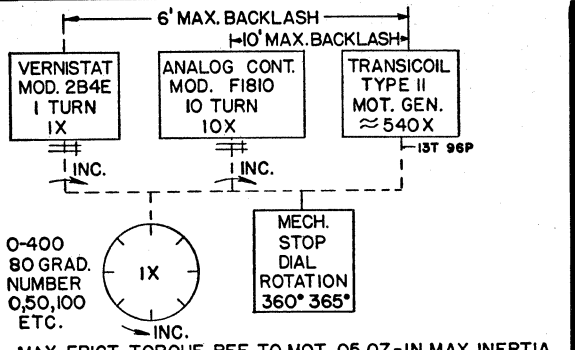
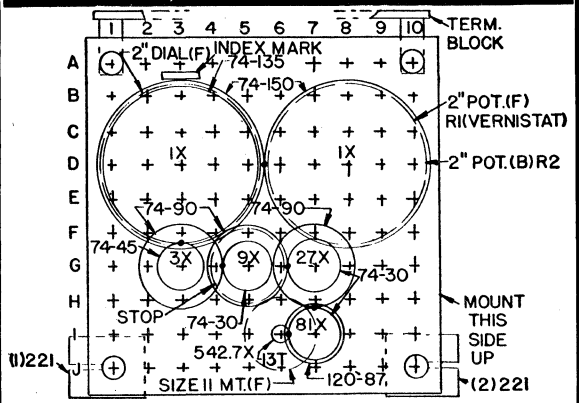
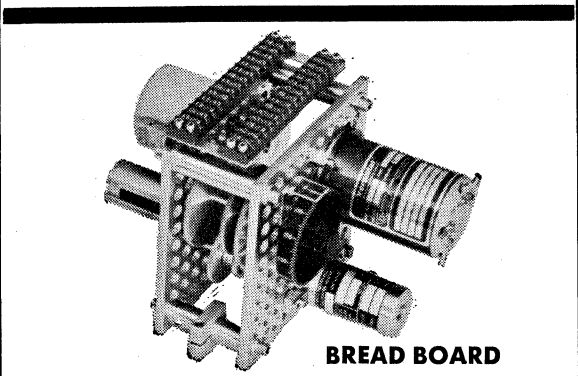


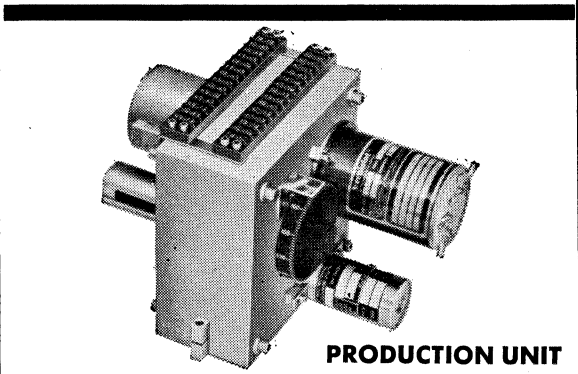
SCHEMATIC



GRID LAYOUT



BREAD BOARD



PRODUCTION UNIT

THE GAP SERVO CONSTRUCTION (SC) SYSTEM

This system radically reduces the elapsed time and cost in producing servo units and gear trains by enabling one to go from a rough schematic diagram via a grid layout and stock Gap parts to a compact finished unit. The SC SYSTEM by-passes conventional gear diagrams, layouts, detail drawings, assembly drawings and small quantity machining. It has found acceptance in breadboard, test equipment, demonstration equipment, simulators and production units.

In addition to producing a unit a fraction the size and weight of a conventional breadboard built on heavy cast plates, it minimizes hand adjustments and insures physical and dynamic reproduction by use of very accurate parts.

A few advantages of the GAP SC SYSTEM are that it:

- Minimizes or eliminates entirely, design, drafting, procurement and model shop time.
- Is flexible yet produces a product approaching the configuration reasonable to expect from a production design.
- Is sufficiently compact and light for panel mounting.
- Requires only a small number of different parts because of its modular basis.
- Is structurally stable under moderately rough handling and temperature changes.
- Permits major changes with little trouble.
- Is based on reusable parts.
- Permits quick and accurate predictions of size, cost and construction time.
- Is readily adaptable to rotating components from size 8 up to 23.

The SC SYSTEM is based on equally spaced gear centers established by a pair of very accurately bored plates. Class 2 gears and class 7 bearings are used in conjunction with these plates to achieve low backlash meshes. While designed to work with any gears whose pitch is a multiple of 24, (that is 24, 48, 72, 96, 120), 72 pitch will satisfy the vast majority of requirements; thus the emphasis on 72 pitch in the catalog. The distance between adjacent holes measured along the grid is the modular distance, M, and is the mounting distance for two mating 72 pitch gears, the sum of whose teeth is 60. This permits integral ratios of 1, 2, 3, 4, 5, 7, 8, 9, and 11 to 1 plus a large number of non-integral ratios.

Available parts include plates, gears, anti-backlash gears, pinion shafts, slip clutches, adjustable mechanical and electrical stops, dials (one and two speed), differentials, zero backlash couplings, clamps and terminal blocks.

SCHEMATIC DIAGRAM

(SEE ILLUSTRATION)

For estimating and design purposes the Schematic Diagram should specify:

- Size designation or manufacturer's catalog number of rotating components. It is preferred, though not necessary, that components have shafts extending 7/16 of an inch or more.
- Relative speeds (shaft values) or ratios between rotating components and whether approximate or exact.
- Approximate motor speed and reduction in first mesh if critical.
- Rotational directions and limits where important.
- Dials and graduations desired.
- Slip clutches, couplings and electrical or mechanical limit stops.

GRID LAYOUT

(SEE ILLUSTRATION)

The grid layout is used to determine plate size and component arrangement, to serve as an assembly guide and as a permanent record of what was constructed.

It is made quickly on a special layout sheet eliminating need for anything but pencil and drawing compass. No gear tables need be referred to because gear pitch radii scales as well as rotating component diameter scales are printed right on the layout sheet.

NOTE: Gap furnishes SC SYSTEM parts, SC SYSTEM kits and complete breadboard and production units to customer schematics.

GAP INSTRUMENT CORP.
116 EAST MERRICK ROAD, FREEPORT, L. I., NEW YORK

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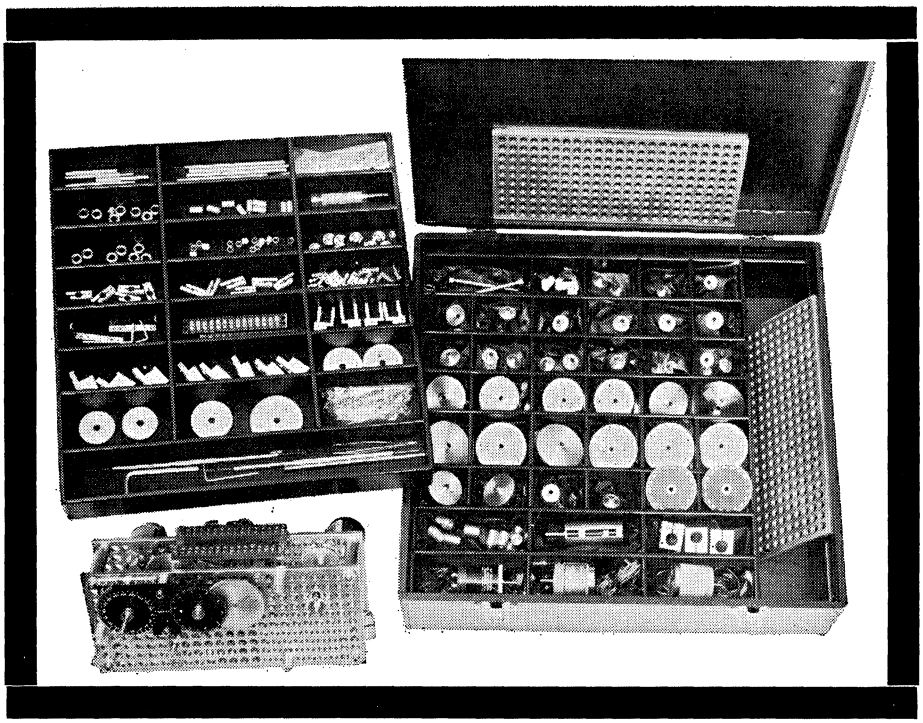


GAP SC SYSTEM KITS

All SC SYSTEM kits come in a sturdy wooden carrying case 18x18x6" deep. Each type part has its own individual compartment large enough to permit expansion beyond the largest kit. Transparent protective envelopes permit instantaneous recognition of parts. Numbers of gear teeth are stamped on all gears having more than 30 teeth. A utilization manual and layout sheets are furnished with each kit.

Kit "A" is intended to serve as an introduction to this system.

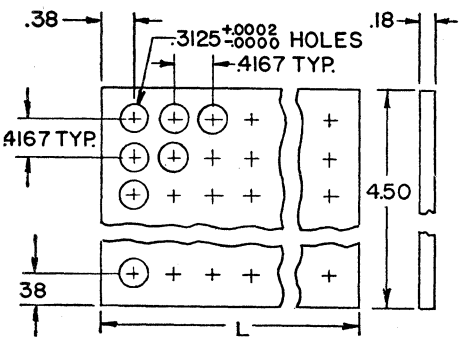
Kit "B" is intended to fulfill the need where two or three devices are under development simultaneously.

Kit "C" is intended to fill the needs of an organization carrying on a considerable variety of servo work.

A list of parts comprising each kit together with recommendations relative to specific customer requirements will be furnished on request. Custom kits frequently result in lowest cost and greatest system efficiency.

KIT & ORDER NO.	LIST PRICE
A	$ 623.00
B	$1,768.00
C	$3,477.00

PLATE

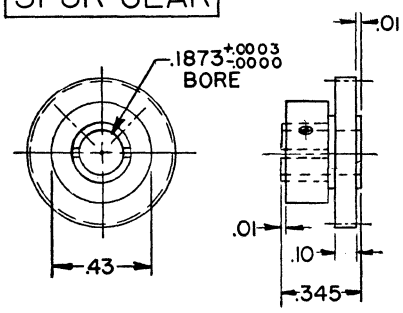


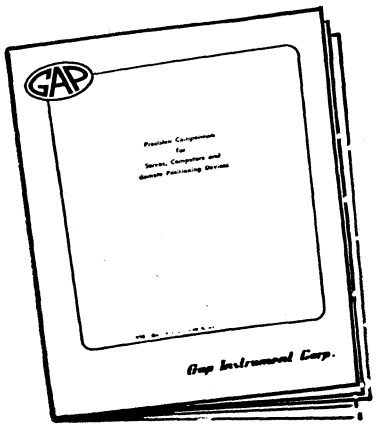
BASIC SYSTEM COMPONENTS BY GAP

The plates, part type 200, are all 10 holes wide by 10, 15, 20, 23, or 27 holes long. The holes are all bored to 0.3125 $\pm \frac{.0002}{.0000}$ diameter and the tolerance on spacing between any two holes $\pm$.0002. They are made of stress relieved, alodined aluminum .187 thick. Flatness is held to within .001 over their entire surface.

The gears are Class 2,20° PA, cut to operate at zero to .0008" backlash. They are 303 stainless or 24ST alodined aluminum depending on number of teeth. They employ a clamping means unique to the SC SYSTEM. The hub, which is integral with the face to insure concentricity, has a single slot. Clamping collar, having two setscrews at right angles, and much smaller than conventional split clamps, is slipped over the hub so both setscrews bear on the same half. A spot hole mid-way between the setscrews facilitates pinning right through the clamping collar . . . something not practical with conventional double slotted hubs. The hub extends .010 beyond the collar and there is a similar shoulder on the opposite side to butt against inner bearing races, thus eliminating need for spacers in many applications.

SPUR GEAR





CATALOG AND SERVICE

The Gap Instrument Corporation has prepared for the convenience of engineers specializing in the design of mechanical and electromechanical systems, a comprehensive catalog describing in detail the extensive line of components now being offered by Gap to facilitate the efficient and economical design of many electromechanical systems.

Consultant service on your specific problem is offered by the Gap Engineering Department to assist your engineering group in the most efficient use of the Gap SC system.

Write or call Gap Instrument Corporation, Freeport, Long Island, today for your catalog or information on a specific problem.

GAP INSTRUMENT CORP.
116 EAST MERRICK ROAD, FREEPORT, L. I., NEW YORK

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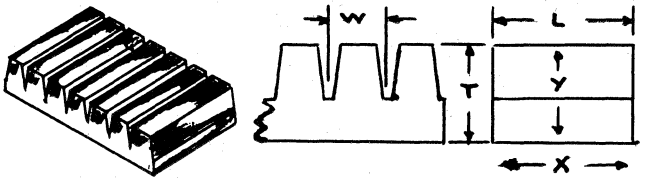
PERMANENT ALNICO MAGNETS

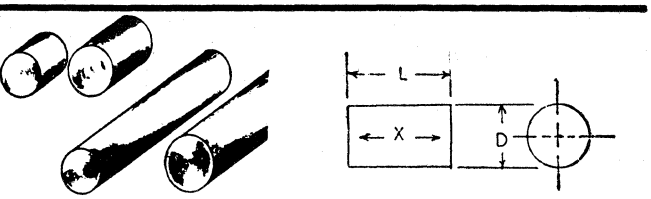
SOME COMMONLY USED SHAPES AND SIZES AS MADE BY GENERAL MAGNETIC IN ALNICO V



MULTIPLE CAST BLOCKS — SPECIFY MC-( )

Part #	L	T	W
437-1	.437	1/8	3/8
500-2	.500	3/15	3/8
500-3	.500	3/8	3/8
750-1	.750	1/4	1/2
812-1	.812	1/8	3/8
875-1	.875	1/8	1/4
875-3	.875	3/16	3/8
875-7	.875	15/32	27/32
1000-1	1.000	7/16	9/16
1437-1	1.437	13/32	11/16

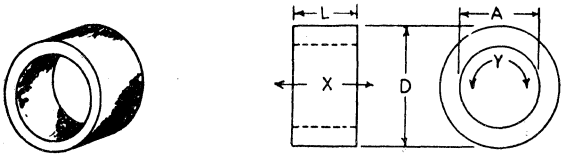
Finish: L dimension may be as cast (± .015 or par. gnd. to ± .005. All other dimensions as cast.



CYLINDERS — SPECIFY CYC-( )

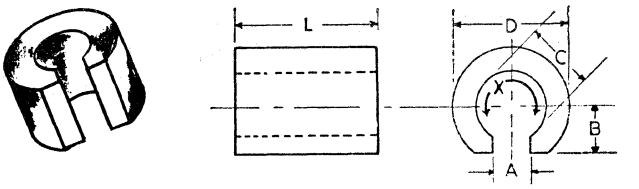
Part #	L	D
125-1	3/8	1/8
125-2	3/4	1/8
187-1	3/4	3/16
218-1	2	7/32
250-1	2	1/4
312-1	2	5/16
375-1	2	3/8
500-1	5	1/2
560-1	5	9/16
625-1	5	5/8
750-2	5	3/4
1000-1	2	1
1000-2	5	1

Finish: Unless otherwise ordered all cylinders are polerized lengthwise. They can be supplied either as cast with ± .015 dia. or ground to ± .001. Length will be as cast or cut.



RINGS — SPECIFY RI-( )

Part #	D	A	L
812-1	.812	.580	.475
1375-1	1.375	1.000	.625
2000-1	2	1-1/2	2.000
2656-1	2-5/8	2	1.040
3125-1	3-1/8	2-5/16	2.500
3500-1	3-1/2	2-5/8	1.812
3500-2	3-1/2	2-29/32	1.300
3875-1	3-7/8	3	1.375
4000-1	4	1-3/8	1.500
5500-1	5-1/2	4	1.000
8500-1	8-1/2	6-1/4	2.000



CURVED PATH "C" MAGNETS—SPECIFY CPD-( )

Part #	A	L	D	C
265	.265			
500	.500	2-3/8	2	1-1/4
660	.660	3	2-3/8	1-1/2
750-1	.750	4-1/2	2-3/8	1-1/2
750-2	.750	2	2-3/8	1-1/2
750-3	.750	4	2-3/4	1-9/16
1000-1	1.000	3-1/8	4-3/4	1-1/4
1000-2	1.000	4	2-3/4	1-1/2
1500-1	1.500	4-1/2	6-1/2	4

WRITE FOR PRICES AND SPECIFIC QUANTITY

GENERAL MAGNETIC CORPORATION

—Sales and Application Engineering Laboratory—

4937 WEST FULLERTON AVENUE, CHICAGO 39, ILLINOIS

PHONE BERKSHIRE 7-7000

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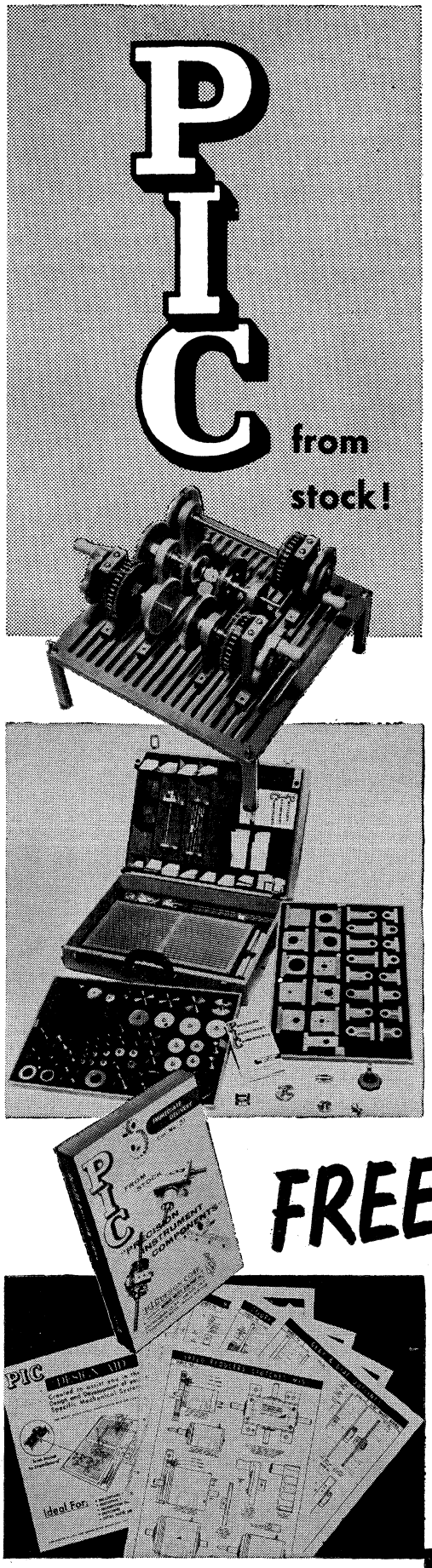

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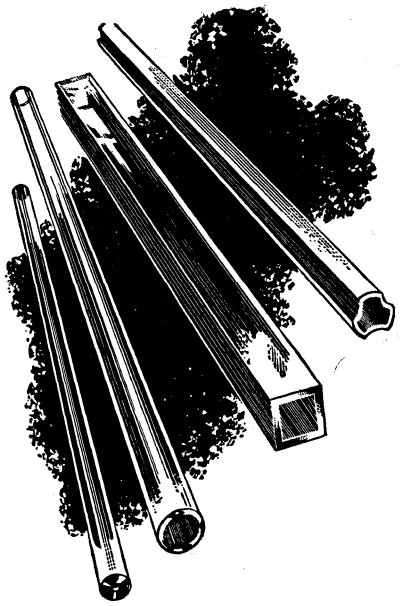
WILMAD



Precision Bore Glass Tubing

Wilmad precision glass tubing is widely accepted as a design material. Engineers have learned to rely on its extreme accuracy and uniformity. They have also found it to be an economical material due to its low initial cost and its facility of application.

All standard Wilmad tubing is worked to tolerance limits of ±0.0002". Its consistent uniformity assures the user repeatability of performance and results.

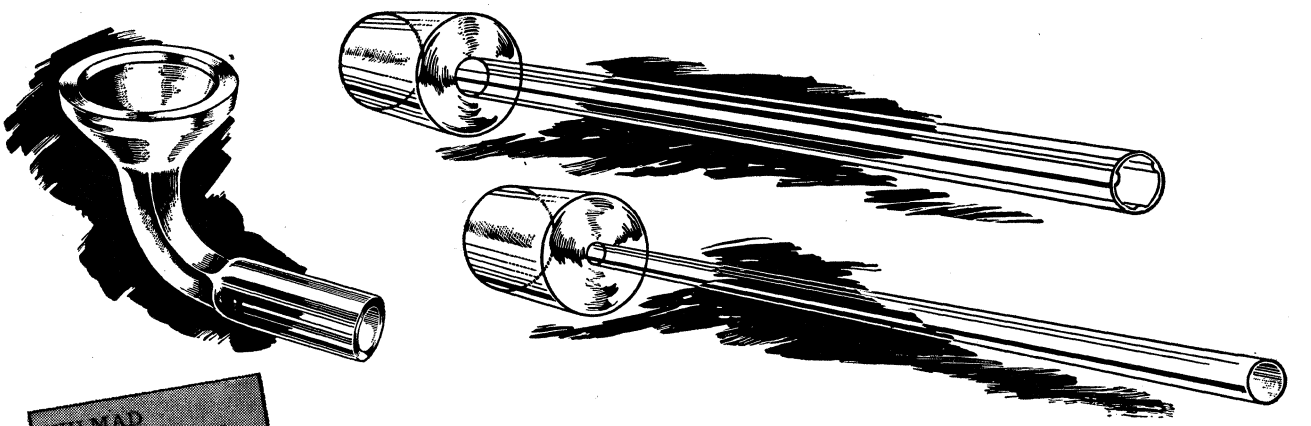
Tubing exteriors can be ground concentric with the bore when required. Close O.D. tolerances of ±0.0002" can also be maintained in this ground tubing. When specified, the ground tubing can be polished to restore transparency.

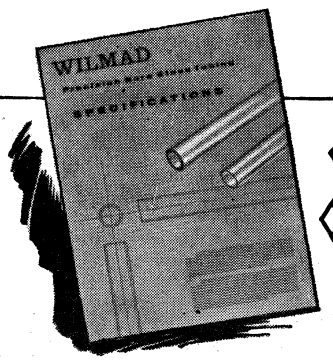
If extra straight tubing is required, extremely close camber tolerances can be held.

In addition to the standard precision bore and capillary tubing, Wilmad can supply square, rectangular and fluted tubing to your specifications.

SPECIAL GLASS COMPONENTS

Wilmad has produced many special precision glass parts for specific applications. The use of such parts has often resulted in reduced assembly and fabrication costs. In fact, Wilmad traveling wave tubing envelopes are the most widely-used in the industry. This is not unusual because they embody the characteristic accuracy and uniformity found in all Wilmad products. They are available with either plain or fluted bores. The fluted type is produced in diameters as low as .055" to the root of the flute.





For complete dimensional specifications of Wilmad Precision Bore Glass Tubing, write for Bulletin 102.

WILMAD GLASS CO., INC.

BUENA, NEW JERSEY

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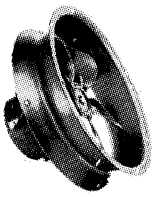
SPECIFY ASHLAND FANS and BLOWERS

Cooling Problem?

For the most air volume per pound weight, the greatest efficiency for the job, and complete satisfaction . . . you can depend on Ashland Axial-Flow Fans and Centrifugal Blowers. Ashland's quality design and workmanship assure the utmost in reliability and long life even under adverse conditions. Custom-crafted Ashland rotating equipment is available to order for critical commercial and military applications. Send your specifications for appraisal today! Prompt Delivery!



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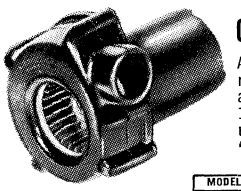
AXIAL-FLOW FANS

Rugged, compact Ashland Axial-Flow Fans may be had with or without Venturi rings. The fans, 3 to 10 inches in diameter, are carefully matched to Ashland's own precision-made 24-slot Motors for stated static pressure conditions. 50, 60, 400-cycle, variable frequency and dual frequency models are available.

MODEL	RPM	PHASE	FREQUENCY	CFM	O.D.	O/A Lgth
A4M2H-1C	7100	1	400	180 @ 0" SP	4"	3 1/16"
A4D2E-1CC	3000 min.	1	57/450	74 min. @ 0" SP	4"	3 5/8"
*A4E2QC-1C	2400 min.	1	50/60 & 380/1000	60 min. @ 0" SP	5 1/32	3 1/16"
*A4K4J-1CC	2400 min.	3	400	55 @ 0" SP Sea Lev 363 @ 0" SP 50000'	6"	3 1/16"
A5F1D-1C	7500 min.	1	330/1200	78 CFM @ 0" SP	3"	1 37/64"
*A8S11Q-1CC	3450	1	60	640 @ 0" SP 450 @ .4" SP	10"	6 31/64"
*A8M11P-1CC	1700	1 or 3—208 V	60	325 @ 0" SP	10"	5 5/8"

* Complete with Venturi Mounting Ring



SEE PAGE 841 FOR FACTS ON ASHLAND MOTORS

CENTRIFUGAL BLOWERS

Ashland Centrifugal Blowers, miniature or standard, may be had to order for 50, 60 or 400-cycle operation and for variable frequency power supplies up to 1600 CPS. They supply the highest pressure to volume ratio, in any combination, for the most efficient "hot spot" cooling.

MODEL	RPM	PHASE	FREQ.	CFM	L.	W.	H.
*C4E2Q-1	3200	2	60	20 @ 0" SP	5 7/16"	3 1/2"	3 3/4"
C5H2D-1C	7000 av.	1	320/1000	20 @ 0" SP	4 7/16"	3 1/2"	3 3/4"
C4P2J-1C	6800	1	400	40 @ 0" SP	4 3/4"	3 7/8"	4 3/8"
C5H4Q-1CC	3300	1	60	43 @ 0" SP	4 3/4"	3 13/16"	4 3/4"
C7K3Q-1CC	3300	1	50/60	60 @ 0" SP	5 5/32"	4 1/2"	4 13/16"
C8M7G-1C	3300	1	60 or 400	100 @ 0" SP	6 25/64"	5 1/2"	6 11/16"
*C8U8Q-2	3300	1	45/65	180 @ .25" SP	10 25/64"	6 3/4"	6 13/32"

* Double Blowers

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Long Island City 1, N. Y.

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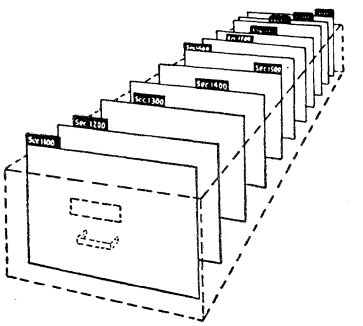

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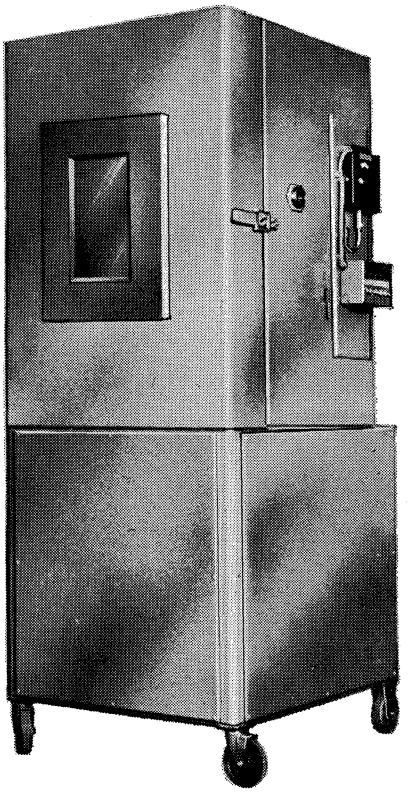
ITEMCO INC.

International Test Equipment Mfg. Co.

INTRODUCES THE NEW TEMPLINE SERIES environmental test chambers

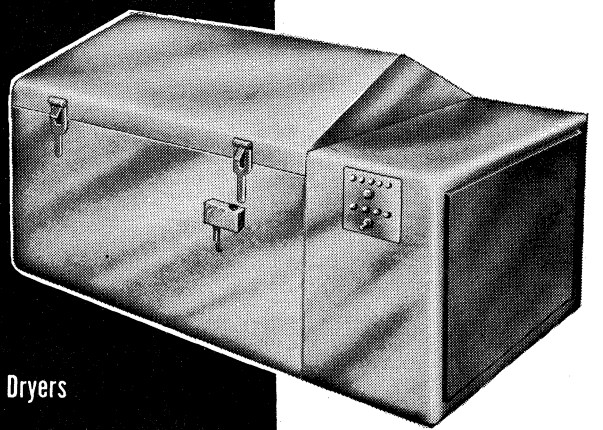


With the ever-increasing demand for Environmental Testing of Military and Civilian Equipment, standardization of chamber size and testing ranges is now a reality. Quick deliveries of TempLine Chambers featuring high and low temperatures, controlled humidity ranges and altitude, are available in 3 sizes of work space - - -

15"W x 21"H x 15"D
24"W x 30"H x 23"D
35"W x 36"H x 41"D

TempLine Chambers feature stainless steel interiors, are fully self-contained, functionally designed, and engineered to satisfy ALL the requirements of MIL Specifications. Many variations are available to meet specific needs. The Engineering Staff of ITEMCO, Inc. is available to discuss the TempLine Series with you. Write, Wire, Call.

SALT SPRAY CHAMBERS



SALT SPRAY PERFORMANCE

■ MIL-E-5272A ■ QQ-M-151A ■ MIL-STD-202A

HUMIDITY PERFORMANCE

■ 95% to 100% from ambient to +125% F.
■ Plastic Interiors ■ Functional Chamber Designs
■ Self-contained

WORK SPACE

■ 24" W. x 24" H. x 30" L.

Firm Quotations and Specifications upon request for all environmental testing chambers.

P.O. BOX 191 PORT WASHINGTON, N. Y. PO 7 - 8330

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McLEAN *Cabinet Cooling* FANS and BLOWERS*

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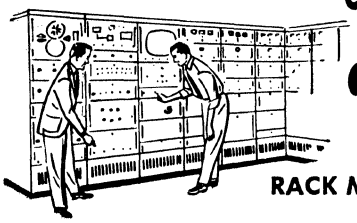
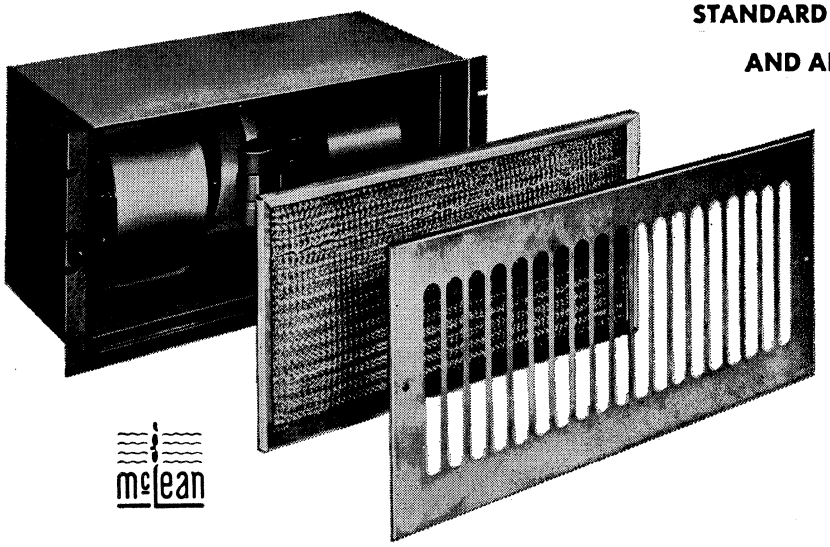


are LIFE SAVERS for Sensitive Components

RACK MOUNTED FOR EASY ASSEMBLY • MODELS LISTED BELOW FIT STANDARD 19" RACKS

STANDARD MODELS FOR OTHER RACK WIDTHS

AND ANY ANGLE OF AIR DISCHARGE



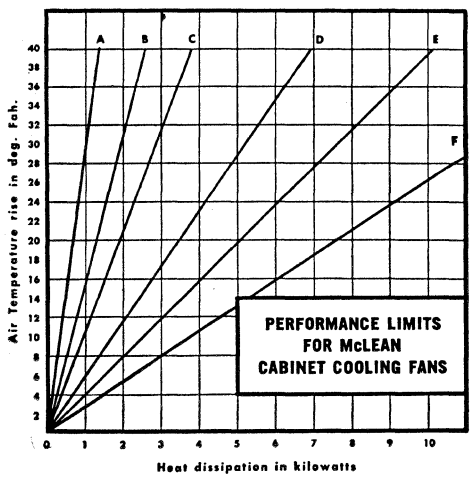
Install McLean Fans and Blowers in computers, control units, data processors, etc., to extend the life of expensive, sensitive components. McLean's small packaged units pressurize the cabinet with cool filtered air, keeping dust out. They are complete in one unit and ready for use. Standard RETMA notching allows mounting on rack . . . no cutting or fitting is necessary. All units contain an easily removable filter. Smart stainless steel grilles add beauty and eliminate the necessity of matching cabinet finishes.

GENERAL FEATURES

- *Pressurizes Cabinet With Filtered Air*
- *Rubber Isolated Motors For Quieter Operation*
- *No Electrical Noise*
- *Widely Accepted For Use In Military Equipment*
- *Maximum Air Delivery For Efficient Filter Action*
- *Matching Outlet Grilles And Filters Available*

ADDITIONAL FEATURES FOR BLOWER TYPE UNITS

- *Provide Better Air Delivery Against Pressure*
- *Provide Quieter Operation Against Pressure*
- *Higher Air Velocity For Faster Cooling*
- *Air Flow Maintained With Dirty Filter*
- *Duct Connections Can Be Made If Desired*



SPECIFICATIONS FOR 19" RACK MODELS

Panel Height	Model	Depth (Inches)	Performance	Remarks	Type
3½	2E300E	9¼	B	Case height 5¼"	blower
5¼	1D300A	7⅜	A	Silent operation	blower
5¼	2E300A	7⅜	B	Basic Model	blower
5¼	3E40B	5 11/16	B	For low rear head room	propeller
5¼	2E408E	11	C	Case height 7"	blower
7	1D60B	9⅞	C	Basic Model	blower
7	2E408A	8⅛	C	400 cycle MIL Spec.	propeller
7	M2E55B	12 3/16	D	Case height 8¾"	blower
7	2E508E				
8¾	2E508A	11 11/32	D	Basic Model	blower
8¾	2E80B	8⅛	D	Basic Model	propeller
8¾	2E610E	14 7/16	E	Case height 10½"	blower
10½	2E610A	13⅛	E	Basic Model	blower
10½	2E80S	8⅛	D	Basic Model	propeller
10½	1EB800	17¼	F	Case height 12¼"	blower

MODIFICATIONS OF ABOVE MODELS CAN BE MADE TO OTHER WIDTH RACKS

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Princeton, New Jersey — WAlnut 4-4440

TWX Princeton, New Jersey 636

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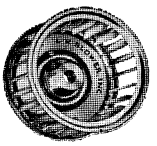
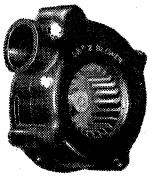
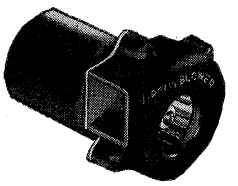




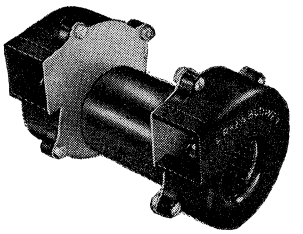


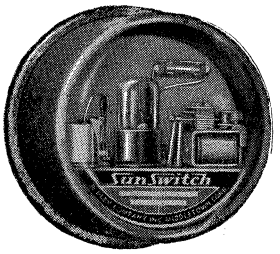
SMALL BLOWERS

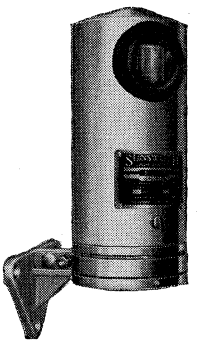
MOTOR-BLOWER ASSEMBLIES

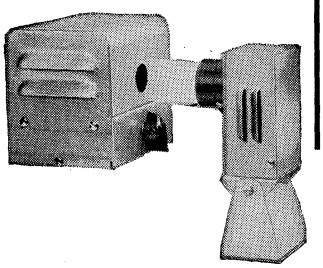
STREET LIGHT CONTROLS

ELECTRONIC CONTROLS and DEVICES









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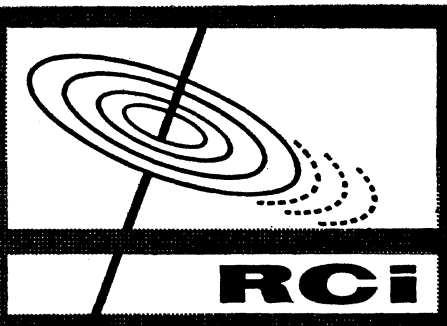

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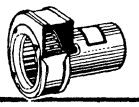
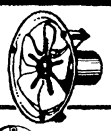
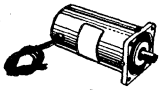
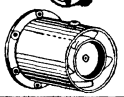
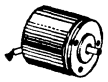
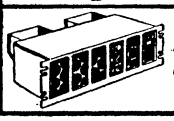

CENTRIFUGAL BLOWERS

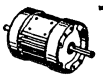

AXIAL FANS


GEAR MOTORS


VANE-AXIAL BLOWERS


SERVO MOTORS


COOLING CABINETS

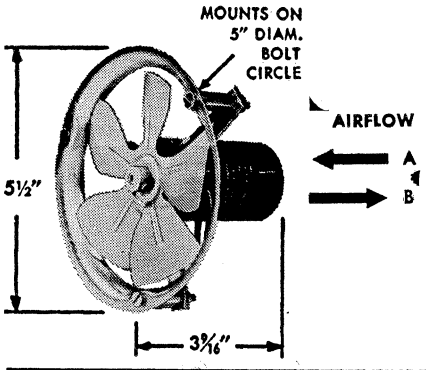

TORQUE MOTORS • SYNCHRONOUS MOTORS
INDUCTION MOTORS • P. M. ALTERNATORS
MOTOR GENERATORS

Available, standard and custom designed, in the following performance ranges, for airborne and ground use:

- HORSEPOWER 1/2000 - 1 H.P.
- FREQUENCY
  - Fixed: 50-60 CPS; 380-420 CPS
  - Variable: 50 to 440; 380 to 1000; 50 to 800; 50 to 1000
  - Dual: As required
- SIZE 1" to 3⅞" O.D.
- PHASE 1, 2, 3 Phase
- VOLTAGE Up to 440 V AC
- AMBIENT TEMPERATURE RANGE: —65°C to +150°C - up
- SPEEDS Up to 24,000 RPM
- ENCLOSURES: Totally enclosed; Self Cooled; Open
- MOUNTINGS: Flange; Base; Servo
- MIL SPECS: MIL-E-5272A; MIL-STD 202A, etc.

VERSATILE AXIAL FAN

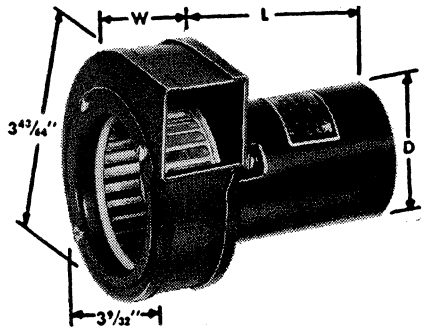
STANDARD MODELS AVAILABLE — FAST DELIVERY



RCI Part No.	Frequency CPS	Phases	Volts	Capacitor Mfd.	Insulation	Nominal RPM	CFM@ 0"SP	"SP@ OCFM	AIR FLOW
				ELECTRICAL			AIR		
NBC-K15F-6	50/60	1	115	1.0	A	3300	120	0.7	B
NB3-K15F-5	400	3	208	—	H	10500	300	—	B
NB3-K15F-6	50/60	3	208	—	A	3300	120	0.7	B
NBC-K15F-11	400	1	115	1.0	H	7000	220	3.0	B
NBC-K15F-12	50-440	1	115	1.0	B	3000	100	0.5	B
NBC-K15F-17	50/60	1	230	1.0	A	3300	120	0.7	B
NBC-K15F-18	50/60	1	115/230	1.0	A	3300	120	0.7	B
NBC-K15F-20	50/60	1	115	1.0	A	3300	120	0.7	A
NBC-K15F-30	50-1000	1	115	0.5	H	2500	90	0.4	B

STANDARD COMPACT BLOWER

STANDARD MODELS AVAILABLE — FAST DELIVERY

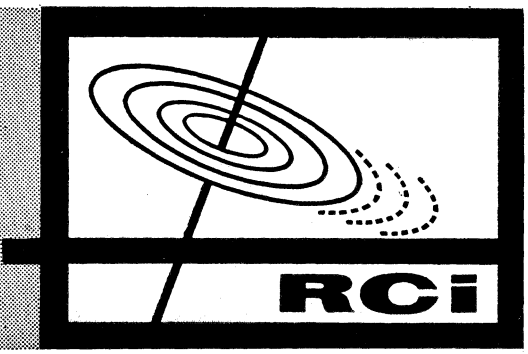


RCI Part No.	Frequency CPS	Phases	Volts	Cap. Mfd.	Nominal R.P.M.	C.F.M.@ 0"S.P.	"S.P.@ 0"C.F.M.	DIMENSIONS W	L	D
				ELECTRICAL		AIR		MECHANICAL		
NBC-K15B-16	50/60	1	115	1.0	3,300	23	.51	1⅜"	2 45/64"	1¾"
NBC-K15B-20	50/60	1	115	2.0	3,300	34	.6	1⅞"	2 45/64"	1¾"
NBC-K15B-7	400	1	115	0.5	5,000	33	2.3	1⅜"	2 45/64"	1¾"
CBC-K15B-28	400	1	115	1.0	6,800	45	2.5	1⅜"	2 29/32"	2"
CB3-K15B-4	400	3	208	—	7,200	66	2.8	1⅞"	2 29/32"	2"
CB3-K15B-1	400	3	208	—	10,250	72	5.6	1⅜"	2 29/32"	2"
CBC-K15B-13	50-440	1	115	1.0	3,000	20 Min.	—	1⅜"	2 29/32"	2"
CBC-K15B-19	50-1000	1	115	0.5	2,200	15 Min.	—	1⅜"	2 29/32"	2"
CBC-K15B-20	320-1000	1	115	1.25	7,200	45 Min.	—	1⅜"	2 29/32"	2"

SEND FOR CATALOG EM

ROTATING COMPONENTS, inc.

269 Green Street • Brooklyn 22, N. Y. • EVergreen 9-3490



See YELLOW SECTION for Local Offices, Telephones, etc.

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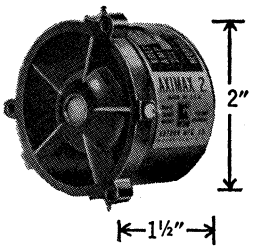
ROTRON FANS AND BLOWERS

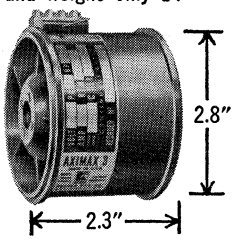
AXIMAX 2



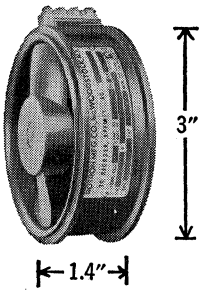
Air delivery of 60 cfm from a fan only 2" in diameter by 1.5" axial length. Designed for maximum cooling with minimum space and weight loss. Weight only 4½ ounces. 115 or 200 VAC, 400 CPS, 1 or 3 phase. Meets MIL-E-5400B and other military specs.

AXIMAX 3

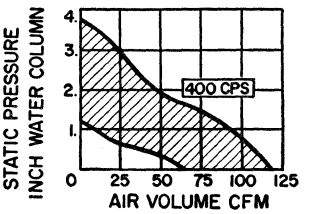
Air delivery of 165 cfm. Fan only 2.8" in diameter, 2.3" length and weighs only 14 ounces. Selection from constant or varying speed motors. Reversible airflow. Servo rim mounting. Meets military specs. 115 or 200 VAC, 400 CPS, 1 or 3 phase.



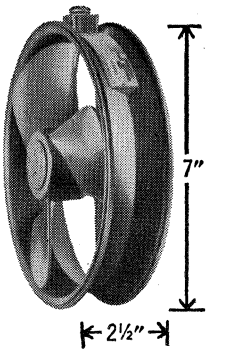
PROPIMAX 2



Air delivery of 120 cfm from fan only 3" in diameter by 1.4" length. Fan weight only 6½ ounces. Selection from constant or varying speed motors. Ideal for missile and airborne applications. Reversible airflow. Servo rims at either end for quick mounting. 115 or 200 VAC, 400 CPS, 1 or 3 phase. Meets military specifications. Electrical connections made to compact terminal block.

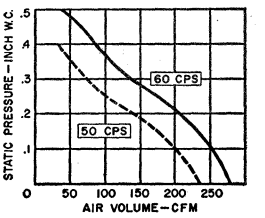


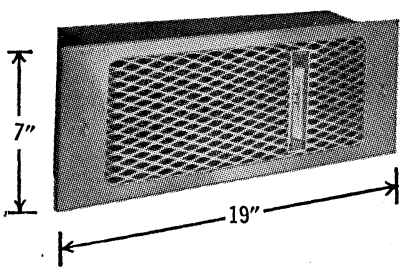
SAUCER FAN



115 VAC, 50-60 CPS, 1 Phase Size 7" diameter x 2½" —Weight 1 lb. 9 oz. Cooling air to the amount of 280 CFM.

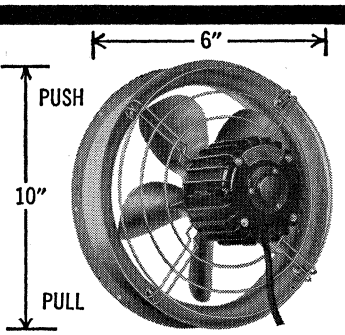
Perfect for tightly packed black boxes requiring filtered cooling air. Driving motor entirely contained in propeller hub to conserve axial depth. Designed for use with washable dustfilter. Airflow reversible by turning fan end-for-end. Servo rims at opposite end of venturi for easy mounting. Electrical connections to compact terminal block. Meets applicable military specifications.





RF COOLING PANEL FOR 19" RELAY RACKS

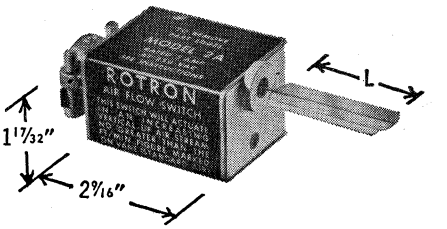
Complete fan and filter package for flushing standard 19" relay racks. Size: 19" x 8⁹⁄₁₆" x 7"—Weight 7.3 pounds—110-115 VAC—60 CPS—1 Phase. Dissipate 1 KW of heat with 20°F temperature rise or 2 KW with 40°F temperature rise. Replaceable dustfilter. Low noise level.



CABINET FLUSHING FANS

MODEL NO.	VOLTS	SPEED RPM	MAX. CFM
CFG–1	115	1700	300
2	115	1700	380
3	115	1700	520
BFG–1	220	1500	275
2	220	1500	360
3	220	1500	465

Compact, versatile, self-contained fans for flushing instrument racks, transmitter cubicles and relay racks. Size: 10" dia. x 6" (approx.)—Weight 5 pounds—115 or 220 VAC – 50-60 CPS – 1 Phase. Transfers 5 KW of heat at only 40°F rise.

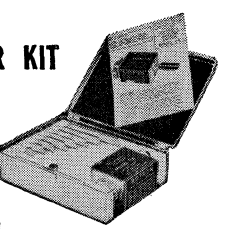


AIRFLOW INTERLOCK SWITCH

Interlocks equipment operation with cooling airflow. Actuates on velocity change. Detects air stoppages up and down stream. Eight air velocity ratings—millions of operations life expectancy.

TYPE	DIMENSION "L"	ACTUATE FT./MIN.	DEACTUATE FT./MIN.
1000	2 27⁄32	1000	700
1350	2 7⁄32	1350	1000
1600	1 15⁄16	1600	1150
1800	1 21⁄32	1800	1250
2000	1 7⁄16	2000	1400
2450	1 1⁄8	2450	1600
3000	15⁄16	3000	2050
4000	¾	4000	2600

DETERMINATOR KIT



Consists of airflow switch and 8 actuating vanes for selecting correct vane size.

ROTRON designs, develops, manufactures and sells cooling devices for electronic and instrument applications. For requirements in new and special applications the services of our technical staff and laboratory are available. A comprehensive catalog of the complete line of ROTRON cooling devices is available upon written request on your company letterhead.

ROTRON

ROTRON mfg. co., inc.

WOODSTOCK, NEW YORK

In Canada: The Hoover Co., Ltd., Hamilton, Ont.

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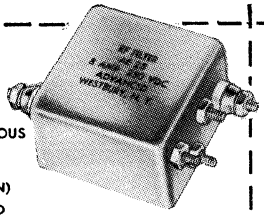
RADIO FREQUENCY NOISE SUPPRESSION FILTERS

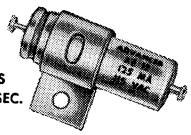
PROVEN QUALITY
DURABILITY • RELIABILITY

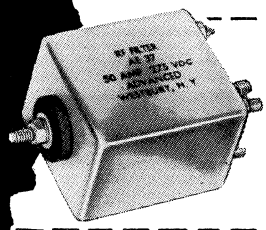
MAXIMUM ATTENUATION
RANGES FROM MILLIVOLTS TO KILOVOLTS
CURRENT RATINGS FROM 10 MILLIAMPS TO OVER 1000 AMPS
STRICT ADHERENCE TO INDIVIDUAL AND GOVERNMENT SPECIFICATIONS
MINIMUM VOLTAGE DROP AND TEMPERATURE RISE

AE 35
WORK. VOLT.: 250VDC
CURRENT: 1 AMP
DUTY CYCLE: CONTINUOUS
TEST VOLT.: 500VDC (2 MIN. DURATION)
MOUNTING: BULKHEAD



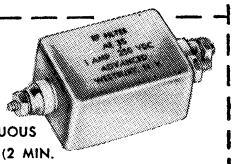
AE 19
WORK. VOLT.: 115VAC
CURRENT: 125 MA
DUTY CYCLE: CONTINUOUS
TEST VOLT.: 250VAC (1 SEC. DURATION)
MOUNTING: BRACKET





AE 27
WORK. VOLT.: 28VDC
CURRENT: 80 AMPS
DUTY CYCLE: CONTINUOUS
TEST VOLT.: 100VDC (2 MIN. DURATION)
MOUNTING: BULKHEAD

AE 25
WORK. VOLT.: 250VDC
CURRENT: 8 AMPS
DUTY CYCLE: CONTINUOUS
TEST VOLT.: 500VDC (2 MIN. DURATION)
MOUNTING: BULKHEAD

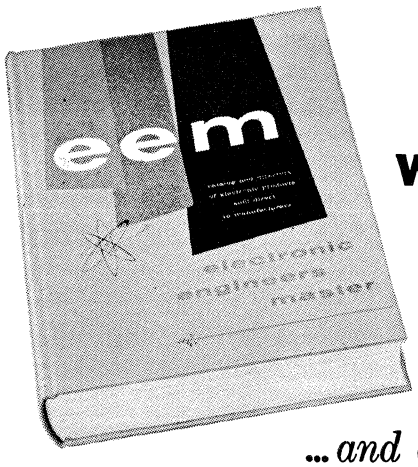


Illustrated above are typical examples of the many standard and special filters available.

For information, contact your ADVANCED representative, or inquire directly.

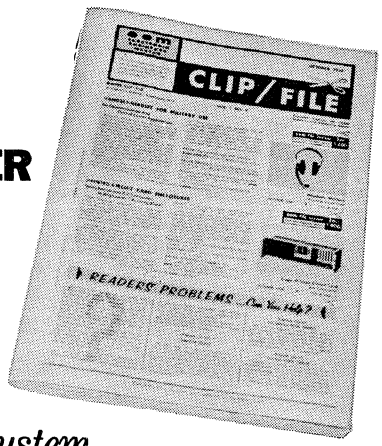
ADVANCED ELECTRONICS CORPORATION
2 COMMERCIAL STREET, HICKSVILLE L.I., N.Y.

See YELLOW SECTION for local offices, telephones, etc.



WORKING TOGETHER TO GIVE YOU COMPLETE PRODUCT INFORMATION

... and a self-indexing filing system



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It all starts with the annual *eem*-Electronic Engineers Master. *eem* categorizes the electronic industry into 51 major product groups. Numerically they run from Section 1100 through 6000 and appear at the top of each *eem* catalog page. These same section numbers are used as the index for your personal filing system.

Monthly, you'll receive *CLIP/FILE*, the new product newspaper. Each *CLIP/FILE* new product item includes an *eem* file system number. You simply clip each release along the perforated line, and file it in its appropriate folder.

Each time you refer to *eem* and wish to check for additional information, merely look for the section number at the top of the *eem* page and select the corresponding file folder. There, at your fingertips, is the necessary data to bring you up-to-the-minute.

START YOUR FILING SYSTEM TODAY!

See complete details on inside back cover.

RADIO INTERFERENCE FILTERS

STANDARDIZED FILTERS! *IMMEDIATE DELIVERY!*

SELECT ELECTRICAL AND MECHANICAL FEATURES
EXACTLY TO YOUR NEEDS.

FOLLOW THESE EASY STEPS —

1. DETERMINE CURRENT AND VOLTAGE OF CIRCUIT WHERE THIS FILTER WILL BE USED.
2. OBTAIN BASIC PART NUMBER FROM TABLE BELOW BASED ON LIGHT, MEDIUM OR HEAVY SUPPRESSION REQUIREMENTS.
3. SELECT MOUNTING STYLE AND TERMINAL TYPE FROM FOLLOWING PAGES.
4. BUILD UP PART NUMBER THIS WAY —

70D 6.3G W11

BASIC PART NUMBER — MOUNTING STYLE — TERMINAL TYPE

AMPERES	Case Size a	b	c	0-70 Volts DC Series Basic Part No.	db	400 VDC/150 VAC 0-70 CPS Series Basic Part No.	db	600 VDC/250 VAC 0-70 CPS Series Basic Part No.	db
	1⅛	1	11/16	70D0.4E	56	400D0.4E	24	*	*
0.40	1¾	1¼	⅞	70D0.4F	72	400D0.4F	47	600D0.4F	42
	2	1¾	1⅛	70D0.4G	100	400D0.4G	100	600D0.4G	100
	1⅛	1	11/16	70D0.6E	52	*	*	*	*
0.63	1¾	1¼	⅞	70D0.6F	65	400D0.6F	40	600D0.6F	35
	2	1¾	1⅛	70D0.6G	93	400D0.6G	92	600D0.6G	87
	2	2	1¼	*	*	*	*	600D0.6H	100
	1⅛	1	11/16	70D1.0E	47	*	*	*	*
1.0	1¾	1¼	⅞	70D1.0F	60	400D1.0F	30	600D1.0F	30
	2	1¾	1⅛	70D1.0G	90	400D1.0G	87	600D1.0G	82
	2	2	1¼	*	*	*	*	600D1.0H	90
	1⅛	1	11/16	70D2.5E	24	*	*	*	*
2.5	1¾	1¼	⅞	70D2.5F	35	*	*	*	*
	2	1¾	1⅛	70D2.5G	82	400D2.5G	68	600D2.5G	64
	2	2	1¼	70D2.5H	85	400D2.5H	72	600D2.5H	66
	2	1¾	1⅛	70D4.0G	75	400D4.0G	56	600D4.0G	52
4.0	2	2	1¼	70D4.0H	82	400D4.0H	68	600D4.0H	62
	3 3/16	2⅞	1⅝	*	*	*	*	600D4.0J	80
	2	1¾	1⅛	70D6.3G	72	400D6.3G	52	600D6.3G	47
6.3	2	2	1¼	70D6.3H	80	400D6.3H	60	600D6.3H	55
	3 3/16	2⅞	1⅝	*	*	400D6.3J	90	600D6.3J	75
	2	1¾	1⅛	70D10G	70	400D10G	50	600D10G	30
10	2	2	1¼	70D10H	72	400D10H	54	600D10H	40
	3 3/16	2⅞	1⅝	70D10J	95	400D10J	75	600D10J	68
16	2	2	1¼	70D16H	55	400D16H	25	*	*
	3 3/16	2⅞	1⅝	70D16J	85	400D16J	65	600D16J	55
25	3 3/16	2⅞	1⅝	70D25J	80	400D25J	55	600D25J	48
	3 3/16	2⅞	2⅛	70D25K	84	400D25K	75	600D25K	62
40	3 3/16	2⅞	1⅝	70D40J	50	400D40J	30	600D40J	25
	3 3/16	2⅞	2⅛	70D40K	75	400D40K	50	600D40K	45
	3 3/16	2⅞	1⅝	70D63J	50	400D63J	30	600D63J	25
63	3 3/16	2⅞	2⅛	70D63K	55	400D63K	50	600D63K	45
	3½	3½	2½	70D63L	80	400D63L	60	600D63L	54
100	3 3/16	2⅞	2⅛	70D100K	55	400D100K	50	600D100K	45
	3½	3½	2½	70D100L	60	400D100L	55	600D100L	50

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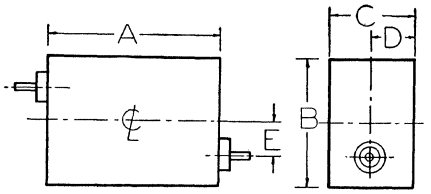
ALL-TRONICS

STANDARD MOUNTING STYLES & DIMENSIONS

IF BASIC PART NUMBER ENDS WITH THIS LETTER

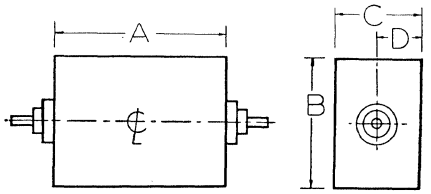
STYLE N



STYLE N DIMENSIONS ARE

	A	B	C	D	E
E	1⅛	1	11/16	11/32	¼
F	1¾	1¼	⅞	7/16	¼
G	2	1¾	1⅛	9/16	½
H	2	2	1¼	⅝	⅝

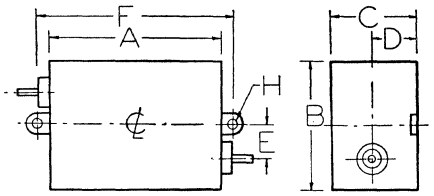
STYLE N



STYLE N DIMENSIONS ARE

	A	B	C	D
J	3 1/16	2⅞	1⅝	13/16
K	3 1/16	2⅞	2⅛	1 1/16
L	3½	3½	2½	1¼

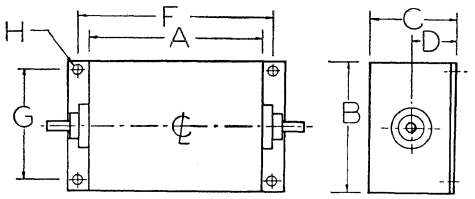
STYLE P



STYLE P DIMENSIONS ARE

	A	B	C	D	E	F	H
E	1⅛	1	11/16	11/32	¼	1 7/16	5/32
F	1¾	1¼	⅞	7/16	¼	2⅛	3/16
G	2	1¾	1⅛	9/16	½	2⅜	3/16
H	2	2	1¼	⅝	⅝	2⅜	3/16

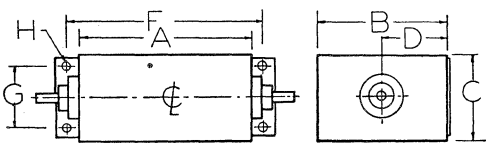
STYLE P



STYLE P DIMENSIONS ARE

	A	B	C	D	F	G	H
J	3 1/16	2⅞	1⅝	13/16	3⅝	2⅛	.195
K	3 1/16	2⅞	2⅛	1 1/16	3⅝	2⅛	.195
L	3½	3½	2½	1¼	4½	2	.195

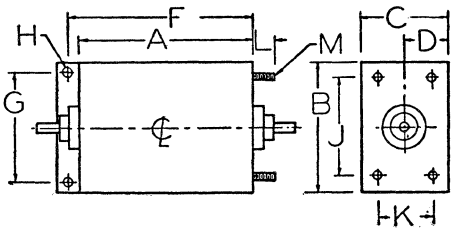
STYLE R



STYLE R DIMENSIONS ARE

	A	B	C	D	F	G	H
J	3 1/16	2⅞	1⅝	1 1/16	3⅝	⅞	.195
K	3 1/16	2⅞	2⅛	1 1/16	3⅝	1⅜	.195
L	3½	3½	2½	1¾	4½	1¾	.195

STYLE S



STYLE S DIMENSIONS ARE

	A	B	C	D	F	G	H	J	K	L	M
J	3 1/16	2⅞	1⅝	13/16	3⅜	2⅛	.195	2	⅞	15/32	10-32
K	3 1/16	2⅞	2⅛	1 1/16	3⅜	2⅛	.195	2	1⅜	15/32	10-32
L	3½	3½	2½	1¼	4	2	.195	2¼	1¾	15/32	10-32

RADIO INTERFERENCE FILTERS

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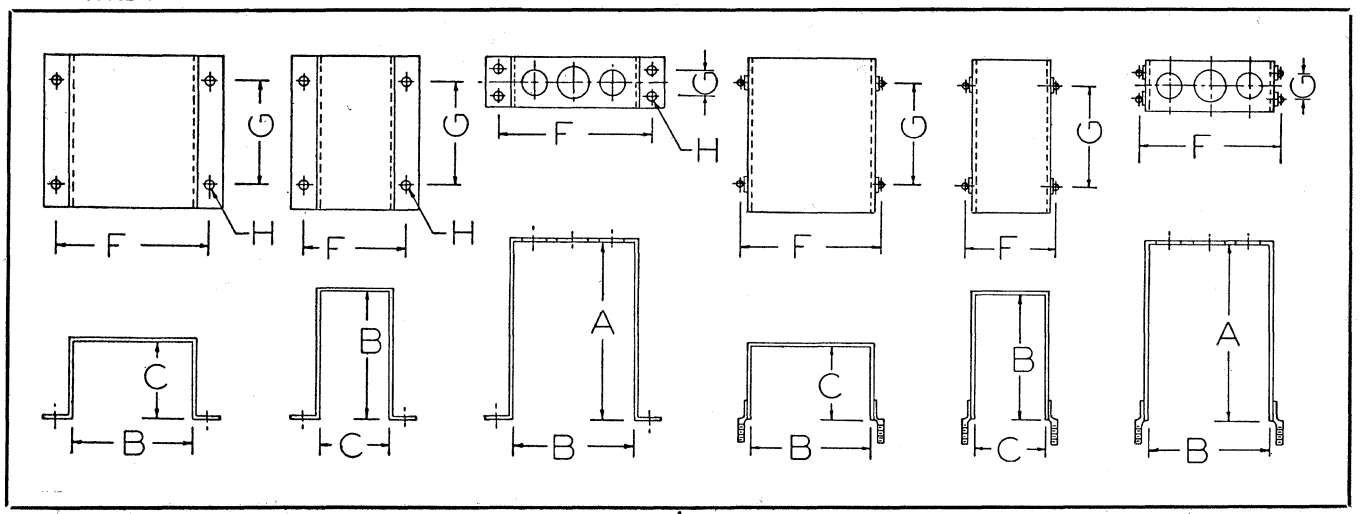
RADIO INTERFERENCE FILTERS

WRAP-AROUND MOUNTING BRACKETS

STYLE T STYLE U STYLE V STYLE W STYLE X STYLE Y



IF BASIC PART NUMBER ENDS WITH THIS LETTER

BRACKET DIMENSION ARE

	STYLE T					STYLE U				
	B	C	F	G	H	B	C	F	G	H
E	1	11/16	1 3/8	1/2	5/32	1	11/16	1 1/16	1/2	5/32
F	1 1/4	7/8	1 5/8	7/8	5/32	1 1/4	7/8	1 1/4	7/8	5/32
G	1 3/4	1 1/8	2 1/4	1	3/16	1 3/4	1 1/8	1 5/8	1	3/16
H	2	1 1/4	2 1/2	1	3/16	2	1 1/4	1 3/4	1	3/16
J	2 3/8	1 5/8	3 3/8	1 1/2	7/32	2 3/8	1 5/8	2 1/8	1 1/2	7/32
K	2 7/8	2 1/8	3 3/8	1 1/2	7/32	2 7/8	2 1/8	2 5/8	1 1/2	7/32
L	3 1/2	2 1/2	4	2	1/4	3 1/2	2 1/2	3	2	1/4

	STYLE V					STYLE W				
	A	B	F	G	H	B	C	F	G	H
E	1 1/8	1	1 3/8	*	5/32	1	11/16	1 7/32	1/2	6-32
F	1 3/4	1 1/4	1 5/8	7/16	5/32	1 1/4	7/8	1 7/16	7/8	6-32
G	2	1 3/4	2 1/4	1/2	3/16	1 3/4	1 1/8	1 15/16	1	6-32
H	2	2	2 1/2	5/8	3/16	2	1 1/4	2 3/16	1	6-32
J	3 1/16	2 7/8	3 3/8	7/8	3/16	2 7/8	1 5/8	3 5/32	1 1/2	10-32
K	3 1/16	2 7/8	3 3/8	1 1/4	3/16	2 7/8	2 1/8	3 5/32	1 1/2	10-32
L	3 1/2	3 1/2	4	1 1/2	1/4	3 1/2	2 1/2	3 25/32	2	10-32

*Only two mounting holes.

	STYLE X				Stud	STYLE Y				Stud
	B	C	F	G	Size	A	B	F	G	Size
E	1	15/16	7/8	1/2	6-32	1 1/8	1	1 3/16	‡	6-32
F	1 1/4	7/8	1 1/32	7/8	6-32	1 3/4	1 1/4	1 3/8	7/16	6-32
G	1 3/4	1 1/8	1 1/4	1	6-32	2	1 3/4	1 29/32	1/2	6-32
H	2	1 1/4	1 7/16	1	6-32	2	2	2 5/32	5/8	6-32
J	2 7/8	1 5/8	1 29/32	1 1/2	10-32	3 1/16	2 7/8	3 5/32	7/8	10-32
K	2 7/8	2 1/8	2 13/32	1 1/2	10-32	3 1/16	2 7/8	3 5/32	1 1/4	10-32
L	3 1/2	2 1/2	2 25/32	2	10-32	3 1/2	3 1/2	3 25/32	1 1/2	10-32

‡Only two mounting studs.

ALL WRAP AROUND BRACKETS ARE PERMANENTLY ATTACHED AND CENTRALLY LOCATED ON FILTERS. WRITE FOR INFORMATION ON REMOVABLE BRACKETS IF NEEDED.

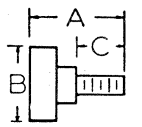
TERMINALS

IF BASIC PART NUMBER ENDS WITH ONE OF THESE LETTERS

USE TERMINAL TYPE

FOR THIS CURRENT RANGE

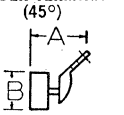
THREADED TERMINAL



Supplied with Nut, Lockwasher and Solder Lug.

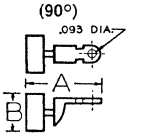
		AMP.	THREAD SIZE	A	B	C
EFGH	10	0-2.5	4-40	1/2	5/16	3/16
FGH	11	0-10	6-32	5/8	7/16	9/32
FGHJ	12	0-16	8-32	5/8	7/16	5/16
JKL	13	4-25	10-32	3/4	1	5/16
JKL	14	10-63	1/4-20	1	1	3/8
JKL	15	25-100	3/8-16	1 1/4	1 1/2	9/16

SOLDER TERMINAL (45°)



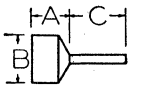
EFGHJ	16	0-16	—	13/32	5/16	—

SOLDER TERMINAL (90°)



EFGHJ	17	0-16	—	1/2	5/16	—

SHIELDED LEAD



			WIRE SIZE			
EFGH	18	0-2.5	20	5/16	5/16	6
EFGH	19	0-2.5	20	5/16	5/16	12
EFGH	20	0-2.5	20	5/16	5/16	18
EFGH	21	0-2.5	20	5/16	5/16	24
EFGH	22	0-2.5	20	5/16	5/16	36
FGH	23	2.5-10	18	5/16	13/32	6
FGH	24	2.5-10	18	5/16	13/32	12
FGH	25	2.5-10	18	5/16	13/32	24
FGH	26	2.5-10	18	5/16	13/32	36

ALL-TRONICS, INCORPORATED
43 BOND STREET, WESTBURY, L. I., NEW YORK, U. S. A. ED 3-3090

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ALL-TRONICS

STANDARDIZED FILTERS

Standardized filters are ***pi*** type low pass filters. They are supplied with two terminals to be connected in series with a power line. This places an inductor in series with the line and a capacitor is internally connected from each terminal to the case. The filter case must be grounded for proper operation. The internal inductors and capacitors are especially designed for radio frequency filter operation to provide good filtering action over a wide frequency range.

CURRENT RATINGS

Filters are rated for continuous use at a maximum ambient temperature of 85°C (185°F). They are made to withstand occasional momentary surges for normal motor starting, etc. If you have an intermittent duty problem contact factory for a suitable rating.

VOLTAGE RATINGS

The filters are rated for continuous use at the specified voltage at temperatures up to 85°C (185°F). Filters with a dual votage rating (e.g. 400 VDC/150 VAC) are rated for the higher voltage only in direct current applications. The rating drops to the lower value for alternating current applications of any frequency up to 70 cycles per second. Any filter may be used at a lower voltage than its rating.

CASE SIZES

All filters are in deep drawn seamless cases. They are hermetically sealed with solder sealed covers. Dimensions shown for cases are basic sizes, but because of their deep drawn nature, dimensions will vary slightly depending upon the point of measurement.

Cases and brackets are steel, hot tin dipped finish. This is adequate for most uses, but if severe corrosion resistance is desired as for marine use, add the letters "CR" to end of part number. Then the unit will be made of non-ferrous metal with hot tin dipped finish and will cost slightly more than the steel units. Example 70 D 6.3 G W 11 CR

TERMINALS

Standard terminal types are shown. If two different terminals are desired on one filter, insert both terminal types in the part number — for example 70D6.3GW1121. For mounting styles S, V, Y the first terminal type listed in the part number will be supplied on the end near the mounting studs or flange.

INSERTION LOSS

The column marked ***db*** in the table of basic part numbers is the insertion loss at a frequency of 150 kilocycles. Insertion loss is a measure of the effectiveness of a filter at a particular frequency. The insertion loss is the logarithmically adjusted ratio of signal input to signal output measured in a standard circuit of 50 ohms input and output impedance. The larger the number of ***db***, the greater is the signal reducing ability of the filter.

The following table will help to illustrate the ratio between the interference voltage input to a filter and the output voltage as stated in ***db***.

db	***Voltage Input : Voltage Output***
0	1:1
6	2:1
20	10:1
40	100:1
60	1,000:1
80	10,000:1
100	100,000:1

All the ***db*** figures in the chart represent the insertion loss for each filter at 150 kilocycles. A complete description of insertion loss requires a graph or a tabular chart showing a number of ***db*** readings at frequencies spread throughout the useful range of the filter. The filters in this catalog have a useful range from below 150 kilocycles to above 250 megacycles. They have been designed to maintain approximately the stated level of insertion loss in the frequency range of 150 kilocycles to about 10 megacycles and then to follow a gently sloping reduction maintaining effective levels of insertion loss to between 250 and 400 megacycles. This corresponds to the normal frequency distribution of radio interference generated by most electrical machinery, electromechanical devices and a great deal of electronic equipment.

VOLTAGE DROP

All filters are designed to have a voltage drop of low value so that they will not interfere with proper operation at the equipment in which they are installed. The 70 volts D. C. series has a maximum drop of 0.3 volt when operated at full rated current. The 400 VDC/150 VAC and the 600 VDC/250 VAC have a drop of less than one percent of the AC rating when carrying full rated current.

WHY USE FILTERS?

Much electronic and electrical equipment produces interference which disrupts radio communication and seriously affects the safety and efficient operation of aircraft, marine, industrial and military communications. As a result, the Federal Communications Commission is enforcing statutes which require control of interference and interference sources. The various military branches of the Department of Defense are specifying interference free operation in much of the equipment they now purchase. Manufacturers of sensitive and complex electronic equipment find that often their devices do not function properly as a result of interference produced in parts of their own or nearby systems.

The answer to this is radio frequency interference control. This control can be accomplished by one or more of the following methods.

1. Redesign to use non-interfering type components instead of those which generate interference. Example—Replace commutator type universal cooling blower motor with interference free induction motor.
2. Provide effective shielding to prevent direct radiation. Example—Interference producing ignition system of a internal combustion engine shielded with complete metallic housings over spark plugs, cables and magneto.
3. Install radio interference filters in power lines to prevent interference signals from being conducted to distant areas on those power lines. Example—Filters installed in power lines to a direct current aircraft motor to prevent motor interference from being conducted to the radio installation.

Interference reduction and control is generally a judicious balance among these three methods. Usually no one method is completely effective. Once the equipment design is finalized, further interference reduction becomes a combination of shielding and filtering. They complement each other and in most cases neither shielding nor filtering is completely effective alone.

HOW TO USE FILTERS EFFECTIVELY

First one must learn to recognize the serious sources of radio frequency interference. Interference is generated wherever there is a spark or electrical discharge. Commutator type electric motors and generators, electric arc and fluorescent lamps, switches and relays, thyratron and other gaseous discharge tubes may all be sources of radio interference of which the manufacturer or user may not be aware. Electronic equipment which utilizes oscillating circuits may generate radio frequency signals to perform necessary functions. These signals become radio interference when they leave the confines of the circuits and equipment where they are needed and interfere with other radio frequency sensitive equipment. An example of this is the oscillator used in a superhetrodyne receiver. Among electronic generators those dealing with critically shaped waveforms such as saw tooth or square wave and pulse generators can cause a considerable amount of interference as a result of harmonics of the fundamental frequencies.

For best results, isolate the severe interference producing sources and prevent them from contaminating interference free equipment or lines nearby. This can be accomplished by shielding and enclosing case construction around the interference sources combined with filters in the power lines.

Filters will reduce the radio interference currents flowing in power lines to very low levels. This is essential to prevent unwanted signals from traveling great distances and radiating into space from these distant power lines. Filters are not a complete cure for all radio interference problems. They need the help of adequate shielding and isolation to be completely effective.

The physical placement of a filter is important. Improper positioning can sometimes nullify the effectiveness of a filter. The radio interference filter should be mounted close to a shielded source, or considering the whole chassis a source, close to the power line entrance. Input and output lines of the filter should be separated. For best results use mounting styles S, V or Y and project one terminal through a shielding partition or bulkhead in the chassis or wiring enclosure. Shielded lead style terminals can also help isolate input and output lines. Be sure that shielded leads have the outer covering grounded to chassis at both ends.

LITERATURE AVAILABLE

A five page reprint entitled ***"Radio Interference Filters — Their Design and Use"*** showing how to obtain best results when using filters for radio interference reduction in electronic equipment is available on request.

ALL-TRONICS PRODUCTS

In addition to Standardized Filters, ***All-Tronics, Inc.*** is a supplier of custom designed radio interference filters to the original equipment market. Filters with unusual ratings, peculiar shapes, extended environmental requirements and rigid specifications are available to order. If you have any applications for which our Standardized Filters do not completely meet your requirements, forward your specifications to us and our engineering department will gladly recommend a design to solve your problem.

In keeping with our comprehensive coverage of the RF filter field we also manufacture screen booth filters, line stabilization networks, encapsulated, impregnated and hermetically sealed networks, assemblies and coils to specifications.

All-Tronics, Inc. reserves the right to improve design specifications or withdraw items from this catalog in the light of new technological advances.

RADIO INTERFERENCE FILTERS

See YELLOW SECTION for Local Offices, Telephones, etc.

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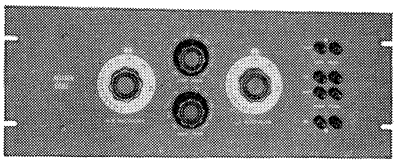
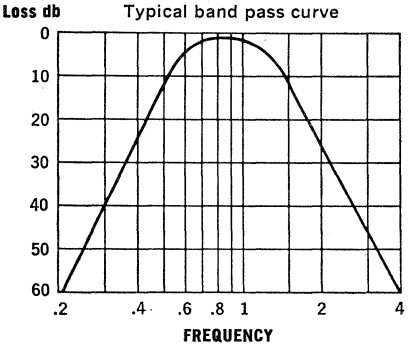
ALLISON VARIABLE FILTERS

Allison Filters fill the need for a general purpose tunable audio frequency filter for laboratory use. They may be used as low pass, high pass or band pass filters. When used as a low pass filter, they will pass all frequencies from DC to the cutoff frequency. Various types are available to tune over the full range from 15 cps to 600 kcps. These are passive network filters with a dynamic range in excess of 120 db. Under most operating conditions, the loss through the filter is 2 db or less. *Allison filters are excellent for the analysis of transients since they are quite free of ringing effects.*

SERIES 2 FILTER

Allison Series 2 Filters meet the ASA Specifications for octave band filters (Z24.10-1953). The controls consist of an independent range switch and multiplier dial for the low cutoff and the high cutoff frequencies. The multiplier dial tunes over a range of one octave. The range switch changes the cutoff in octave steps.





SPECIFICATIONS

Attenuation rate, 30 db per octave (45 db in first octave on 2C).
Passive network—no power supply.
No vacuum tubes.
Impedance (in and out), 600 ohms.
Minimum band width, 1/5 octave.
Maximum input for minimum distortion, 2 volts. Audio frequency type will handle ½ watt maximum; Model 2C, .1 watt maximum.
Size of portable units, excluding knobs and handle, 14" high, 7" deep, 5¼" wide.
Rack models are mounted on a 7" rack panel.

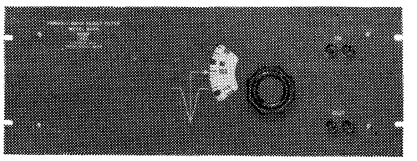
PRICES, FOB FACTORY

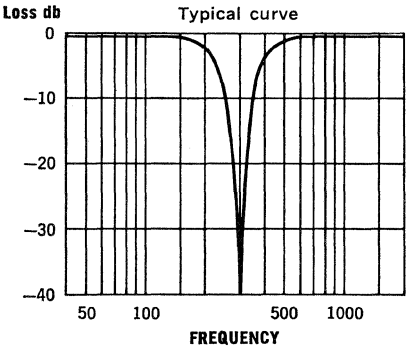
	Ship. Wgt.	Price
2A Port., 15 cps—10,000 cps	24#	$445.00
2AR Rack Mount 2A	30#	455.00
2AB Port., 15 cps—20,000 cps	24#	525.00
2ABR Rack Mount 2AB	30#	535.00
2B Port., 60 cps—20,000 cps	20#	345.00
2BR Pack Mount 2B	26#	355.00
2C Port., 9 kcps—672 kcps	18#	345.00
2CR Rack Mount 2C	24#	355.00

Hermetically sealed capacitors can be supplied on any of these units at an added cost of 15% of the portable unit price.

NEW BE6 FILTER

The Allison Model BE6 Band Elimination Filter is a new addition to the line this year. This filter is a passive network filter with a direct reading dial, tunable over full audio frequency range from 20 cps to 20,000 cps. It will transmit all frequencies from DC to more than 100 kcps, except for the reject band to which the filter is tuned. This filter may be used to eliminate the power line frequency in measuring circuits; to eliminate the fundamental in distortion measuring circuits; to eliminate the resonant peak response of the pickup in accelerometer or vibration pickup circuits. It may be used in series with other Allison filters to eliminate one frequency which is interfering.





SPECIFICATIONS

More than 40 db attenuation at one frequency.
Passive network—no power supply.
No vacuum tubes.
Impedance (in and out), 600 ohms.
Reject band less than 1 octave wide.
Loss in pass bands, ⅓ db.
Single dial control.
Direct reading frequency dial.
Maximum input for minimum distortion, 5 V.
Size of portable units, excluding knobs and handle, 17" long, 5¾" deep, 8" high.
Rack models are mounted on 7" rack panel.

PRICES, FOB FACTORY

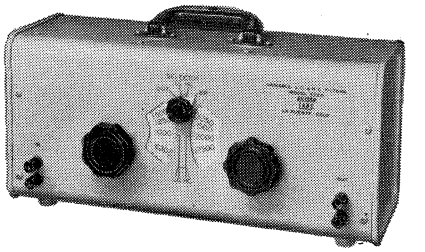
	Ship. Wgt.	Price
BE6P Port.	24#	$385.00
BE6R Rack Mount	30#	385.00

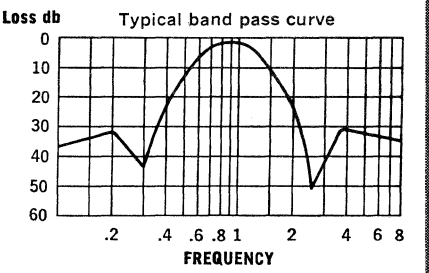
Hermetically sealed capacitors can be supplied on these units at an added cost of 15% of the unit price.

MODEL 420 FILTER

The 420 was the first Allison filter to have a direct reading dial. It has 1.3 inches of scale for each octave of frequency over the full range from 20 cps to 20,000 cps. The attenuation rate on this filter is 20 db or more per octave for the first octave with an attenuation outside the pass band which exceeds 25 db at all frequencies beyond an octave away from the cutoff frequency.

These filters are magnetically tuned over a range of an octave, after which a printed circuit switching arrangement changes the inductance and capacitance values, so that the same magnetic tuning assembly may tune over the next octave. This results in a very small blank space in the frequency range at each octave point on the dial.





SPECIFICATIONS

Continuously variable frequency range from 20 cps to 20,000 cps.
20 db attenuation in first octave.
Passive network—no power supply.
No vacuum tubes.
Dynamic range, 120 db.
Impedance (in and out), 600 ohms.
Plug-in input-output transformers for other impedances.
Maximum input for minimum distortion, 2 V.
Low loss, approximately 2 db in pass band.
Low pass signals from DC to cutoff frequency.
Minimum band width approximately ½ octave.
Size, excluding knobs and handle, 17" long, 5¾" deep, 8" high.

PRICES, FOB FACTORY

	Ship. Wgt.	Price
420P Port.	24#	$295.00
420R Rack Mount	30#	305.00

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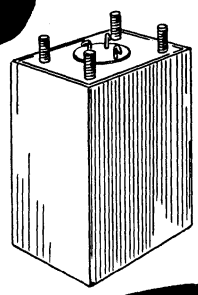
MINIATURE FILTERS
audio and high frequency

Choose from our Standard Series or take advantage of our prompt service on Custom Filters to meet your extraordinary requirements.

- Hi Pass
- Lo Pass
- Band Pass
- Band Suppression
- Interstage
- Constant Delay

SPECIALS
- 90° phase shift
- Null "T"
- Ultra stable

General Characteristics
- Miniature size
- Hi-stability
- Well shielded, Rugged
- MIL-spec
- Hermetically sealed



CASE SIZE

Width 1 1/16"
Depth 1 3/16"
Height A 1 5/8"
Height B 2 1/2"
Mtg. Centers 1 1/4" x 3/4"
Studs 4—6—32 x 3/8"
Knockout 7/8" dia.

SPECIAL FILTERS TO YOUR SPECS. QUICK DELIVERY

LOW PASS FILTERS

Catalog No.	Cutoff Frequency cps	Input & Output Impedance ohms	Case Height *
IN-LP-200	200	10,000	B
IN-LP-300	300	10,000	B
IN-LP-400	400	10,000	B
IN-LP-500	500	10,000	B
IN-LP-1000	1000	10,000	A
IN-LP-1500	1500	10,000	A
IN-LP-2000	2000	10,000	A
IN-LP-3000	3000	10,000	A
IN-LP-5000	5000	10,000	A
IN-LP-10,000	10,000	10,000	A
IN-LP-15,000	15,000	10,000	A
IN-LP-20,000	20,000	10,000	A
LI-LP 1000	1000	500/600	A
LI-LP-1500	1500	500/600	A
LI-LP-2000	2000	500/600	A
LI-LP-3000	3000	500/600	A
LI-LP-5000	5000	500/600	A
LI-LP-10,000	10,000	500/600	A
LI-LP-15,000	15,000	500/600	A
LI-LP-20,000	20,000	500/600	A

ATTENUATION:
3 db at fco, more than 50 db at 3 fco

HIGH PASS FILTERS

IN-HP-300	300	10,000	B
IN-HP-500	500	10,000	B
IN-HP-1000	1000	10,000	B
IN-HP-5000	5000	10,000	B
LI-HP-300	300	500/600	B
LI-HP-500	500	500/600	B
LI-HP-1000	1000	500/600	B
LI-HP-5000	5000	500/600	B

ATTENUATION: 6 db at fco 40 db at .5 fco

BAND PASS FILTERS

IN-BP are interstage band pass filters with an input of 10,000 ohms and output to grid, and a nominal gain of 6 db.

LI-BP are band pass filters with an input impedance of 500/600 ohms and output to grid with a nominal gain of 19 db.

ATTENUATION: Less than 3 db at f_o ±8%
40 db at .5 f_o and 2 f_o

Catalog No.	Center Frequency cps	Input Impedance ohms	Case Height *
IN-BP-200	200	10,000	B
IN-BP-400	400	10,000	B
IN-BP-1000	1000	10,000	A
IN-BP-1500	1500	10,000	A
IN-BP-2000	2000	10,000	A
IN-BP-3000	3000	10,000	A
IN-BP-5000	5000	10,000	A
IN-BP-10,000	10,000	10,000	A
IN-BP-15,000	15,000	10,000	A
LI-BP-200	200	500/600	B
LI-BP-400	400	500/600	B
LI-BP-1000	1000	500/600	A
LI-BP-1500	1500	500/600	A
LI-BP-2000	2000	500/600	A
LI-BP-3000	3000	500/600	A
LI-BP-5000	5000	500/600	A
LI-BP-10,000	10,000	500/600	A
LI-BP-15,000	15,000	500/600	A

STANDARD TELEMETERING FILTERS

Catalog No.	RDB Channel No.	Frequency C.P.S.	Band Width (%)
TM-115	1	400	15
TM-215	2	560	15
TM-315	3	730	15
TM-415	4	960	15
TM-515	5	1300	15
TM-615	6	1700	15
TM-715	7	2300	15
TM-815	8	3000	15
TM-915	9	3900	15
TM-1015	10	5400	15
TM-1115	11	7350	15
TM-1215	12	10.5 KC	15
TM-1315	13	14.5 KC	15
TM-1415	14	22.0 KC	15
TM-1515	15	30.0 KC	15
TM-1615	16	40.0 KC	15
TM-1715	17	52.5 KC	15
TM-1815	18	70.0 KC	15
TM-A30	A	22 0 KC	30
TM-B30	B	30.0 KC	30
TM-C30	C	40.0 KC	30
TM-D30	D	52.5 KC	30
TM-E30	E	70.0 KC	30

DISTRIBUTED CONSTANT DELAY LINES

Choose from our huge selection of Standard Units or let us modify them to fill your specific needs

Delay μsec ±5%	Rise Time Less than μsec**	CHARACTERISTIC IMPEDANCE ±10% Ω 300 (D)	500 (F)	1000 (K)	1500 (L)	2000 (M)	3000 (N)	4000 (Q)
.1	.014	FD7D101B	FD7F101B	FD7K101B	FD7L101B	FD7M101C	FD7N101C	FD7Q101C
.2	.029	FD7D201C	FD7F201C	FD7K201C	FD7L201C	FD7M201D	FD7N201D	FD7Q201D
.3	.043	FD7D301D	FD7F301D	FD7K301D	FD7L301D	FD7M301E	FD7N301E	FD7Q301E
.4	.057	FD7D401E	FD7F401E	FD7K401E	FD7L401E	FD7M401F	FD7N401F	FD7Q401F
.5	.071	FD7D501F	FD7F501F	FD7K501F	FD7L501F	FD7M501G	FD7N501G	FD7Q501G
.6	.085	FD7D601G	FD7F601G	FD7K601G	FD7L601G	FD7M601H	FD7N601H	FD7Q601H
.7	.10	FD7D701H	FD7F701H	FD7K701H	FD7L701H	FD7M701J	FD7N701J	FD7Q701J
.8	.115	FD7D801J	FD7F801J	FD7K801J	FD7L801J	FD7M801K	FD7N801K	FD7Q801K
.9	.130	FD7D901K	FD7F901K	FD7K901K	FD7L901K	FD7M901L	FD7N901L	FD7Q901L
1.0	.14	FD7D102L	FD7F102L	FD7K102L	FD7L102L	FD7M102M	FD7N102M	FD7Q102M
1.5	.21	FD7D152M	FD7F152M	FD7K152M	FD7L152M	FD7M152N	FD7N152N	FD7Q152N
2	.40	FD5D202J	FD5F202J	FD5K202J	FD5L202J	FD5M202K	FD5N202M	FD5Q152Q
4	.80	FD5D402N	FD5F402J	FD5K402N	FD5L402N	FD5M402P		

- Lowest cost — reliable performance
- Maximum delay to rise time ratios
- Maximum delay per cubic inch
- Delays to 30 μ secs.
- Impedances: 200 to 10,000 Ω
- Bandwidths to 20 mcs
- Linear phase shift

*Catalog numbers shown above all start with FD and are for round cross section Delay Lines 13/32" outside diameter. To order a 3/8" x 1/2" rectangular cross section Delay Line order as FDS.

Last letter of Catalog # indicates length of Delay Line stick as follows: A: 1", B: 1½", C: 2", D: 2½", E: 3", F: 3½", G: 4", H: 4½", J: 5", K: 5½", L: 6", M: 6½", N: 7", P: 7½", Q: 8".

CONTROL *Electronics* • HA 7-7961 • HUNTINGTON STATION, L. I., N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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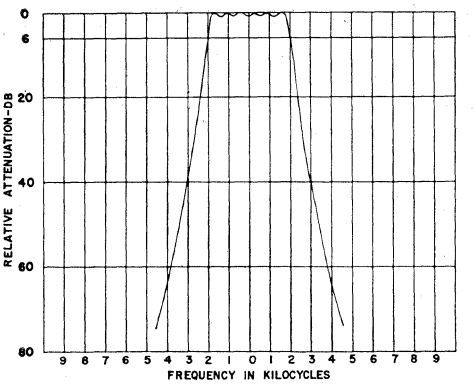
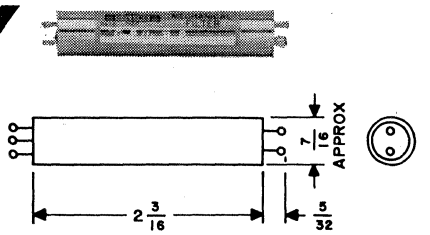
Selectivity characteristics of a standard production F455-40 Filter. The curve indicates the actual performance expected from this filter. All Collins Filters feature these steep-skirted, flat-topped selectivity characteristics.



COLLINS MECHANICAL

RELIABLE, ECONOMICAL SERVICE • COMPACT

TYPE Y



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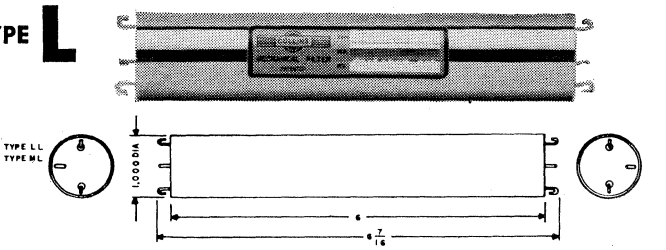

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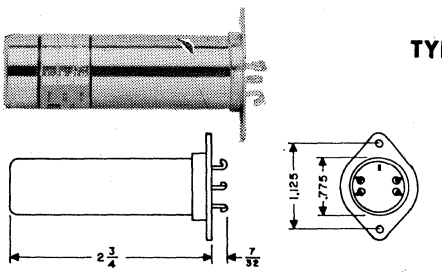

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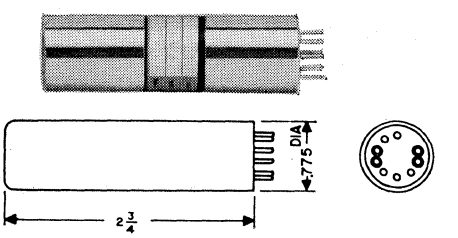

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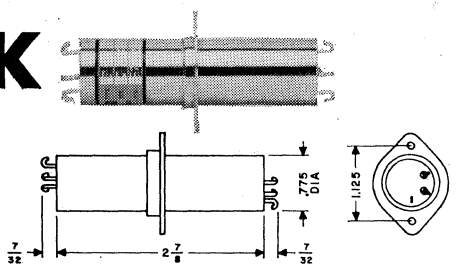

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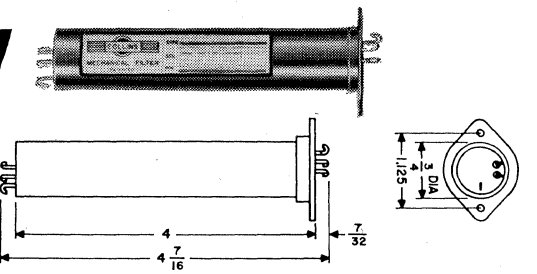

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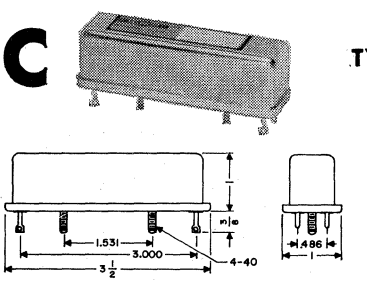

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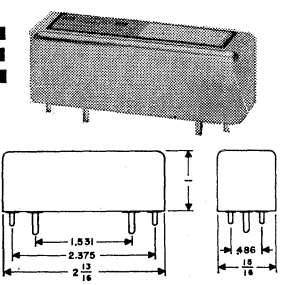

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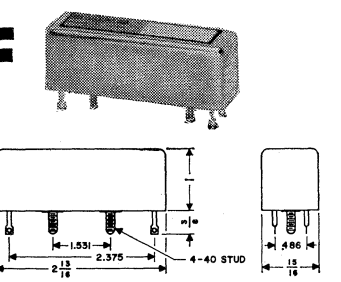

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Mechanical Filter Summary Table

This table lists the standard Mechanical Filters available. Detailed specifications are available on request.

FILTERS

CUSTOM DESIGN

Small size and high performance characteristics of Collins Mechanical Filters make them a natural choice of equipment designers. Collins Filters are now employed and may be designed into high performance transmitting and receiving equipment, multiplexing equipment, missile guidance systems, frequency synthesisers, doppler radar, data transmission systems, precision navigation equipment, spectrum analyzers, and other specialized equipment where reliability, compactness and economy are required.

CUSTOM DESIGN

The filters shown are standard production types. It is possible to obtain special types with a wide variety of characteristics. We are interested in discussing your requirements. For prices and delivery information call or write: Collins Radio Company, Product Line Manager, Western Division, 2700 West Olive Ave., Burbank, California.

COLLINS

COLLINS RADIO COMPANY

BURBANK • CEDAR RAPIDS • DALLAS

Center Freq.	Type No.	Part No.	6 db Bandwidth	Max. 60 db Bandwidth	Case Style
250 kc	F250A-20	526-9012-00	2.0 kc	4.3 kc	C
250 kc	F250Z-3	526-9080-00	2.7 kc	5.5 kc	W
250 kc	F250A-67	526-9039-00	6.7 kc	14.0 kc	C
250 kc	F250A-85	526-9049-00	8.5 kc	18.0 kc	C
300 kc	F300X-68	526-9307-00	6.8 kc	13.2 kc	(¾" dia. x 3½" long)
455 kc	F455E-05	526-9321-00	0.5 kc	2.5 kc	E
455 kc	F455F-05	526-9318-00	0.5 kc	2.5 kc	F
455 kc	F455H-05	526-9229-00	0.5 kc	2.5 kc	H
455 kc	F455J-05	526-9154-00	0.5 kc	2.5 kc	J
455 kc	F455K-05	526-9228-00	0.5 kc	2.5 kc	K
455 kc	F455E-15	526-9370-00	1.5 kc	3.5 kc	E
455 kc	F455F-15	526-9227-00	1.5 kc	3.5 kc	F
455 kc	F455H-15	526-9170-00	1.5 kc	3.5 kc	H
455 kc	F455J-15	526-9155-00	1.5 kc	3.5 kc	J
455 kc	F455K-15	526-9168-00	1.5 kc	3.5 kc	K
455 kc	F455E-21	526-9322-00	2.1 kc	5.3 kc	E
455 kc	F455F-21	526-9323-00	2.1 kc	5.3 kc	F
455 kc	F455H-21	526-9313-00	2.1 kc	5.3 kc	H
455 kc	F455J-21	526-9156-00	2.1 kc	5.3 kc	J
455 kc	F455K-21	526-9317-00	2.1 kc	5.3 kc	K
455 kc	F455Y-21	526-9337-00	2.1 kc	5.3 kc	Y
455 kc	F455E-31	526-9074-00	3.1 kc	6.5 kc	E
455 kc	F455F-31	526-9075-00	3.1 kc	6.5 kc	F
455 kc	F455H-31	526-9093-00	3.1 kc	6.5 kc	H
455 kc	F455J-31	526-9089-00	3.1 kc	6.5 kc	J
455 kc	F455K-31	526-9169-00	3.1 kc	6.5 kc	K
455 kc	F455Y-31	526-9338-00	3.1 kc	6.5 kc	Y
455 kc	F455E-40	526-9324-00	4.0 kc	8.5 kc	E
455 kc	F455F-40	526-9325-00	4.0 kc	8.5 kc	F
455 kc	F455H-40	526-9326-00	4.0 kc	8.5 kc	H
455 kc	F455J-40	526-9327-00	4.0 kc	8.5 kc	J
455 kc	F455K-40	526-9303-00	4.0 kc	8.5 kc	K
455 kc	F455Y-40	526-9339-00	4.0 kc	8.5 kc	Y
455 kc	F455E-60	526-9084-00	6.0 kc	12.6 kc	E
455 kc	F455F-60	526-9087-00	6.0 kc	12.6 kc	F
455 kc	F455H-60	526-9094-00	6.0 kc	12.6 kc	H
455 kc	F455J-60	526-9091-00	6.0 kc	12.6 kc	J
455 kc	F455K-60	526-9159-00	6.0 kc	12.6 kc	K
455 kc	F455Y-60	526-9340-00	6.0 kc	12.6 kc	Y
455 kc	F455E-80	526-9332-00	8.0 kc	18.5 kc	E
455 kc	F455F-80	526-9331-00	8.0 kc	18.5 kc	F
455 kc	F455H-80	526-9330-00	8.0 kc	18.5 kc	H
455 kc	F455J-80	526-9329-00	8.0 kc	18.5 kc	J
455 kc	F455K-80	526-9328-00	8.0 kc	18.5 kc	K
455 kc	F455Y-80	526-9341-00	8.0 kc	18.5 kc	Y
455 kc	F455E-120	526-9336-00	12.0 kc	23.0 kc	E
455 kc	F455F-120	526-9173-00	12.0 kc	23.0 kc	F
455 kc	F455H-120	526-9171-00	12.0 kc	23.0 kc	H
455 kc	F455J-120	526-9333-00	12.0 kc	23.0 kc	J
455 kc	F455K-120	526-9316-00	12.0 kc	23.0 kc	K
455 kc	F455Y-120	526-9342-00	12.0 kc	23.0 kc	Y
455 kc	F455E-160	526-9320-00	16.0 kc	27.5 kc	E
455 kc	F455F-160	526-9335-00	16.0 kc	27.5 kc	F
455 kc	F455H-160	526-9314-00	16.0 kc	27.5 kc	H
455 kc	F455J-160	526-9334-00	16.0 kc	27.5 kc	J
455 kc	F455K-160	526-9315-00	16.0 kc	27.5 kc	K
455 kc	F455Y-160	526-9343-00	16.0 kc	27.5 kc	Y
455 kc	F455E-350	526-9371-00	35.0 kc	62.0 kc	E
455 kc	F455F-350	526-9180-00	35.0 kc	62.0 kc	F
455 kc	F455H-350	526-9302-00	35.0 kc	62.0 kc	H
455 kc	F455J-350	526-9300-00	35.0 kc	62.0 kc	J
455 kc	F455K-350	526-9186-00	35.0 kc	62.0 kc	K
455 kc	F455Y-350	526-9344-00	35.0 kc	62.0 kc	Y
500 kc	F500B-08	526-9007-00	0.8 kc	3.5 kc	E
500 kc	F500B-14	526-9030-00	1.4 kc	3.8 kc	E
500 kc	F500F-14	526-9215-00	1.4 kc	3.5 kc	F
500 kc	F500B-31	526-9008-00	3.1 kc	7.5 kc	E
500 kc	F500B-60	526-9009-00	6.0 kc	14.0 kc	E
500 kc	F500F-60	526-9319-00	6.0 kc	19.0 kc	F
500 kc	F500F-94	526-9216-00	9.4 kc	19.0 kc	F

MECHANICAL FILTERS FOR SINGLE SIDEBAND

Carrier Freq.					
60 kc	F60Z-4	526-9190-00	Upper Sideband		L
64 kc	F64Z-4	526-9191-00	"	"	L
68 kc	F68Z-4	526-9192-00	"	"	L
72 kc	F72Z-4	526-9193-00	"	"	L
76 kc	F76Z-4	526-9194-00	"	"	L
80 kc	F80Z-4	526-9195-00	"	"	L
84 kc	F84Z-4	526-9196-00	"	"	L
88 kc	F88Z-4	526-9197-00	"	"	L
92 kc	F92Z-4	526-9198-00	"	"	L
96 kc	F96Z-4	526-9199-00	"	"	L
100 kc	F100Z-4	526-9139-00	"	"	L
104 kc	F104Z-4	526-9140-00	"	"	L
250 kc	F250Z-4	526-9130-00	"	"	C
250 kc	F250Z-5	526-9131-00	Lower Sideband		C
300 kc	F300Z-4	526-9312-00	Upper Sideband		(¾" dia. x 3½" long)
300 kc	F300Z-5	526-9311-00	Lower Sideband		(¾" dia. x 3½" long)
455 kc	F455Z-1	526-9095-00	Upper Sideband		H
455 kc	F455Z-2	526-9096-00	Lower Sideband		H
455 kc	F455Z-4	526-9364-00	Upper Sideband		Y ($\frac{7}{16}$" dia. x 2½" long)
455 kc	F455Z-5	526-9365-00	Lower Sideband		Y ($\frac{7}{16}$" dia. x 2½" long)

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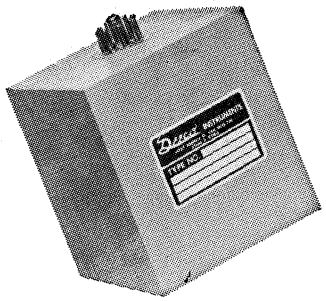
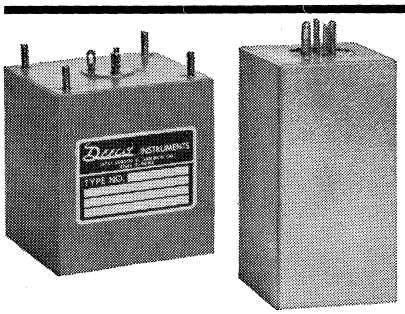
Deeco INSTRUMENTS, INC.



• TELEMETERING • LOW PASS • HIGH PASS • BAND PASS FILTERS

DEECO TELEMETERING

Deeco Telemetering Filters are the new constant delay type. A complete line is available from miniature size to standard JHU-APL sizes with impedances ranging from 50 ohms to 100,000 ohms. Constant delay band pass filters for airborne applications as well as ground stations are available. This means minimum distortion in the entire system. For optimum system performance the new Deeco constant delay band pass and low pass telemetering filters are a must.



ORDERING INFORMATION

Select the type number to give necessary attenuation from the chart. Specify the cutoff frequency and impedance desired.

Example: HP-1130-600 cycle 1000 ohms.

DEECO HIGH PASS FILTERS

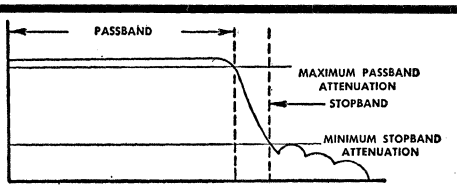
Deeco high pass filters are available as standard items. Input and output impedances from 50 ohms to 10,000 ohms need only be specified. Insertion loss is less than .5 db with power levels to 20 mw. High stability, high Q toroidal coils are the only inductors used in Deeco filters. All cases are hermetically sealed and potted to withstand all mil spec requirements.

HIGH-PASS FILTERS

Type	Min. Att: DB	Times Cut-Off Ratio	100-999c.p.s. MIL-T-27A Case	100-999c.p.s. Price	1kc-1mc MIL-T-27A Case	1kc-1mc Price
HP-1130	30	.454	AJ	$20.00	AJ	$15.00
1135	35	.400	AJ		AJ	
1140	40	.345	AJ		AJ	
1145	45	.294	AJ		AJ	
1150	50	.256	AJ		AJ	
1155	55	.222	AJ		AJ	
1160	60	.189	AJ		AJ	
HP-1230	30	.719	FA	30.00	AJ	25.00
1235	35	.676	FA		AJ	
1240	40	.645	FA		AJ	
1245	45	.595	FA		AJ	
1250	50	.562	FA		AJ	
1255	55	.532	FA		AJ	
1260	60	.500	FA		AJ	
HP-1330	30	.794	GB	37.50	FA	32.50
1335	35	.769	GB		FA	
1340	40	.725	GB		FA	
1345	45	.704	GB		FA	
1350	50	.667	GB		FA	
1355	55	.629	GB		FA	
1360	60	.581	GB		FA	
HP-1430	30	.833	GA	45.00	FA	37.50
1435	35	.833	GA		FA	
1440	40	.794	GA		FA	
1445	45	.769	GA		FA	
1450	50	.730	GA		FA	
1455	55	.714	GA		FA	
1460	60	.667	GA		FA	

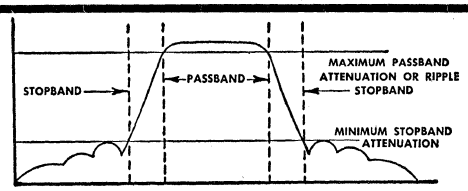
DEECO LOW PASS FILTERS

Deeco Low Pass Filters designed with your needs in mind. Impedances to fit your circuit from 50 ohms to 10,000 ohms. Hermetically sealed and potted to meet mil specs at no extra cost. No need to order specials—just order a Deeco standard. Of course if you want a special we'll supply that too—but quick—of course.



LOW PASS FILTERS

Type	Min. Att: DB	Times Cut-Off Ratio	100-999c.p.s. MIL-T-27A Case	100-999c.p.s. Price	1kc-1mc MIL-T-27A Case	1kc-1mc Price
LP-1130	30	2.2	AJ	$20.00	AJ	$15.00
1135	35	2.5	AJ		AJ	
1140	40	2.9	AJ		AJ	
1145	45	3.4	AJ		AJ	
1150	50	3.9	AJ		AJ	
1155	55	4.5	AJ		AJ	
1160	60	5.3	AJ		AJ	
LP-1230	30	1.39	FA	30.00	AJ	25.00
1235	35	1.48	FA		AJ	
1240	40	1.55	FA		AJ	
1245	45	1.68	FA		AJ	
1250	50	1.78	FA		AJ	
1255	55	1.88	FA		AJ	
1260	60	2.00	FA		AJ	
LP-1330	30	1.26	GB	37.50	FA	32.50
1335	35	1.30	GB		FA	
1340	40	1.38	GB		FA	
1345	45	1.42	GB		FA	
1350	50	1.50	GB		FA	
1355	55	1.50	GB		FA	
1360	60	1.72	GB		FA	
LP-1430	30	1.20	GA	45.00	FA	37.50
1435	35	1.22	GA		FA	
1440	40	1.26	GA		FA	
1445	45	1.30	GA		FA	
1450	50	1.37	GA		FA	
1455	55	1.40	GA		FA	
1460	55	1.40	GA		FA	



DEECO BAND PASS FILTERS

Deeco Band Pass Filters designed specially for you. Just specify the input impedance, the output impedance, the passband you want, the stopbands you need with the attenuation you'd like to have and we'll build it to your specs.

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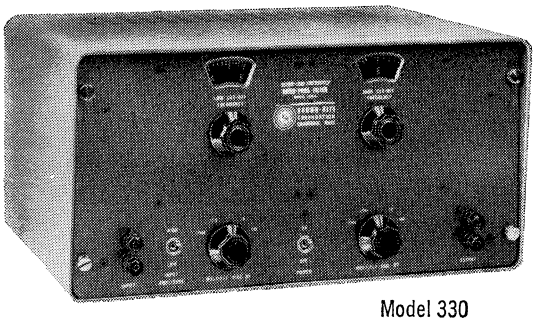
Krohn-Hite VARIABLE ELECTRONIC FILTERS

- Ultra-low frequency coverage
- Frequency range 100,000 to 1 in a single instrument
- Direct frequency calibration



Model 330

MODEL	TYPE	FREQUENCY RANGE	FREQUENCY ACCURACY	NOISE & HUM	PRICE
310-AB	Band Pass	20 cps to 200 kc	10%	1 mv	$295.00
330-A	Band Pass	.02 cps to 2 kc	5%	0.1 mv	$475.00
330-M	Band Pass	0.2 cps to 20 kc	5%	0.1 mv	$475.00
340-A	Servo	0.01 to 100 cps	5%	20 mv	$385.00
350-A	Rejection	.02 cps to 2 kc	5%	0.1 mv	$475.00
360-A	Rejection	20 cps to 200 kc	10%	5 mv	$295.00

For more detailed information on tunable filters, wide-range RC oscillators, regulated power supplies, and power amplifiers, write:
Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.

See YELLOW SECTION for local offices, telephones, etc.

eem CLIP/FILE DESIGNED BY ENGINEERS ...FOR ENGINEERS ...TO SAVE ENGINEERING TIME

Here are a few of the suggestions offered by engineers that are now exclusive features in Clip/File:

ABSOLUTE PRESSURE TRANSDUCER

Accurate, Noise-Free Performance At 15G up to 2000 CPS

Having extremely ... per-formance ... Model ... as an ... al an-... form-... n and ... e cov-... rmetic ... damage ... main... ...d con-... nectors ... dressing ...

Pres... ... psia or as high as 0-10... ...lable. Unit is temperature compensated over the operating range of -65 to 200°F. Temperature error is claimed negligible.

The 409 is available with outputs which are linear with pressure or altitude, with outputs which are functional, or with tapped potentiometers, switching segments and other electrical features.

The unit has high case pressure; incorporates the maker's Ni-Span-C aneroid type capsule.

PRICE: Approximately $200.00
AVAILABILITY: Some pressure ranges from stock; others, 8 to 10 weeks.
SALES OFFICES: See **eem** p. 851 (Yellow Section)

For other Bourns Laboratories products refer to **eem** *pp. 658, 659, 669 (1958 Edition).*
Circle 35 Reader Service Coupon (p. 2)

eem File System
electronic engineers master

Pressure Transducer
Bourns Laboratories, Inc.
CLIP & FILE ☐

PRICES — *The design of a circuit, system or component must be practical from a cost standpoint as well as technical characteristics.*

AVAILABILITY — *Delivery on both military and commercial orders must meet strict schedules. Knowledge of availability is essential.*

LOCAL SALES OFFICES — *Listing the address and phone number of the local sales offices or representative expedites the placing of an order, or a request for additional information.*

PROVISION FOR FILING — *A system for clipping, filing and locating product data when it is needed for future reference.*

Engineer-designed CLIP/FILE is now used and relied upon for new product data by thousands of the same engineers who helped create it; thousands have set up their own personal filing systems based on the 51 **eem** product section numbers. And thousands are now saving many hours of valuable engineering time. How about you?

Start saving engineering time today — rely on CLIP/FILE for new product information. Set up your own **eem** filing system. **See complete details on inside back cover.**

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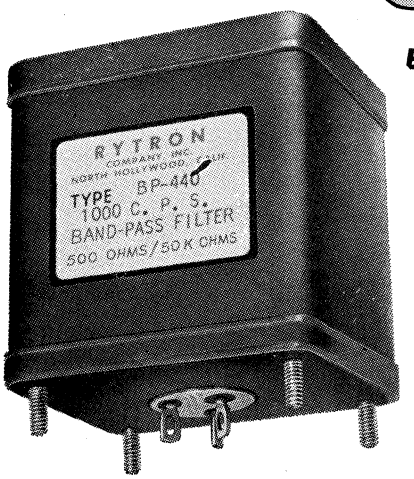
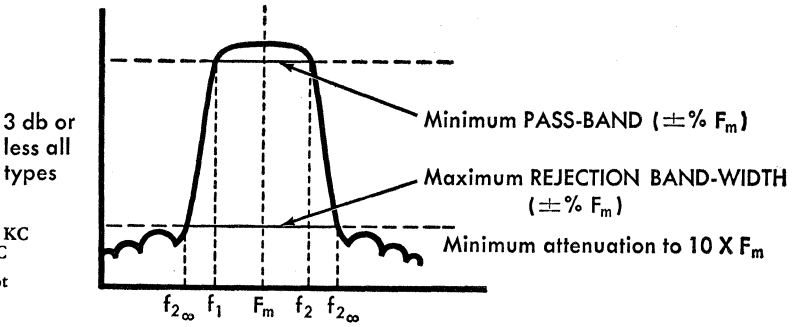
RYTRON BAND-PASS FILTERS



Eureka **. . .** a standard line of Band-Pass Filters to meet the needs of the design engineer. You select your requirements from the Specification Range shown below and we can inform you immediately of the price and case size of your filter from our Standard line. By immediately, we mean the answer is as close as your phone or by return mail if you so desire.

TYPICAL CURVE and SYMBOLS

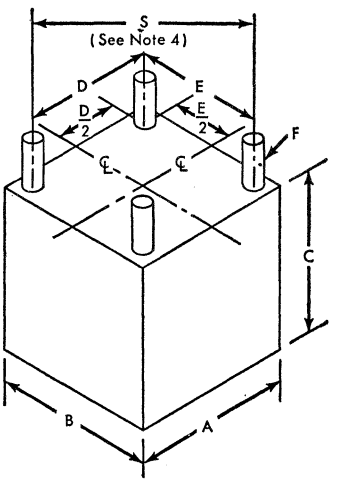


SPECIFICATION RANGE:

- *Input Impedance:* 50 ohms to 50 K ohms for 400 C.P.S. to 15 KC
  50 ohms to 10 K ohms for 15 KC to 100 KC
- *Output Impedance:* Same range as input impedance but does not have to be the same value.
- *Center Frequency* (F_m): 400 C.P.S. to 100 KC
- *Pass-Band* (±% F_m), (f_1 & f_2): 2 to 30%
- *Rejection Band-Width* (±% F_m), ($f_{1\infty}$ & $f_{2\infty}$): 20 to 60 db
- *Input Level:* 18 M.W. (Max.), 0 D.C.
- *Price Range:* $25.00 to $100.00
- Toroid coils are used as inductor elements in all of Rytron Band-Pass Filters

ORDERING INFORMATION: Specify 1) Input Impedance, 2) Output Impedance, 3) Center Frequency, 4) Pass-Band Percentage or f_1 & f_2, 5) Rejection Band-Width percentage or $f_{1\infty}$ & $f_{2\infty}$, 6) Minimum attenuation in db required for the Rejection Band-Width.

STANDARD CASES MIL-T-27A SPECIFICATIONS



Case Symbol	Case Dimensions A	B	C	Mounting Dimensions D	E	S	F
AF	3/4	3/4	1-1/8	.....	.....	9/16	4-40 x 3/8
AG	1	1	1-3/8	.....	.....	3/4	4-40 x 3/8
AH	1-5/16	1-5/16	1-3/4	.....	.....	1-1/4	6-32 x 3/8
AJ	1-5/8	1-5/8	2-3/8	1-3/16	1-3/16		6-32 x 3/8
EA	1-15/16	1-13/16	2-3/4	1-3/8	1-1/4		6-32 x 3/8
EB	1-15/16	1-13/16	2-7/16	1-3/8	1-1/4		6-32 x 3/8
FA	2-5/16	2-1/16	3-1/8	1-11/16	1-7/16		6-32 x 3/8
FB	2-5/16	2-1/16	2-1/2	1-11/16	1-7/16		6-32 x 3/8
GA	2-3/4	2-3/8	3-13/16	2-1/8	1-3/4		6-32 x 3/8
GB	2-3/4	2-3/8	2-13/16	2-1/8	1-3/4		6-32 x 3/8
HA	3-1/16	2-5/8	4-1/4	2-19/64	1-55/64		8-32 x 3/8
HB	3-1/16	2-5/8	3-3/16	2-19/64	1-55/64		8-32 x 3/8
JA	3-9/16	3-1/16	4-7/8	2-5/8	2-1/8		8-32 x 3/8
JB	3-9/16	3-1/16	3-7/8	2-5/8	2-1/8		8-32 x 3/8
KA	3-15/16	3-3/8	5-1/4	3	2-7/16		10-32 x 1/2
KB	3-15/16	3-3/8	4-5/16	3	2-7/16		10-32 x 1/2
LA	4-5/16	3-11/16	5-9/16	3-5/16	2-11/16		10-32 x 1/2
LB	4-5/16	3-11/16	4-1/2	3-5/16	2-11/16		10-32 x 1/2
MA	4-11/16	4	6	3-11/16	3		1/4-20 x 5/8
MB	4-11/16	4	4-15/16	3-11/16	3		1/4-20 x 5/8
NA	5-1/16	4-5/16	6-13/16	4-1/16	3-5/16		1/4-20 x 5/8
NB	5-1/16	4-5/16	5-1/2	4-1/16	3-5/16		1/4-20 x 5/8
OA	5-1/2	4-1/2	6-3/4	3-3/4	3		1/4-20 x 5/8

NOTES:

1. Tolerances on dimensions A and B are +0 to —1/16 for cases AF, AG, AH and AJ; +0 to —1/8 for all other cases.
2. Tolerances on dimension C are +0 to —1/8 for cases AF, AG, AH and AJ; +0 to —3/16 for all other cases.
3. Tolerances on dimensions D and E are ±1/64 for cases AJ to JB, inclusive; ±1/32 for cases KA to LB, inclusive; and ±3/64 for cases MA to OA, inclusive.
4. Dimension S is for two-stud mounting; dimensions D and E, for four studs.
5. Screw-stud lengths are measured from the mounting surface and have a length tolerance of ±1/16 on studs 1/2 long or less and ±1/8 on studs over 1/2 long. Mounting-screw inserts may be supplied instead of studs and shall have a minimum of eight (8) full threads of the same diameter as the stud of the corresponding case size.
6. Cases may have corner radii not to exceed one-quarter of the smallest case dimension.
7. These boxes are sold only as part of Rytron Filters. They are not sold separately, and Rytron does not manufacture them

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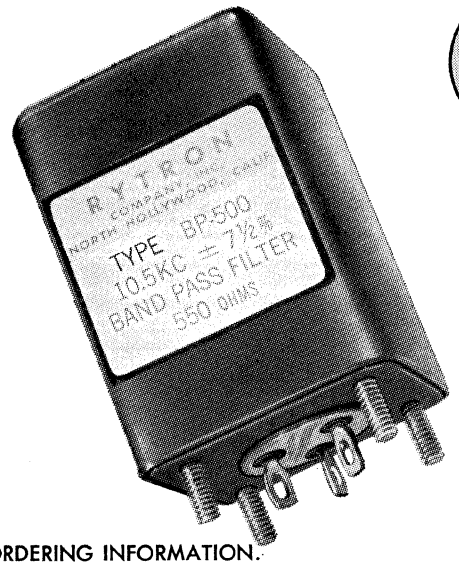


RYTRON TELEMETERING FILTERS

Comprehensive . . . At last a complete line of telemetering filters to meet your design needs, selected from our wide range of standard filters. Because of the use of high "Q" toroid coils as inductor elements, RYTRON'S telemetering filters have excellent characteristics of inductance stability with temperature and level. These filters function well at low levels since the inducted voltages in toroids from stray fields is very low.

Refer to the following RYTRON TELEMETERING FILTER TABLE for selection of the telemetering filter suited to your requirements. Reference to the RYTRON STANDARD CASES MIL-T-27A SPECIFICATIONS, Bulletin G-103, for the determination of the physical measurements of the filter cases will facilitate circuit planning. The centrally located header requires a 7/8 inch cut-out for mounting. All cases are potted and hermetically sealed.

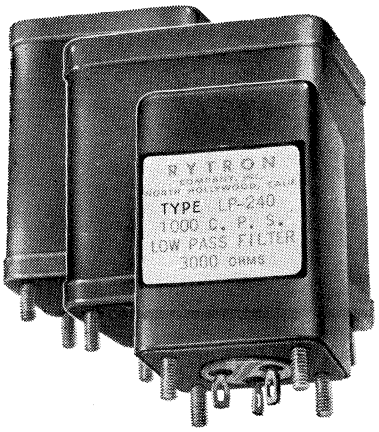
TYPE	BANDWIDTH	ATTENUATION	FREQUENCY RANGE*	IMPEDANCE Input/Output	MIL-T-27A Case
BP-501	±7½% ±20%	—3 db or less —30 db or more	400 cps to 100 kc.	550/550 ohms	HA
BP-502	±15% ±40%	—3 db or less —30 db or more	10 kc. to 100 kc.	550/550 ohms	HA
BP-503	±7½% adjacent channel band edge	—3 db or less —40 db or more	400 cps to 100 kc.	250 ohms to 50 k ohms / 250 ohms to 50 k ohms	GB
BP-504	±2½% ±10%	—3 db or less —30 db or more	10 kc. to 100 kc.	550/550 ohms	HA
BP-505	±7½% ±18%	—3 db or less —40 db or more	400 cps to 100 kc.	550/550 ohms	to 1 kc. KB above 1 kc. HA
BP-506	±15% ±36%	—3 db or less —40 db or more	10 kc. to 100 kc.	550/550 ohms	HA
BP-507	±7½% adjacent channel band edge	—3 db or less —46 db or more	400 cps to 70 kc.	250 ohms to 50 k ohms / 250 ohms to 50 k ohms	to 1 kc. GA above 1 kc. FA
BP-508	±15% adjacent channel band edge	—3 db or less —46 db or more	10 kc. to 70 kc.	250 ohms to 50 k ohms / 250 ohms to 50 k ohms	FA
BP-509	±7½% ±15%	—3 db or less —45 db or more	400 cps to 70 kc.	500/500 ohms	HA
BP-510	±15% ±28%	—3 db or less —45 db or more	22 kc. to 70 kc.	500/500 ohms	HA

ORDERING INFORMATION.
Specify (1) RYTRON type
(2) Frequency
(3) Impedance in and out

Special Requirements—
If you do not find what you need in our standard line, our engineering staff is prepared to quote on your special requirements, including miniaturization.

* All of the Standard R.D.B. telemetering frequencies are available in our standard line telemetering filters.

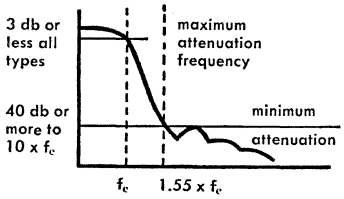
PRICES RANGE $52.50 TO $100.00



RYTRON LOW-PASS FILTERS

Revolutionary for Design, Redesign, or Production.
Here is a custom service offered as our standard line which affords extreme flexibility to the design engineer in selecting the exact low-pass filter he needs for his circuit. You select the cutoff frequency and the desired impedance, then a glance at our prepared table will allow you to determine the frequency at which the maximum attenuation is attained. This can be illustrated as follows:

TYPICAL REQUIREMENTS



Minimum 3 db to 1000 C.P.S. and 40 db or more above 1550 C.P.S.

. . . To Enter Rytron Table . . .

$$\frac{\text{(Max. att. freq.)}}{\text{(Cut off freq.)}} \quad \frac{1550}{1000} = 1.55 \quad \text{(Times (cut off (ratio}$$

Enter Rytron Table with ratio of 1.55 and 40 db minimum attenuation to select Rytron Type LP-240

- *Input and Output Impedance:* 200 to 10,000 ohms (Specify)
- *Cutoff Frequency* (f_c): 200 C.P.S. to 100 KC (Specify desired f_c)
- *Attenuation at* f_c: 3 db or less, all types
- *Maximum Attenuation:* Refer to table for selection of type number corresponding to the required attenuation
- *Input Level:* 18 M.W. (Max.)
- *Insertion Loss:* .5 db or less

Refer to the following RYTRON LOW-PASS FILTER TABLE for selection of the low-pass filter suited to your requirements. Reference to the RYTRON STANDARD CASES MIL-T-27A SPECIFICATIONS for the determination of the physical measurements of the filter cases will facilitate circuit planning. The centrally located header requires a 7/8 inch cut-out for mounting. All cases are potted and hermetically sealed.

ORDERING INFORMATION: Specify 1) RYTRON Type, 2) Cutoff Frequency, 3) Impedance

Special Requirements—If you do not find what you need in our standard line, our engineering staff is prepared to quote on your special requirements, including miniaturization.

- Toroid coils are used as inductor elements in all of the Rytron Standard Low-Pass Filters.

TYPE	MIN. ATT: DB	TIMES CUT-OFF RATIO	MIL-T-27A Case 200-999 C.P.S.	PRICE	MIL-T-27A Case 1 KC - 100 KC	PRICE
LP-130	30	2.2	AJ	$22.50	AJ	$16.00
135	35	2.5	AJ		AJ	
140	40	2.9	AJ		AJ	
145	45	3.4	AJ		AJ	
150	50	3.9	AJ		AJ	
155	55	4.5	AJ		AJ	
160	60	5.3	AJ		AJ	
LP-230	30	1.39	FA	32.50	AJ	25.00
235	35	1.48	FA		AJ	
240	40	1.55	FA		AJ	
245	45	1.68	FA		AJ	
250	50	1.78	FA		AJ	
255	55	1.88	FA		AJ	
260	60	2.00	FA		AJ	
LP-330	30	1.26	GB	38.75	FA	33.50
335	35	1.30	GB		FA	
340	40	1.38	GB		FA	
345	45	1.42	GB		FA	
350	50	1.50	GB		FA	
355	55	1.59	GB		FA	
360	60	1.72	GB		FA	
LP-430	30	1.20	GA	45.50	FA	38.75
435	35	1.22	GA		FA	
440	40	1.26	GA		FA	
445	45	1.30	GA		FA	
450	50	1.37	GA		FA	
455	55	1.40	GA		FA	
460	60	1.50	GA		FA	

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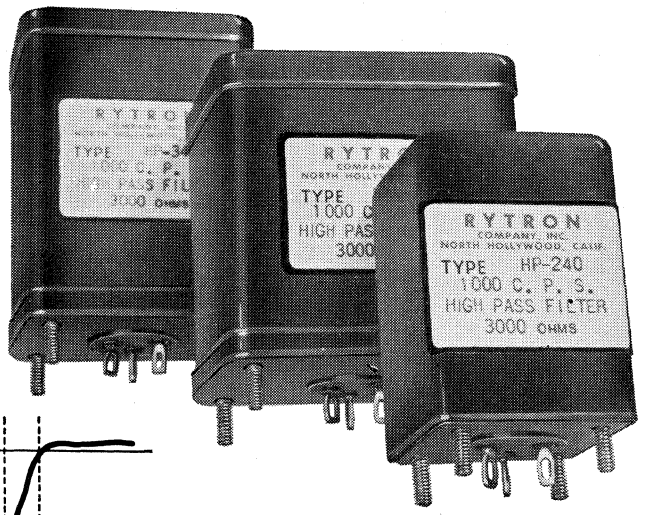
RYTRON HIGH-PASS FILTERS



Simplified Implementation The natural addition to our low-pass filter sheet for Design, Redesign, or Production.

Here is a custom service offered as our standard line which affords extreme flexibility to the design engineer in selecting the exact high-pass filter he needs for his circuit. You select the cutoff frequency and the desired impedance, then a glance at our prepared table will allow you to determine the frequency at which the maximum attenuation is attained. This can be illustrated as follows:

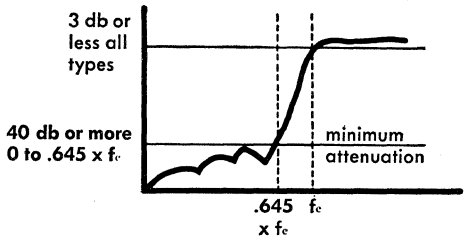
TYPICAL REQUIREMENTS

Minimum 3 db after 1000 C.P.S. and
40 db or more from 0 to 645 C.P.S.

... To Enter Rytron Table ..

$$\frac{\text{(Max. att. freq.) } 645}{\text{(Cut off freq.) } 1000} = .645$$ (Times (cut off (ratio

Enter Rytron Table with ratio of .645 and 40 db minimum attenuation to select Rytron type HP-240



- *Input and Output Impedance:* 200 to 10,000 ohms (Specify)
- *Cutoff Frequency* (f_c): 500 C.P.S. to 100 KC (Specify desired f_c)
- *Attenuation at* f_c: 3 db or less, all types
- *Maximum Attenuation:* Refer to table for selection of type number corresponding to the required attenuation
- *Input Level:* 18 M.W. (Max.) • *Insertion Loss:* .5 db or less

Refer to the following RYTRON HIGH-PASS FILTER TABLE for selection of the high-pass filter suited to your requirements. Reference to the RYTRON STANDARD CASES MIL-T-27A SPECIFICATIONS for the determination of the physical measurements of the filter cases which facilitate circuit planning. The centrally located header requires a ⅞ inch cut-out for mounting. All cases are potted and hermetically sealed.

ORDERING INFORMATION: Specify 1) RYTRON Type, 2) Cutoff Frequency, 3) Impedance

Special Requirements — If you do not find what you need in our standard line, our engineering staff is prepared to quote on your special requirements, including miniaturization.

● Toroid coils are used as inductor elements in all of the Rytron Standard High-Pass Filters.

TYPE	MIN. ATT: DB	TIMES CUT-OFF RATIO	MIL-T-27A Case 500-999 C.P.S.	PRICE	MIL-T-27A Case 1 KC - 100 KC	PRICE
HP-130	30	.454	AJ		AJ	
135	35	.400	AJ	$22.50	AJ	$16.00
140	40	.345	AJ		AJ	
145	45	.294	AJ		AJ	
150	50	.256	AJ		AJ	
155	55	.222	AJ		AJ	
160	60	.189	AJ		AJ	
HP-230	30	.719	FA		AJ	
235	35	.676	FA	32.50	AJ	25.00
240	40	.645	FA		AJ	
245	45	.595	FA		AJ	
250	50	.562	FA		AJ	
255	55	.532	FA		AJ	
260	60	.500	FA		AJ	
HP-330	30	.794	GB		FA	
335	35	.769	GB	38.75	FA	33.50
340	40	.725	GB		FA	
345	45	.704	GB		FA	
350	50	.667	GB		FA	
355	55	.629	GB		FA	
360	60	.581	GB		FA	
HP-430	30	.833	GA		FA	
435	35	.820	GA	45.50	FA	38.75
440	40	.794	GA		FA	
445	45	.769	GA		FA	
450	50	.730	GA		FA	
455	55	.714	GA		FA	
460	60	.667	GA		FA	

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TRADE NAME DIRECTORY
aids in locating information

ABOGLAS - Natvar Corp
ACCRA-CORE - Misco Precision Casting
ACCUTRON - The Sheffield Corp
ACCWIRE - Accurate Insulated Wire Co
ACE - Arro Expansion Bolt Co
ACE - Ace Engrg & Machine Co Inc
ACEPOT - Ace Electronic Assoc

Many times you recall a product only by trade name. This special directory immediately discloses the name of the manufacturer.

REFER TO END OF THE YELLOW SECTION

Tell Them You Saw It In **eem**

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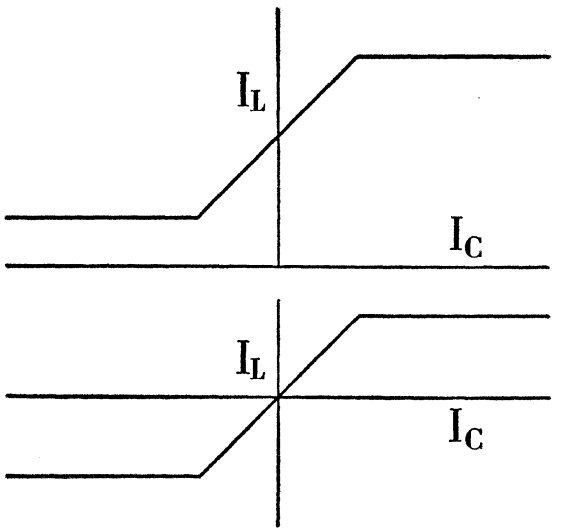


RYTRON

MAGNETIC AMPLIFIERS

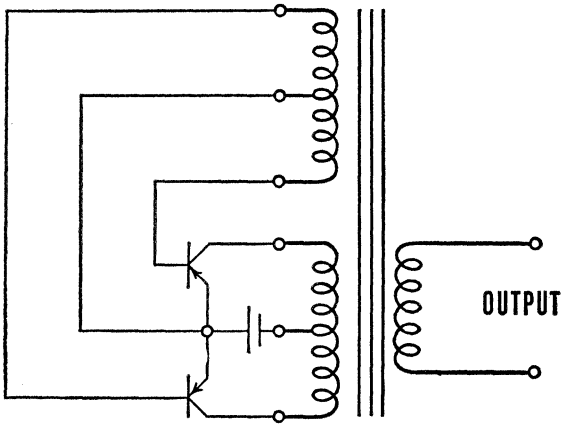
Design • Development

- Servo Amplifiers
- Temperature Controls
- Voltage Regulators
- Motor-Speed Controls
- Special Applications

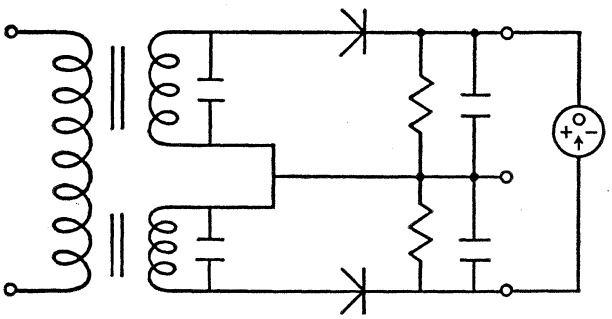
TRANSFORMERS & INDUCTORS

Special Design

- Power Supplies
- Filter Chokes
- Impedance Matching
- Filament
- Special Applications
- Saturable Reactors
- Magnetic Amplifiers
- Pulse Transformers
- Hi-Temp. Transformers



Packaging: Standard MIL-T-27A Cases, Encapsulated, Open



PASSIVE FREQUENCY DISCRIMINATORS

DEVIATION PERCENTAGES AVAILABLE: ≠ 7½% for channels 1 through 18; ≠ 15% for channels 19 through 23.

LINEARITY: ≠ 1% from a straight line.

INPUT (SOURCE) IMPEDANCE: 100 ohms to 5 K ohms (specify). Not center tapped unless specified. Proper generator matching is imperative for maximum linearity.

FREQUENCIES: All of the standard RDB telemetering frequencies are available.

OUTPUT IMPEDANCE: 1 ohm to 1700 ohms.

SOURCE LIMITING: Limiting is required as output is proportional to amplitude.

INPUT POWER: 60 MW minimum to 200 MW. Sign wave or square wave (specify).

OUTPUT CURRENT: ≠ 500 microamps.

RYTRON COMPANY, INC. 7305 Lankershim Blvd. • North Hollywood, California • STanley 7-0863
See YELLOW SECTION for local offices, telephones, etc.

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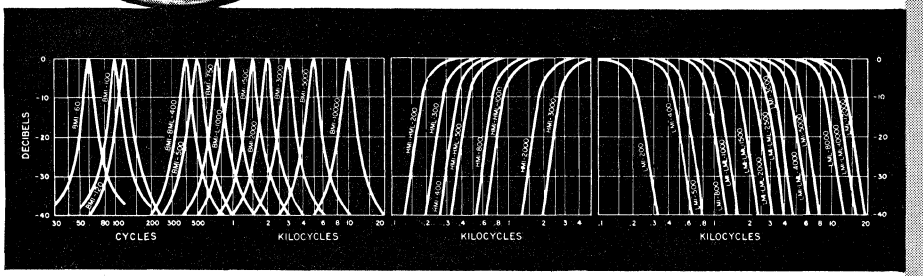
FILTERS FOR ALL APPLICATIONS FROM STOCK

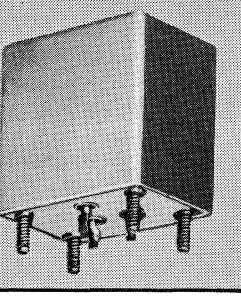
HERMETICALLY SEALED TO MIL-T-27A & MIL-F-18327

UTC INTERSTAGE AND LINE FILTERS



STOCK TYPES
(number in figure is cycles)

BMI-60	BMI-10000	LMI-800	HML-300
BMI-100	HMI-200	LMI-1000	HML-500
BMI-120	HMI-400	LMI-1500	HML-1000
BMI-400	HMI-500	LMI-2000	LML-1000
BMI-500	HMI-800	LMI-2500	LML-1500
BMI-750	HMI-1000	LMI-3000	LML-2000
BMI-1000	HMI-2000	LMI-4000	LML-2500
BMI-1500	HMI-3000	LMI-5000	LML-4000
BMI-2000	LMI-200	LMI-10000	LML-8000
BMI-3000	LMI-400	BML-400	LML-10000
BMI-4000	LMI-500	BML-1000	LML-12000
BMI-5000		HML-200	



This standardized group of filters covers most popular filter applications and frequencies. Units are in compact, drawn, magnetic shielding cases . . . 1 3/16 x 1 1/16 base, 1⅝ high for BMI, LMI, BML; others 2½ high. There are six basic types:

BMI band pass units are 10K input, output to grid, 2:1 gain. Attenuation is approximately 2 db at 3% from center frequency, then 40 db per octave.

HMI high pass units are 10K in and out. Attenuation is less than 6 db at cut-off frequency and 35 db at .67 cut-off frequency.

LMI low pass units are 10K in and out. Attenuation is less than 6 db at cut-off frequency and 35 db at 1.5 cut-off frequency.

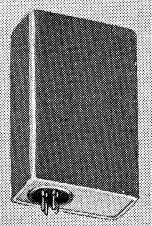
HML high pass filters are same as HMI but 500/600 ohms in and out.

LML low pass filters are same as LMI but 500/600 ohms in and out.

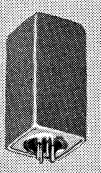
BML band pass units are same as BMI but 500/600 ohms input, output to grid, 9:1 gain.

STOCK TYPES
(number in figure is KC)

TMN-.4	TMN-2.3	TMN-14.5	TMW-22
TMN-.56	TMN-3.0	TMN-22	TMW-30
TMN-.73	TMN-3.9	TMN-30	TMW-40
TMN-.96	TMN-5.4	TMN-40	TMW-52.5
TMN-1.3	TMN-7.35	TMN-52.5	TMW-70
TMN-1.7	TMN-10.5	TMN-70	

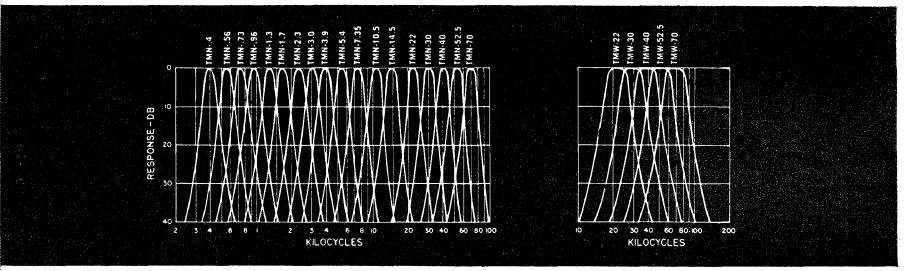


TMN-.4 thru TMN-1.7
11/16 x 1½ x 2 inches
Weight ..... 3.5 oz.



TMN-2.3 thru TMW-70
23/32 x 23/32 x 1⅜ inches
Weight ..... 1.2 oz.

UTC TELEMETERING BAND PASS FILTERS

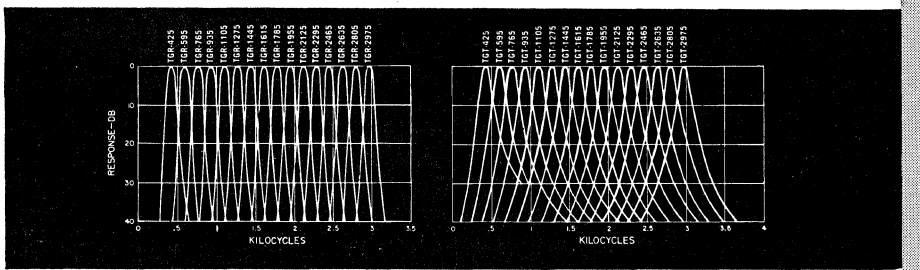


UTC standard telemetering filters provide extreme miniaturization with maximum stability, a complete set of 18 filters taking 19 cubic inches. They are 100K in and out and have an insertion loss of less than 6 db, 4 pin header for small Winchester socket.

TMN units are within 3 db at ± 7.5% of center frequency . . . down more than 18 db at ± 25% . . . more than 40 db beyond 1.75 and .58 center frequency.

TMW are within 3 db at ± 15% of center frequency . . . down more than 20 db at ± 50% . . . more than 40 db beyond 2.5 and .4 center frequency.

UTC TELEGRAPH TONE CHANNEL FILTERS



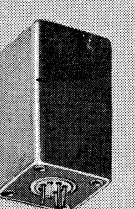
STOCK TYPES
(number in figure is cycles)

RECEIVING

TGR-425	TGR-1785
TGR-595	TGR-1955
TGR-765	TGR-2125
TGR-935	TGR-2295
TGR-1105	TGR-2465
TGR-1275	TGR-2635
TGR-1445	TGR-2805
TGR-1615	TGR-2975

TRANSMITTING

TGT-425	TGT-1785
TGT-595	TGT-1955
TGT-765	TGT-2125
TGT-935	TGT-2295
TGT-1105	TGT-2465
TGT-1275	TGT-2635
TGT-1445	TGT-2805
TGT-1615	TGT-2975



TGT CASE
1½ x 1½ x 2½ in. 8 oz.

TGR CASE
1½ x 1½ x 4¼ in. 15 oz.

These band pass filters for multiplex transmitting and receiving provide maximum stability in miniature sizes. Both receiving and transmitting types are 600 ohms in and out, and employ 7 terminal header for sub-miniature 7 pin socket.

TGR receiving filters are within 3 db at ± 42.5 cycles from center frequency . . . down more than 30 db at ± 170 cycles . . . down more than 15 db at adjacent channel cross-over.

TGT transmitting filters are within 3 db at ± 42.5 cycles from center frequency . . . down more than 16 db at ± 170 cycles . . . down more than 7.5 db at adjacent channel cross-over.

And Special Units to Your Specifications

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EXPORT DIVISION: 13 EAST 40th STREET, NEW YORK 16, N. Y. CABLES: "ARLAB"

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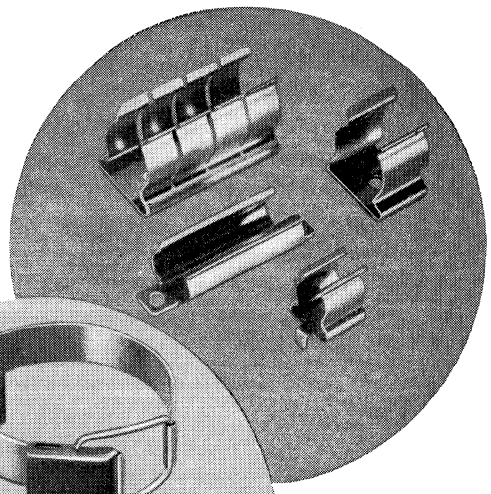
COMPONENT CLIPS AND TUBE CRADLES

Available in large variety of diameters (.140" to 1.375") and lengths including ovals to provide positive protection against shock and vibration for transistors, crystals, relays, etc.

Clips supplied for vertical and/or horizontal mounting with either holes for riveting or tabs for printed circuitry. Slotted clips especially designed for fragile components to facilitate entry and removal. Furnished in 1065 heat-treated spring steel, cadmium-plated, beryllium copper/silver-plated or cadmium-plated, and silver magnesium nickel for temperature over 500°F. Other finishes — tin plate, nickel, zinc, gold flash, durofilm, monoseal — available on request.



AUGAT TUBE CLAMPS

Superior, non-slip means of securing tubes, capacitators, relays, etc. from .687" to 3.5" in diameter.

Over 1,000 sizes and shapes of toggle-closing band clamps available. Furnished with one, two or three brackets to ensure maximum tube security. Clamps fabricated of 18% nickel silver or 302 passivated stainless steel.

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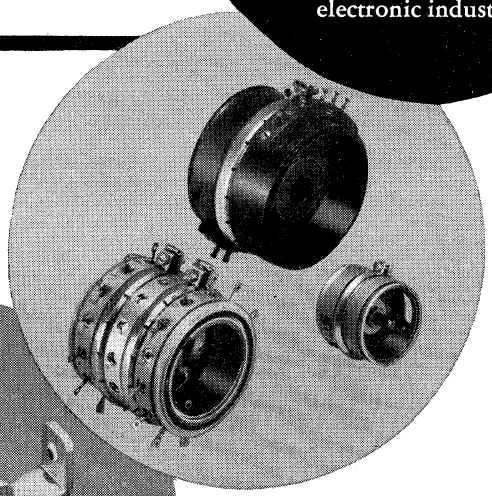
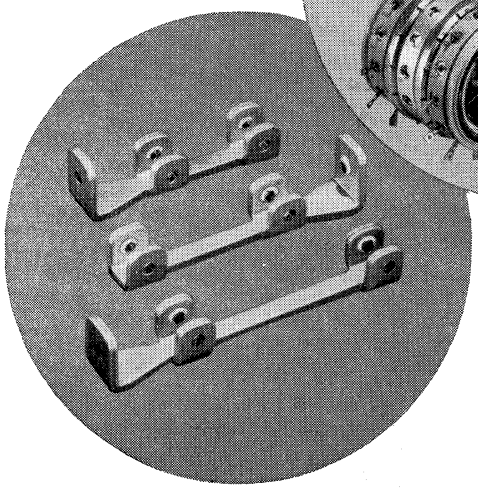
SPECIALISTS IN THE FIELD OF COMPONENT PACKAGING

offer you a complete line of transistor and component clips . . . tube clamps . . . and potentiometer clamp rings. Designed and constructed to meet the most exacting needs of the electronic industry.

Catalogs and samples of all Augat products furnished on request. (Contact our sales representative in your area.)





POTENTIOMETER CLAMP RINGS
SERVO MOTOR MOUNTING RINGS

Plain and serrated rings for ganging precision potentiometers and mounting servo motors.

Serrated rings especially designed to accommodate large tolerances in potentiometer diameters; band end is tapped and threaded in folded multi-thickness of material to eliminate separate nut. Servo motor mounting rings available in diameters from ½" to 5". with wide assortment of formed cross-sections to meet your component requirements. Material is 302 passivated stainless steel.

MOUNTING BRACKET FOR COMPONENT BOARDS

Provides rigid support for vertically-mounted boards under shock, vibration.

Mounts single or double panels. Each threaded hole is extruded, providing extra threads to meet military specs. Fabricated from cold rolled steel, cadmium-plated per military specs. QQ-P-416A, Class 2, Type II. Available in lengths 2 1/16, 2 9/16, 3 1/16, 3 9/16.

AUGAT BROS. INC. 31 PERRY AVENUE • ATTLEBORO, MASS.

See YELLOW SECTION for Local Offices, Telephone, etc.

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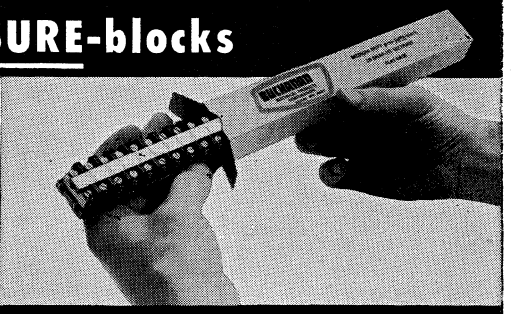
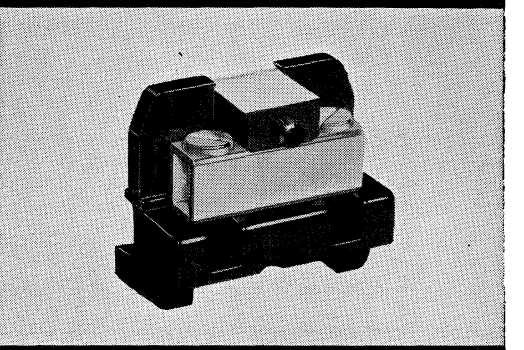
ELIMINATE DISADVANTAGES OF BARRIER-TYPE TERMINAL STRIPS with BUCHANAN MD pres-SURE-blocks



NO WASTE CIRCUITS—Make up blocks to any required number of circuits from compact, pre-assembled lengths of twenty snap-fit sections. Just pull off or add circuits as needed. Single snap-on end section completes block.

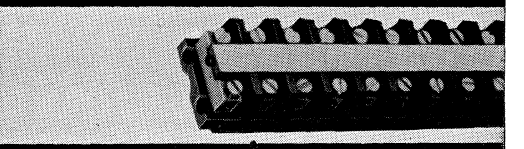
SIMPLIFY STOCK AND INVENTORY—No need to invest in and stock blocks or strips of various circuit lengths—make them up to exact lengths needed.



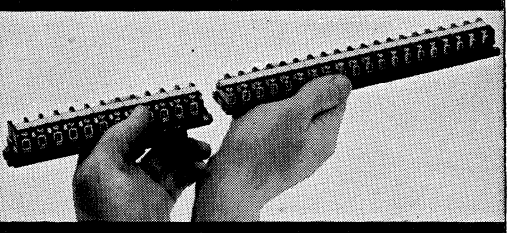
ELIMINATE TERMINALS—Just insert stripped wire or wires in tubular screw or tubular clamp contacts—no terminals or lugs to install, buy or stock.

SAVE SPACE—INCREASE NUMBER OF CIRCUITS IN AVAILABLE SPACE—20 circuits are only 9½ inches in length (each snap-fit unit is 1⅛" wide x 63/64" high).

- Greater total wire capacity per circuit—each tubular contact can handle from a single #22 up to any combination of wires equivalent to a #8. Conservatively rated at 750 volts.
- Three types of contacts (7/16" c-c) for stripped or terminal ended wires (can be combined in single block).



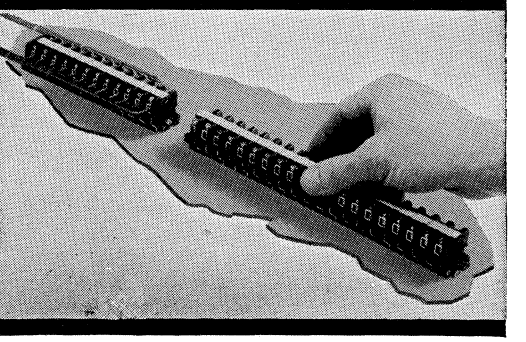
ELIMINATE "BLIND" MARKING AREAS—All identification markings, whether separable or integral, are *on the top* of the blocks, unobscured. Choice of integral painted, slip-in vinyl or stick-on pressure sensitive marking strips.



QUICKEST TO HANDLE—Just two parts to build any length block you need. No single pieces to handle.

EASIEST TO ASSEMBLE—Hand assembly without fastening hardware. Only two parts to handle—contact sections and end section.

- Use mounting screws only every 12 circuits.
- Channel mounting also available.



SIMPLEST TO LENGTHEN—No need to remove mounting screws or lose contact space. Save overall length by eliminating the lost space required for mounting ends of two or more blocks in line.

USE FEWER CIRCUITS—DECREASE JUMPERING—By grouping common wires in tubular contacts, an absolute minimum number of circuits is required.

Buchanan MD pres-SURE-blocks are also available with strap screw contacts for use with terminal-ended wires. Write for Bulletin EE59.

Prices and Quantity Discounts on application.

CATALOG NUMBERS — SECTIONS

	SECTION	CONTACT		FLAT BASE for direct mounting		DOVETAIL BASE for channel mounting	
	TYPE	WIRE CAPACITY	SCREW TYPE	PAINTED Catalog Number	PLAIN‡ Catalog Number	PAINTED Catalog Number	PLAIN‡ Catalog Number
CONTACT	SS (Strap Screw)	—	None	521	511	0521	0511
	TS (Tubular Screw)	#18-#8	Headless	522	512	0522	0512
			Headed	524	514	0524	0514
	TC (Tubular Clamp)	#22-#10	Headless	523	513	0523	0513
			Headed	525	515	0525	0515
END	None	—	—	use 530	530	use 0530	0530

‡Use with separate marking strips, or for marking directly on blocks, or where no marking is required.

ACCESSORIES

Marking Tape, pressure sensitive, 5/16" wide, 50' coil † - Cat. No. 55
Marking Strip, slide-in, vinyl plastic, 5/16" wide, 25' coil † - Cat. No. 50
Screw, for #50 strip, #6 x 3/16" self-tapping (1 req'd. per block) - Cat. No. 51
Mounting Channel, steel, 6' long† - Cat. No. 60
Clamp, for #60 channel (2 req'd. per block, or crimp sides of channel at ends of block) - Cat. No. 61
Fanning Strip. Type T - Cat. No's. 6402-6424‡ Type SS - Cat. No's. 6702-6724‡
†User to cut to length as required ‡Last 2 digits of Cat. No. denotes circuit length.

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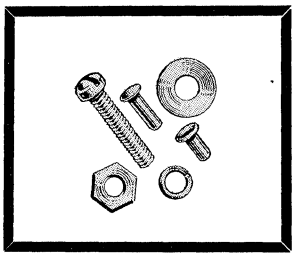
CIRCON premium quality electronic and instrument

Manufactured to the highest specifications demanded by precision electronic and instrument assemblies. Assures greater reliability, improved performance, rapid-sure assembly, and substantially reduced maintenance cost of the complete unit.



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Largest Stock of Precision Hardware—Plated Ready For Use Immediate Shipment

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Instrument Screws	#000-120	1/8" to 1/4"
	#00-90	1/8" to 1/2"
	# 0-80	1/8" to 3/4"
	# 1-72	1/8" to 1"
	# 2-56	1/8" to 1"
	# 3-48	1/8" to 1"
	# 4-40	1/8" to 1"

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Rivets in sizes from 1/16" x 3/32" and up in 1/32" increments.

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Agt: A. C. Paulovitz
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The names, addresses, phone numbers and key personnel of more than 5,000 manufacturers are listed alphabetically in the Manufacturers' Directory. What's more, their sales office closest to you can be located quickly.

Refer to the YELLOW SECTION for MANUFACTURERS... SALES OFFICES

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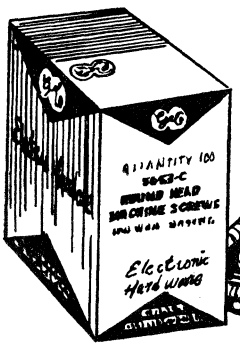

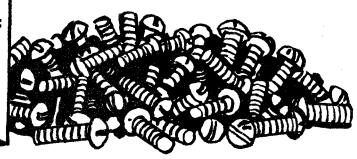

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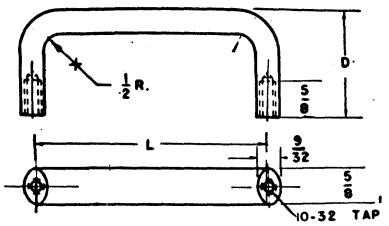
STANDARD ELECTRONIC HARDWARE

OVAL HANDLE - SERIES 6500 and 6600

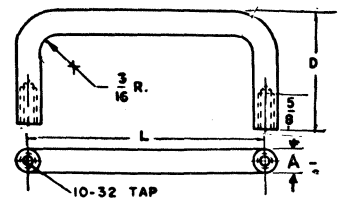


Alum. Part No.	Brass Part No.	L	D
6601	6501	3	1 9/32
6612	6512	4	1 3/4
6615	6515	4	2 1/2
6621	6521	4 9/16	1 1/2
6633	6533	5½	2
6642	6542	6 7/16	1 3/4
6663	6563	8¼	2
6672	6572	9	1 3/4
6673	6573	9	2

Material: Aluminum per QQA-325
Finish: Black Anodize per MIL - A-8625 Type II

Material: Brass per QQB-611A Comp B - ½ Hard
Finish: Nickel Plate and Polish per MIL - P-6859 Type I Class B (Also available in Black Oxide Finish per MIL - P-12011 Grade 2 add letter B to part number - Example: 6501-B)

HANDLE - ROUND - SERIES 6000 and 6100



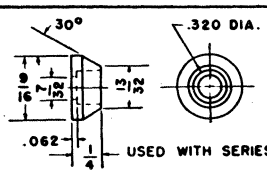
A for Alum. 3/8 A for Brass 5/16

BRASS PART NO.	L	D
6011	3	15/16
6014	3	1½
6024	4¼	1½
6034	4	1½
6039	4	1⅞
6044	4½	1½
6054	4 9/16	1½
6064	5¼	1½
6074	6	1½
6078	6 7/16	1¾
6084	6½	1½
6088	6½	1¾

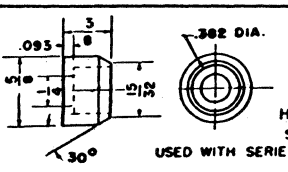
ALUM. PART NO.	L	D
6108	2½	1¾
6118	3	1¾
6128	3½	1¾
6138	4	1¾
6144	4½	1½
6148	4½	1¾
6158	5¼	1¾
6168	5¾	1¾
6178	6	1¾
6188	6½	1¾
6198	7	1¾

Material: Aluminum per QQA - 325
Finish: Black Anodize per MIL - A-8625 Type II

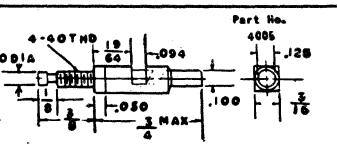
Material: Brass per QQB-611A Comp B - ½ Hard
Finish: Nickel Plate and Polish per MIL - P-6859 Type I Class B (Also available in Black Oxide Finish per MIL - P-12011 Grade 2 add letter B to part number - Example: 6011-B)



HANDLE FERRULE SERIES NO 6800
USED WITH SERIES NO. 6000 HANDLE

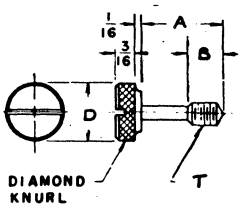


HANDLE FERRULE SERIES NO. 6700
USED WITH SERIES NO. 6100 HANDLE



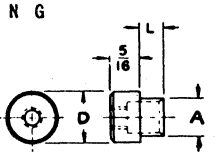
COMPONENT HOLDER 4005

CAPTIVE SCREW and BUSHING



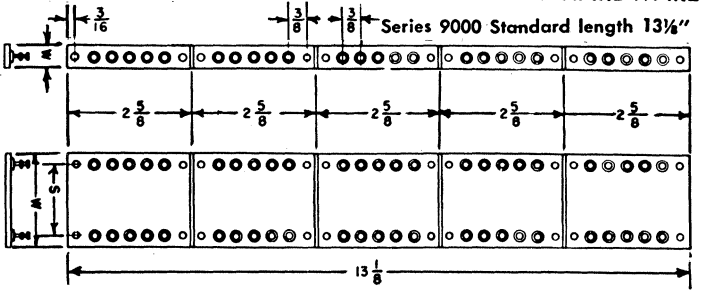
Part No.	A	B	D	T	Mat'l.
5411	3/4	5/16	7/16	6-32	Brass
5412	3/4	5/16	7/16	6-32	St.St
5421	3/4	3/8	7/16	8-32	Brass
5422	3/4	3/8	7/16	8-32	St.St
5431	7/8	3/8	5/8	10-32	Brass
5432	7/8	3/8	7/16	10-32	St.St
5441	7/8	3/8	5/8	¼-20	Brass
5442	7/8	3/8	1/2	¼-20	St.St

Material: Brass per QQB-611A Comp B - ½ Hard
Finish: Nickel Plate and Polish per MIL - P-6859 Type I Class B



Part No.	D	A	L	T	Panel Thick.
5461	3/8	5/16	5/32	6-32	1/8
5462	3/8	5/16	5/32	8-32	1/8
5463	9/16	13/32	5/32	10-32	1/8
5464	9/16	13/32	5/32	¼-20	1/8
5471	3/8	5/16	7/32	6-32	3/16
5472	3/8	5/16	7/32	8-32	3/16
5473	9/16	13/32	7/32	10-32	3/16
5474	9/16	13/32	7/32	¼-20	3/16
5481	3/8	5/16	9/32	6-32	1/4
5482	3/8	5/16	9/32	8-32	1/4
5483	9/16	13/32	9/32	10-32	1/4
5484	9/16	13/32	9/32	¼-20	1/4

ALL SET TERMINAL BOARDS WITH MOUNTING HARDWARE

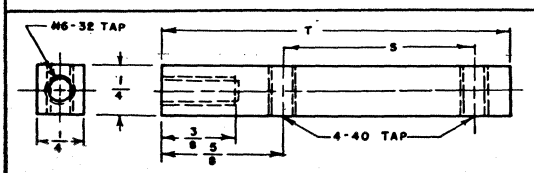


MATERIAL			TERMINALS	
NO.	TYPE	THICK	NO.	TYPE
1	XXX PHENOLIC	1/8	1	1400
2	LINEN	1/8	2	1500
3	NYLON	1/8	3	1600
4	SILICONE	3/32	4	1800
5	MELAMINE	3/32	5	2400
6	EPOXY	3/32	6	2600

WIDTH		
NO.	W	S
901	1/2	-
902	2	1-1/2
903	2-1/2	2
904	3	2-1/2

SCORING	
U	UNSCORED
S	SCORED

EXAMPLE: 9024-3-S, BOARD, 2" WIDE, MELAMINE 3/32" THICK, NO. 1600 TERMINALS SCORED.



BRACKET

Part No.	S	T
5201	1½	2 3/8
5202	2	2 7/8
5203	2½	3 3/8

SHAFT LOCK

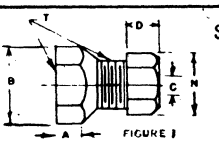


FIGURE 1

No.	Fig.	A	D	B	N	C Hole	Thread
5861	1	3/16	7/32	1/2 Hex	7/16 Hex	1/4	3/8-32
5862	2	3/16	1/4	1/2 Hex	1" Rd.	1/4	3/8-32
5865	1	.5/32	13/64	11/32 Hex	5/16 Hex	1/8	1/4-32
5866	2	5/32	13/64	11/32 Hex	5/8 Rd.	1/8	1/4-32

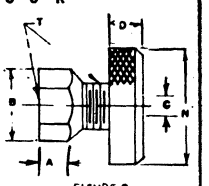
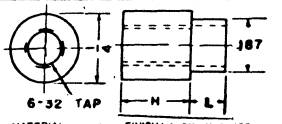


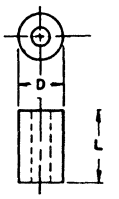
FIGURE 2



MATERIAL BRASS FINISH: CADMIUM PLATE .0003 THICK

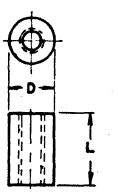
No.	H	L	Terminal Board Thickness
5012	1/8	7/64	1/16
5013	1/8	9/64	3/32
5014	1/8	11/64	1/8
5022	1/4	7/64	1/16
5023	1/4	9/64	3/32
5024	1/4	11/64	1/8
5032	3/8	7/64	1/16
5033	3/8	9/64	3/32
5034	3/8	11/64	1/8
5042	1/2	7/64	1/16
5043	1/2	9/64	3/32
5044	1/2	11/64	1/8
5052	5/8	7/64	1/16
5053	5/8	9/64	3/32
5054	5/8	11/64	1/8
5062	3/4	7/64	1/16
5063	3/4	9/64	3/32
5064	3/4	11/64	1/8

SPACER - CLEAR



Part No.	L	Clearance
4911	1/8	#4 Screw
4912	1/4	"
4913	3/8	"
4914	1/2	"
4922	1/4	#6 Screw
4923	3/8	"
4924	1/2	"
4925	5/8	"
4926	3/4	"
4932	1/4	#8 Screw
4933	3/8	"
4934	1/2	"
4935	5/8	"
4936	3/4	"

SPACER - THREADED



Part No.	D	L	Thread
5132	3/16	1/4	4-40
5142	1/4	1/4	6-32
5143	1/4	3/8	6-32
5144	1/4	1/2	6-32
5145	1/4	5/8	6-32
5146	1/4	3/4	6-32
5163	3/8	3/8	8-32
5164	3/8	1/2	8-32
5165	3/8	5/8	8-32
5166	3/8	3/4	8-32

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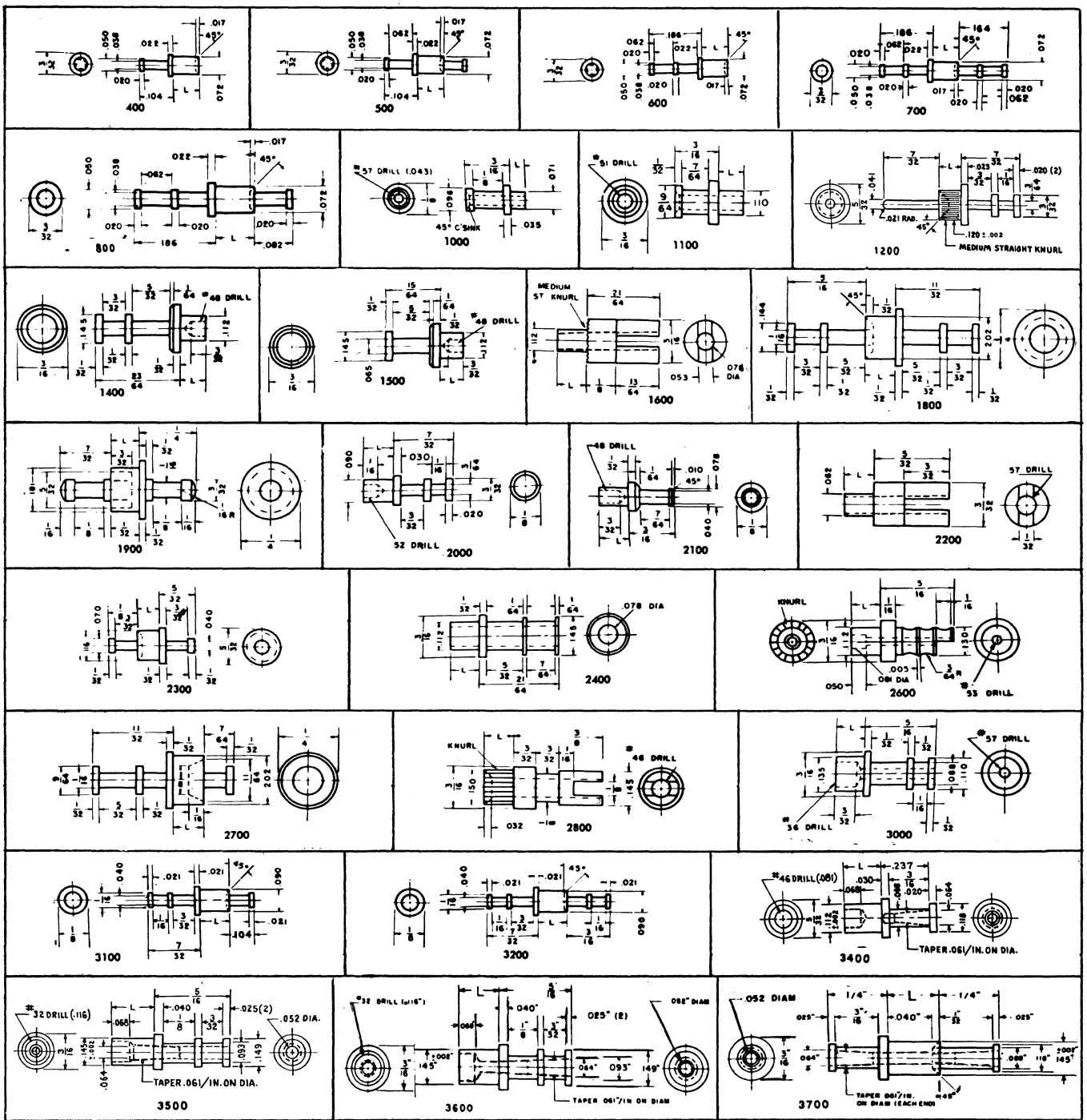
GCI
GENERAL COMPONENTS, INC.
225 EAST 144th STREET, NEW YORK 51, N. Y.
Telephone: MO 5-0740

STANDARD TERMINALS



ORDERING INFORMATION

"L" dimension supplied for following Board thickness — 1/32, //16, 3/32, 1/8, 5/32, 3/16 and 1/4.

When ordering please specify Board thickness to be used. For example — Series 1400 for a 3/32 Board should be specified as 1400-3.

All terminals supplied Silver Plated.

Other finishes supplied on request.

Board Thickness	Part No.	Dash No.
1/32		—1
1/16		—2
3/32		—3
1/8		—4
5/32		—5
3/16		—6
1/4		—7

Send for free catalogue

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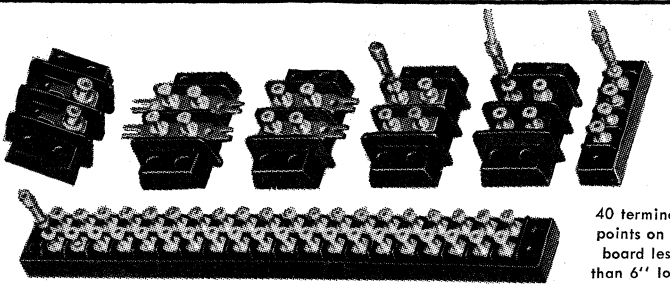
EXCELLEX TERMINAL BLOCKS



40 terminal points on a board less than 6" long

MINIATURE CONNECTORS

EXCELLEX now introduces a new line of miniature connector terminal blocks using solderless taper pin connections. All the various combinations of marker strips are available as illustrated as well as the new miniature "FAST-FIT" tabs, an exclusive of Excellex. These terminal blocks are designed and manufactured to meet MIL-M-14E.

Quality Terminal Blocks

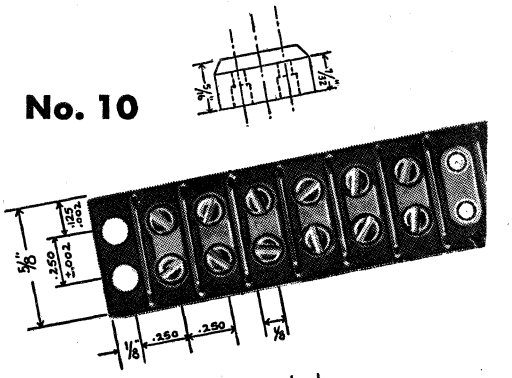
MATERIAL SPECIFICATIONS

Code Suffix	MIL-P-14C	JAN P-14	Description
GP	—	—	CELLULOSE-FILLED phenolic. Excellent mechanical and electrical properties.
CF	CFG	MTSE-1 Phenolic	CELLULOSE-FILLED phenolic. Excellent mechanical and electrical properties, suitable for general military requirements.
MF	MFE	MTSE-4 Mica	MINERAL-FILLED phenolic. Outstanding for low loss and high dielectric strength. Used when best electrical properties are sought.
CM	CMG	MTSG-2 Melamine	CELLULOSE-FILLED melamine. Particularly specified for high arc resistance.
MM	MME	Melamine	MINERAL-FILLED melamine-Used where electrical properties combined with high arc and flame resistance are required.
MD	MDG	Acme Resin	MINERAL-FILLED diallyl phtholate-good electrical properties.

ELECTRICAL DATA

Series Number	Voltage wo/marker strips	Voltage w/marker strips	Current Carrying Capacity	Wire Size
10	1000V-RMS	1100V-RMS	5 amp.	#20 or 22 B & S
14	1100V-RMS	1200V-RMS	15 amp.	#18 B & S
18	1100V-RMS	1600V-RMS	20 amp.	#16 B & S
21	1600V-RMS	2500V-RMS	30 amp.	#14-12 B & S

No. 10



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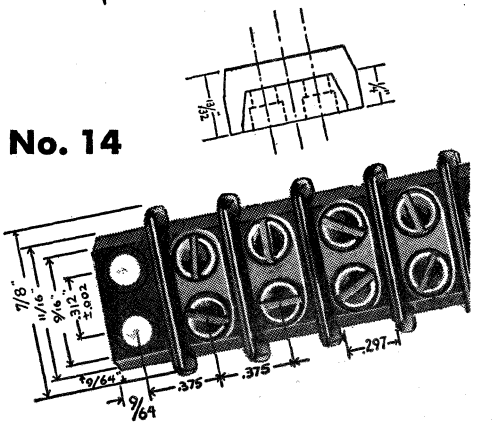

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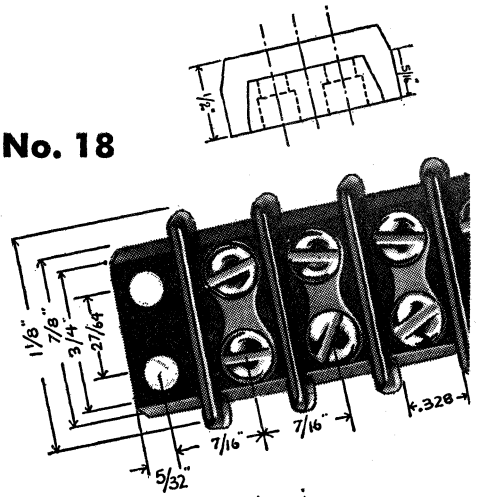

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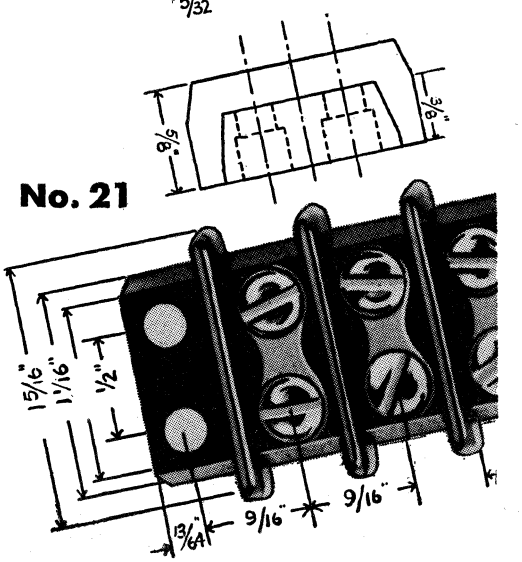
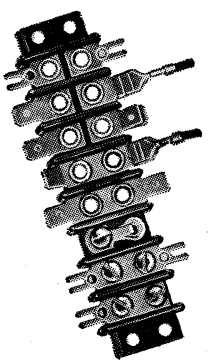
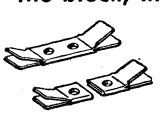


FAST-FIT STRIPS



EXCELLEX offers the new folded one piece "Fast-Fit" tabs, engineered to receive all series quick connect wire terminations. Dual (2) tab no longer depends on eyelet for continuity. "Fast-Fit" tabs are available eyeletted to the terminal blocks or separately for screwing to the block, in angles to suit. A complete line of terminal blocks in all popular sizes including miniature are available. Details on request — CAT-6BN.



EXCELLEX ELECTRONICS INC.

335 VAN SICLEN AVENUE, BROOKLYN 7, N. Y.

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KULKA

TERMINAL BLOCKS

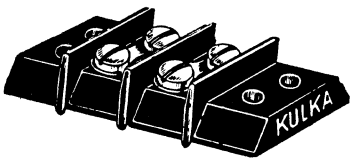
MOLDED BARRIER CONSTRUCTION

Kulka terminal blocks, used extensively in electrical and electronic assemblies, eliminate splicing, increase insulation, stop leakages and shorts, and generally simplify wiring work.

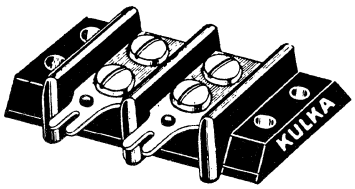
Molded of high tensile strength bakelite for general commercial use, they are available in other materials made in full compliance with latest military specifications, MIL-M-14E, covering CFG, MFE, MME, MDG, MAI-60, GDI-30, PM14, and other types of special plastics.

Kulka terminal blocks are made in many styles and sizes for varied applications. With 1 to 26 terminals, depending on size. Supplied with or without marker strips which may be printed or plain, or blocks can be engraved.

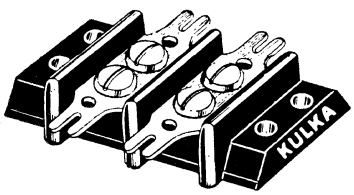
Write for Latest Kulka Terminal Block Catalog!



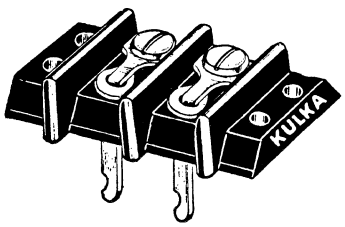
SERIES 600—With Screw Terminals



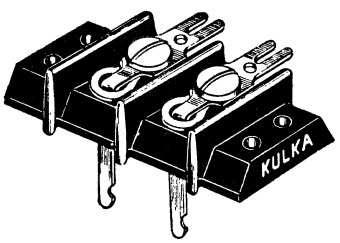
SERIES 600-¾ST—With One-Sided Solder Lugs



SERIES 600-ST—With Two-Sided Solder Lugs



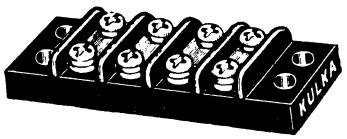
SERIES 600-Y—With Bottom Solder Lugs



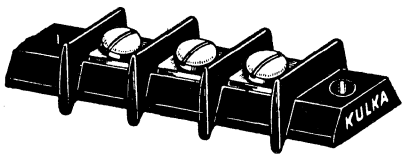
SERIES 600-XY—With Side-and-Bottom Lugs

MINIATURE BLOCKS

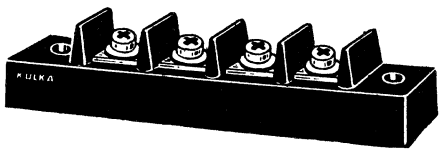
Series 409 for miniaturization programs. Shown **full size,** with 4 terminals and 2 mounting holes. Only 43⁄8" long for 21 terminals, and 5/16" wide with barrier. Also available with turret lugs **(Series 409TT)** for soldered connections.



Series 410 double-screw terminals. Flat sides. With 22 terminals, only 6" long by 5⁄8" wide by 5/16" high. Same unit with single-screw terminals, **Series 411.**



Series 599 (above). Full barrier. Single-screw terminals up to 22 max. Only 9/16" wide. Also with soldering lugs. **Series 609** (below) with flat sides, 3⁄8" wide. Max. of 13 single-screw terminals.

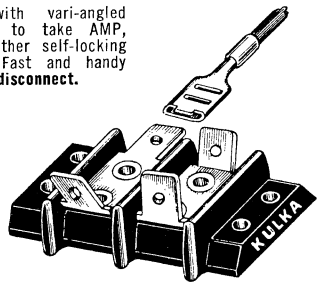


NAVY BOARDS

Heavy-duty terminal blocks in the widest range of types, materials and sizes. Here shown (¼ size) is a Navy Terminal Board made to drawing 9000, Series S6505 B, 73214, Rev. H. Supplied in MAI-60 glass-filled Alkyd as per MIL-M-14 with latest revision. Threaded studs of manganese-bronze, molded in plastic. Slotted brass nuts. Typical of the "specials" developed and produced by Kulka.

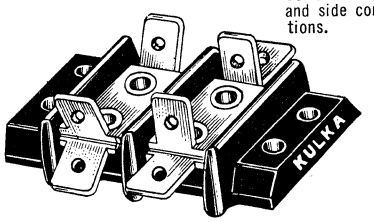
"KLIPTITE" BLOCKS

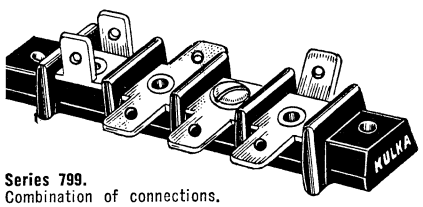
Available with vari-angled tabs. Made to take AMP, Burndy or other self-locking wire lugs. Fast and handy **connect** or **disconnect.**



Series 800. Shown full size.

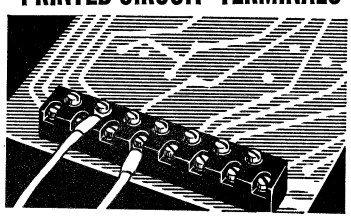
Series 801. Top and side connections.





Series 799.
Combination of connections.

PRINTED-CIRCUIT TERMINALS



Simplify those external connections to printed-circuit boards, no matter how jammed up. Kulka Series 520 miniature terminal blocks mount on board. Terminal pins below slip into standard mounting holes for dip-soldering. Screw terminals. Readily connected or disconnected. 2 to 24 terminals. Entire assembly can be encapsulated.

KULKA ELECTRIC CORP.

633-643 SO. FULTON AVENUE • MOUNT VERNON, N. Y.

Telephone: MOunt Vernon 4-4024 — 4025 — 4026 — 4027

For Kulka Electronic Switches see our page 1093 in this edition. For Stock items available through distributors see our exclusive distributor, Herman H. Smith, pages 1460 to 1479 in The *Radio-Electronic* MASTER, 23rd edition.

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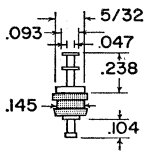
MORE MOLDED TERMINALS THAN ANYBODY!

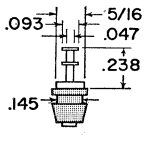
LERCO

Partial listing shown...write for complete catalog of standard and insulated terminals, terminal boards, electronic hardware, handles, knobs and custom moldings.

SNAP-LOCK TERMINALS • TEFLON INSULATION



4071



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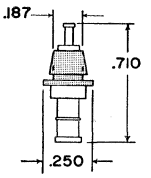

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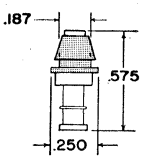

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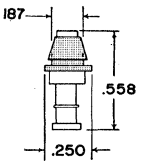

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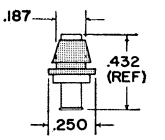
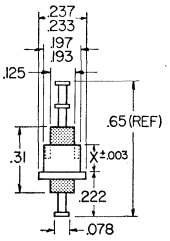


4078

Available for plate thicknesses .035, .050, .062 and .093 inches. Specify when ordering (e.g., 4075-062 is Part No. 4075 for use in .062 plate)

MOLDED FEED-THRU TERMINALS • MELAMINE INSULATION



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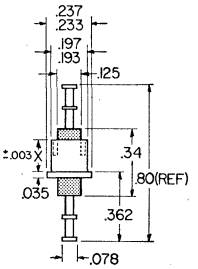

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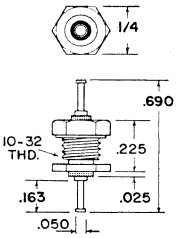

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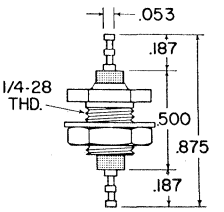

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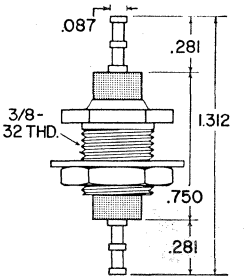

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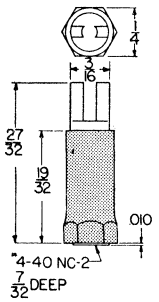
MOLDED STAND-OFFS • MELAMINE INSULATION



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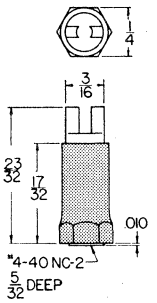

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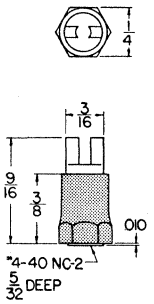

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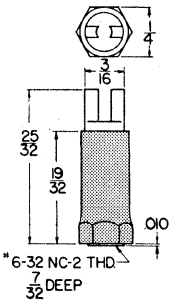

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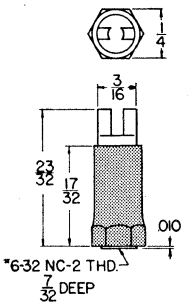

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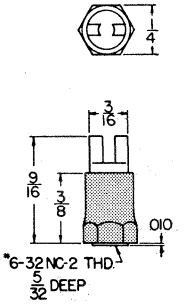

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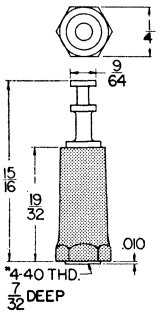

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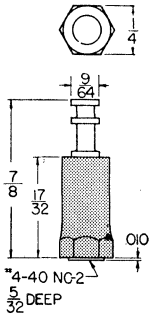

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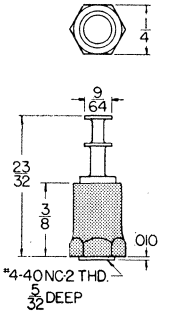

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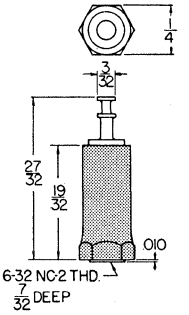

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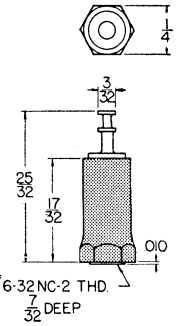

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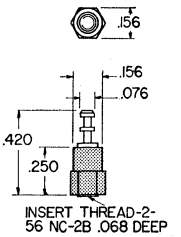

6150

* Available in five different plate thicknesses. Specify by adding suffix.

	X Dim	Thickness
—A	.075	1/32
—AB	.095	.050
—B	.105	1/16
—C	.135	3/32
—D	.165	1/8

TERMINAL MATERIAL IS HALF-HARD BRASS WITH .0003 SILVER PLATE. BASES ARE CADMIUM-PLATED BRASS. GOLD OR OTHER FINISHES CAN BE SUPPLIED ON ORDER.

Lerco Electronics, Inc. / 501 S. Varney St., Burbank, California / Victoria 9-5556

Order from Local Electronic Parts Distributors or Write for List.

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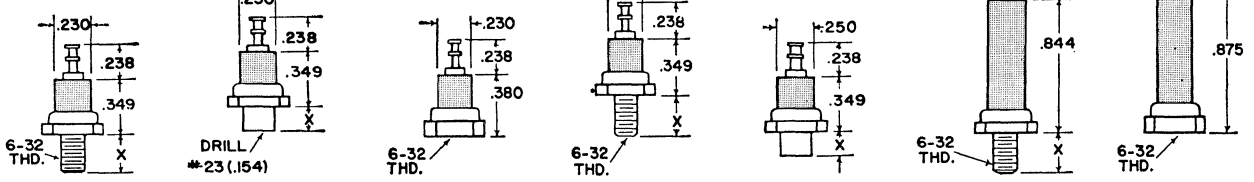
MORE MOLDED TERMINALS THAN ANYBODY!

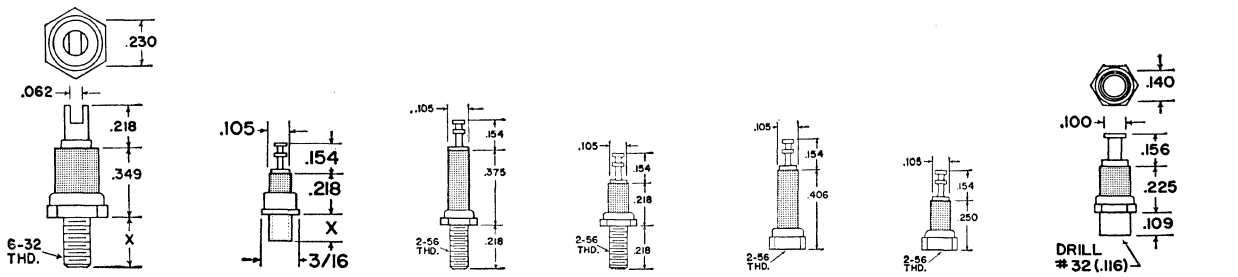
LERCO

Partial listing shown...write for complete catalog of standard and insulated terminals, terminal boards, electronic hardware, handles, knobs and custom moldings.

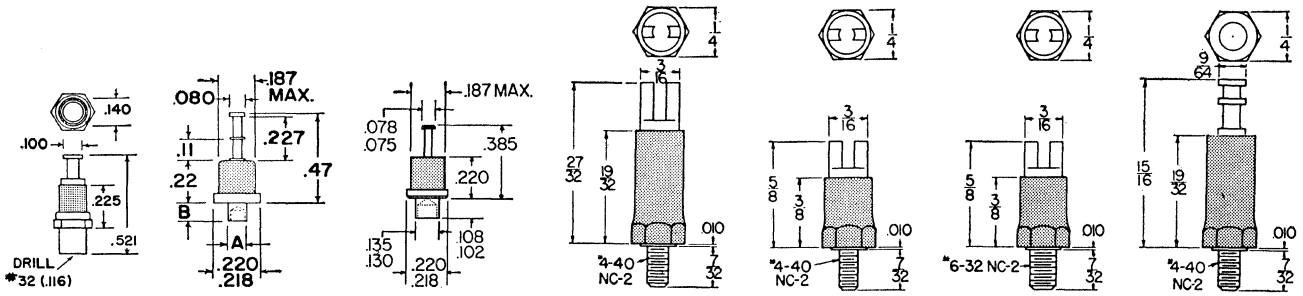
REPRESENTATIVE MOLDED STAND-OFFS



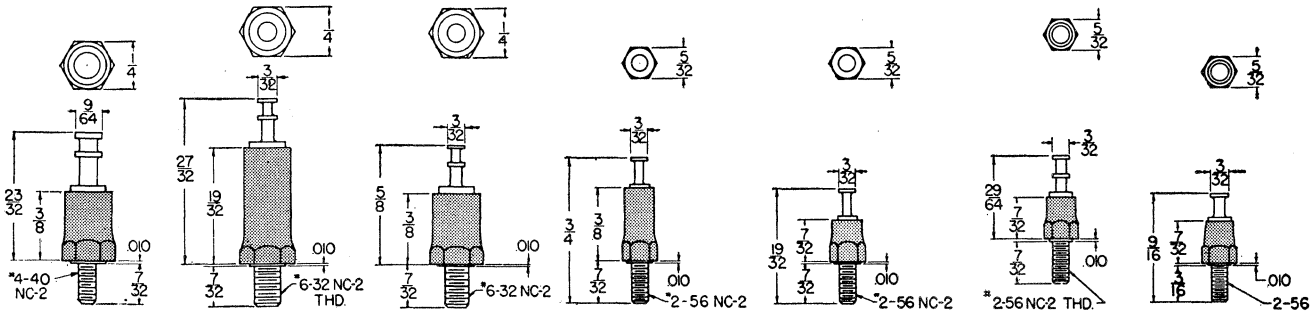
6015* 6020* 6040 6041* 6042* 6043* 6044



6045* 6049* 6050 6051 6052 6053 6055



6057 6061** 6064 6106 6108 6111 6126



6128 6129 6131 6160 6161 6162 6163

INSULATION MATERIAL: 6015 and 6020 phenolic; 6055 alkyd; all others melamine

*** AVAILABLE IN SIZES**

Dimension "X" as follows (add letter suffix to item number when specifying):

	6020-6042	6015-6041-6043-6045	6049
—A	.093	3/16	.075
—B	.156	1/4	.105

****6061 SPECIFICATIONS**

This item available in sizes shown below. Specify by adding suffix.

	A	B	Board Thickness
6061-A	.091	.103	.050
6061-AA	.132	.075	1/32
6061-B	.132	.105	.050
6061-C	.132	.135	3/32
6061-D	.091	.120	1/16

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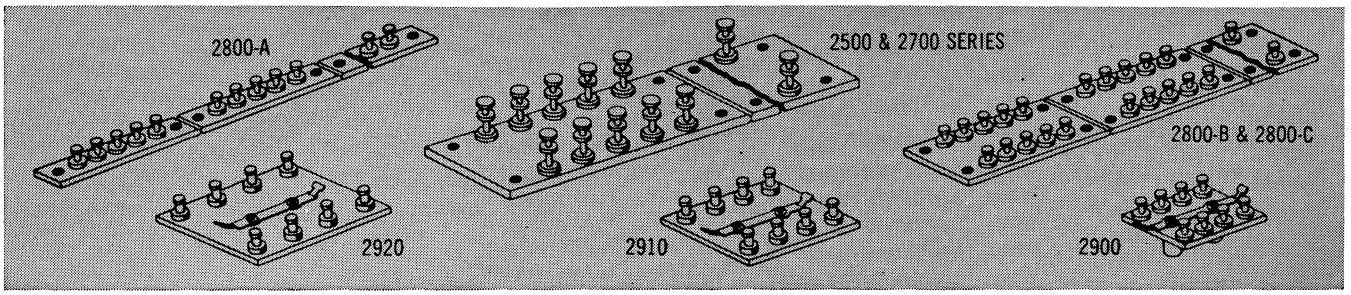
TERMINAL BOARDS CONTROL KNOBS

LERCO

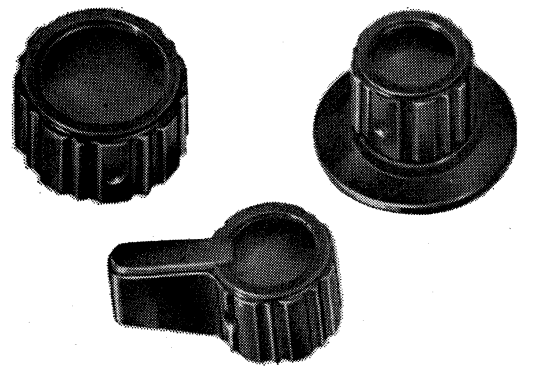
Partial listing shown...write for complete catalog of standard and insulated terminals, terminal boards, electronic hardware, handles, knobs and custom moldings.

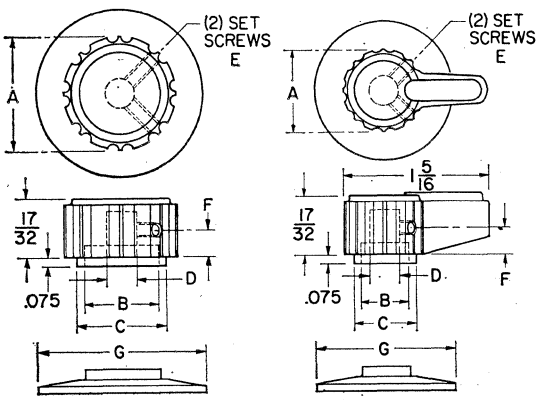


TERMINAL BOARD SPECIFICATIONS

PART NO.	2500-B	2500-C	2500-D	2600	2700-A	2700-B	2800-A	2800-B	2800-C	2900	2910	2920
LENGTH	13⅛"	13⅛"	13⅛"	13⅛"	13⅛"	13⅛"	7 13/16"	7 13/16"	7 13/16"	.875"	1.22"	1½"
WIDTH	2"	2½"	3"	½"	1 1/16"	1½"	.312"	¾"	1"	.719"	1.03"	1.16"
BOARD MATERIAL	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	glass melamine	glass melamine	glass melamine
NO. OF SECTIONS	5	5	5	5	5	5	5	5	5	1	1	1
NO. OF TERMINALS	50	50	50	25	50	50	25	50	50	8	8	8
TERMINAL	3010	3010	3010	3010	3025	3025	5025	5025	5025	5025	3530	3530
ALTERNATE TERMINAL	3015-3505	3015-3505	3015-3505	3015-3505	—	—	5090	5090	5090	—	—	—

ORDERING INFORMATION—All terminal boards supplied with 3/32" material unless otherwise specified. Lerco will supply boards of any type made to customer's designs. Send blueprints for immediate quotation.





PART NOS. 100—200—300—400 **PART NO. 250 ONLY**

COMPARE THESE FEATURES:

HIGH IMPACT STYRENE with anodized aluminum inserts... two set screws for positive grip... modern, functional design with mirror or matte finish... **MEETS MIL-SPEC REQUIREMENTS**... available in midnight blue, warm grey or black... four sizes with or without dial skirts.

PART NO.	A	B	C	D	E	F	G
100	.531	.251	.375	.251	#4—40	.230	1.000
200	.750	.437	.562	.251	#6—32	.230	1.250
300	1.000	.687	.812	.251	#6—32	.230	1.500
400	1.375	1.000	1.125	.251	#6—32	.230	1.875
250	.750	.437	.562	.251	#6—32	.230	1.250

ORDERING INFORMATION: Specify part number, finish, color and whether dial skirt is desired, as follows:

Example: **200 - 2 - Grey - S**

- 200 — SIZE
- 2 — Finish (1-Mirror, 2-Matte)
- Grey — Specify color by name
- S — Add "-S" if dial skirt is desired

Standard knob fits ¼" shaft. Position dots, special markings, custom colors, and special shaft sizes are available on custom order.

LERCO HAS COMPLETE FACILITIES FOR INJECTION AND COMPRESSION MOLDING OF CUSTOM KNOBS AND ELECTRONIC PARTS. WE INVITE YOUR INQUIRY.

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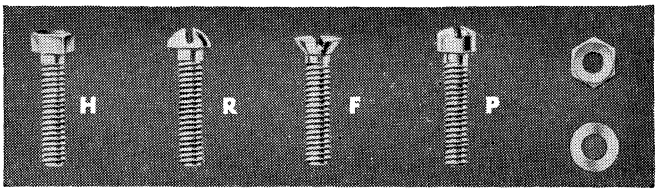
MORRIS Precision Miniature THREADS & TOOLS



STOCK ITEMS

BRASS SCREWS (Cut Threads)

Heads: **H**—Hex **R**—Round **F**—Flat **P**—Oval Fillister

00-96 RFP **00-90 HRFP** **0-80 HRFP** **1-72 HRFP** **2-56 H Only**

Quantity	Sizes Lengths	00-96 thru 2-56 3/32", 1/8", 3/16"	00-96 thru 2-56 1/4", 5/16", 3/8"	0-80, 1-72, 2-56 1/2"	00-90 1/2"
Gross		**2.50**	**2.90**	**2.90**	**3.50**
1-9M, Per M		**11.50**	**14.50**	**14.50**	**18.50**
10-20M, Per M		**10.35**	**13.05**	**13.05**	**16.65**

000-120 RFP

Lengths	Gross	1-5M	5-10M	10-20M
3/32", 1/8", 3/16"	**6.00**	**25.00M**	**22.50M**	**20.25M**
1/4"	**6.75**	**32.50M**	**29.25M**	**26.25M**

0000-160 FP

Lengths	Gross	1-5M	5-10M	10-20M
1/16", 3/32", 1/8"	**14.25**	**65.00M**	**58.50M**	**50.00M**

HEX BRASS NUTS (Burr Free, Small Pattern)

Sizes	Gross	1-5M	5-10M	10-20M
00-96, 00-90, 0-80, 1-72, 2-56	**2.50**	**12.00M**	**12.00M**	**10.80M**
000-120	**6.00**	**26.00M**	**23.50M**	**21.25M**

Note: Std. Hex Size 0-80 and 1-72 × 5/32", 2-56 × 3/16" also at above prices.

ROUND BRASS WASHERS (BOLD FIGURES)

#302 (18-8) STAINLESS LOCK WASHERS (LIGHT FIGURES)

Size	O.D.	I.D.	Thickness	Per Gross	1-9M Per M	10M
000	5/64"	**.037"**	**.012"**	**3.00**	**15.00**	**14.50**
00	7/64"	**.050"**	**.015"**	**2.00**	**8.00**	**7.20**
	.110"	.050"	.015"	3.50	17.50	15.75
0	1/8"	**.064"**	**.019"**	**2.00**	**8.00**	**7.20**
	.125"	.065"	.015"	3.50	17.50	15.75
1	5/32"	**.075"**	**.019"**	**2.00**	**8.00**	**7.20**
	.135"	.075"	.015"	3.50	17.50	15.75
2	3/16"	**.089"**	**.028"**	**2.00**	**8.00**	**7.20**
	.150"	.090"	.015"	3.50	17.50	15.75

#303 (18-8) STAINLESS SCREWS & NUTS (Cut Threads)

Size	Head	Lengths	Gross	1-9M	10-20M
0-80	P	3/32", 1/8", 3/16", 1/4"	**6.00**	**30.00M**	**27.00M**

000-120, 00-96, 00-90, 0-80

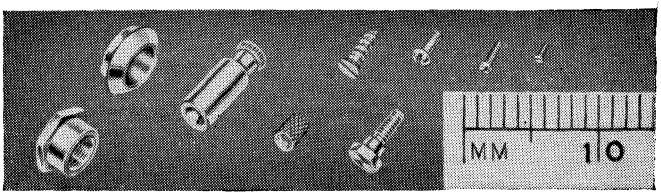
Heads FP Burr Free

Sizes	000-120 thru 0-80	00-96, 00-90, 0-80	00-90, 00-96
Lengths	3/32", 1/8", 3/16"	1/4"	Nuts, 5/64" Hex

Prices on request

ORDERING INFORMATION

Terms: 1% 10th Prox., f.o.b. Southbridge, Mass.
Telephone: Southbridge, Mass. POrter 4-4394
Complete catalog on request.

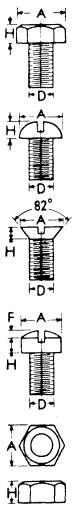


SPECIAL ITEMS

RANGE: Threads from 56 to 160 TPI including Metric and the Proposed National Miniature Standard in this range. Diameters include .021" to .187".
MATERIALS: All types. See Table 6 for recommendations.
QUANTITIES: One dozen to large production runs.
SERVICE: Deliveries to meet your requirements.
SECOND OPERATIONS: Equipped for drilling, burring, polishing, tapping, turning, milling, grinding, slotting, heat treating and special inspections to .0001". Service on all types of plating and special testing.
POPULAR SPECIALS: *Self Tapping Screws* as small as 000 in all heads and materials for plastics and soft metals. *Knurled, Threaded Inserts* to 000-120 with extra fine pitch diamond, diagonal or straight knurling. *Turned Parts* including unthreaded bushings, rivets, collars, pins, shafts, etc. requiring close tolerances and good finish.

TABLES AND SPECIFICATIONS

TABLE 4: DIMENSIONS OF SCREWS AND NUTS



	Size	0000-160	000-120	00-112 00-96 00-90	0-80	1-64 1-72	2-64 2-56
Head	Body diameter (D)	.021	.034	.047	.060	.073	.086
HEX	Hd. Dia. (across flats) (A)	5/64"	5/64"	5/64"	3/32"	7/64"	1/8"
	Head Height (H)	.033	.033	.042	.042	.055	.064
ROUND	Head Dia. (A)	.038	.059	.085	.106	.130	.154
	Head Height (H)	.019	.028	.041	.047	.055	.065
	Slot Width	.006	.010	.013	.019	.022	.032
	Slot Depth	.010	.015	.022	.032	.035	.042
FLAT	Head Dia. (A)	.040	.061	.089	.108	.136	.164
	Head Height (H) (Nominal)	.011	.016	.024	.030	.038	.046
	Slot Width	.006	.009	.013	.019	.022	.030
	Slot Depth	.005	.007	.010	.013	.016	.019
OVAL FILL	Head Dia. (A)	.035	.056	.078	.091	.111	.132
	Head Height (FH)	.019	.031	.043	.051	.062	.073
	Slot Width	.006	.009	.013	.019	.022	.030
	Slot Depth	.009	.014	.019	.022	.025	.029
NUT	Across Flats (A)	5/64"	5/64"	5/64"	3/32"	7/64"	1/8"
	Thickness (H)	.033	.033	.040	.048	.063	.075

TAPS AND DIES Stock

TAPS: 3 Flute, plug (0000-160CS & 000-120HSS-2 Flute). Same day shipment of at least a partial.
DIES: 3 prong, ring adj., 7/32" O.D. Hand from stock; Production 7-10 days.

		TAPS Price each in quantities listed				DIES Price each in quantities listed		
Size	Mat.	1-72	72-144	144-288	288	1	2-5	6 up
0000-160	**CS**	**2.00**	**1.80**	**1.60**	**1.40**	**24.00**	**19.20**	**16.80**
000-120	**CS**	**1.00**	**.90**	**.80**	**.70**	**18.00**	**14.40**	**12.60**
	HSS	3.00	2.70	2.40	2.10	24.00	19.20	16.80
00-112	**CS**	**1.00**	**.90**	**.80**	**.70**	**18.00**	**14.40**	**12.60**
	HSS	3.00	2.70	2.40	2.10	24.00	19.20	16.80
00-96	**CS**	**.75**	**.67**	**.60**	**.52**	**18.00**	**14.40**	**12.60**
	HSS	2.50	2.25	2.00	1.75	24.00	19.20	16.80
00-90	**CS**	**.35**	**.32**	**.28**	**.25**	**2.50***	**2.50***	**2.50***
	HSS	2.00	1.80	1.60	1.40	24.00	19.20	16.80
0-80 1-72 2-56	**CS**	**.35**	**.32**	**.28**	**.25**	**2.50***	**2.50***	**2.50***
	HSS	1.75	1.57	1.40	1.25	24.00	19.20	16.80

**For hand use only.*

SPECIAL TAPS AND DIES

Threads: Carbon Steel, from 56 to 160 TPI. Also Metric and National Miniature within these limits. Diameters, from .015" to .187". Dies are three-prong adjustable type. Taps in all styles.

J. I. MORRIS COMPANY 372 Elm St. Southbridge, Mass.
Precision Craftsmen Since 1920

See YELLOW SECTION for Local Offices, Telephone, etc.

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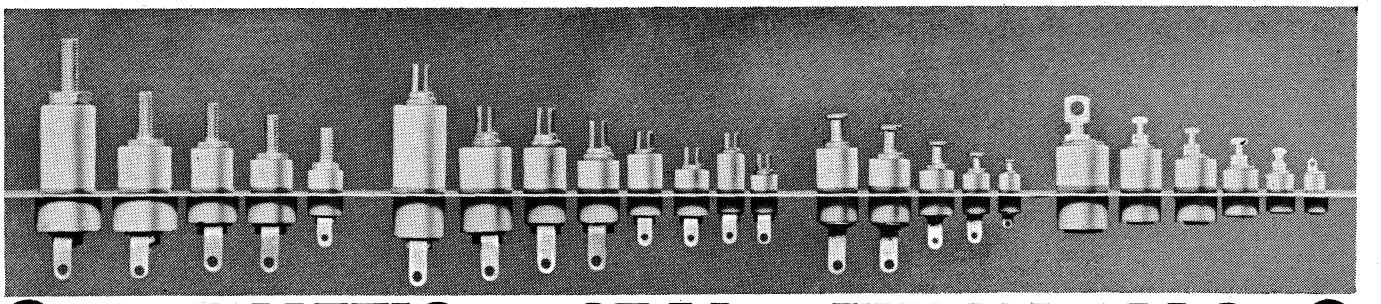
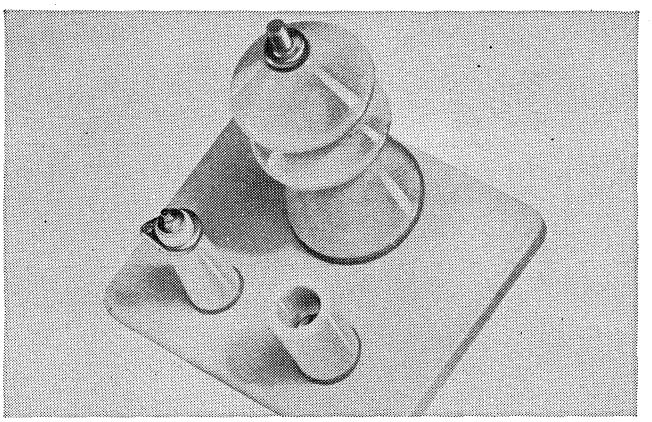


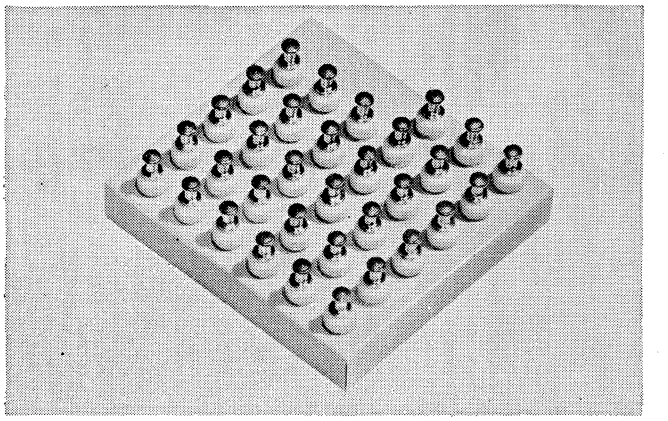
HERMETIC SEAL TERMINALS

TWIST-FREE PER MIL-T-27A SPECIFICATIONS

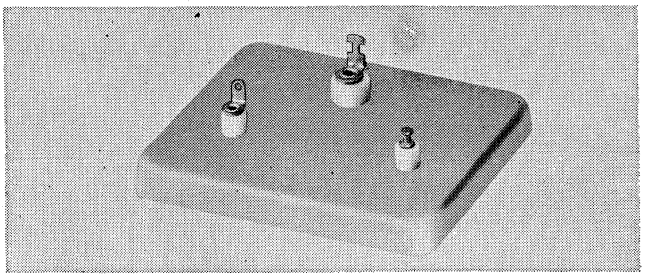
SPHERE terminals have been designed primarily for military applications but their simple design, which allows for superior quality in materials at realistic prices, makes them ideal for many commercial applications. Sealing is accomplished by a new and radically different method that is exclusive with ***SPHERE.*** We welcome your inquiries and also the opportunity of serving you whether your requirements are large or small.



HIGH VOLTAGE & CUSTOM TERMINALS: Terminals for normal applications; "Dual Conductor" types for filament windings and others with recessed insulators for HIGH ALTITUDE are available in a variety of sizes. Special emphasis has been placed on raising the Corona threshold through circulation of oil inside the terminal. "SPECIALS" or modifications of standard terminals are available through SPHERE'S design and model shop facilities. This includes OUR OWN ceramic department.

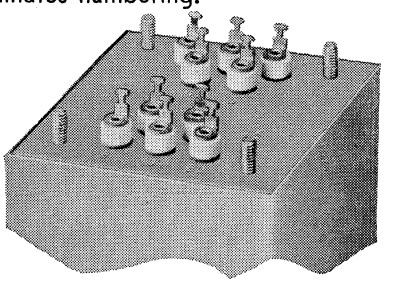


SUB-MINIATURE TERMINALS: Smallest compression seal terminals available to the electronics industry. NINE ON AN "AF" COVER! Eliminate separate soldering operation necessary with headers. Terminals can be located to your specifications or in one of the many standard patterns available at SPHERE. Outer insulators are available with a colored "TEFLON"* glaze, meeting MIL-T-27A color coding. This eliminates numbering.



TEFLON* TOP TERMINALS: NEW! NEW! NEW! SPHERE has just added this line of terminals to its ever-growing family of proven seals. The outer insulator is made of solid TEFLON* and the main sealing flange is formed on the underside of the mounting panel.

PACKAGE UNITS



Because we are not can manufacturers you can specify any source you wish for stock cans and ***SPHERE*** takes over from there. All modification and finishing can be done by the can manufacturer or ***SPHERE*** prior to the assembling of terminals. Our business is selling terminals and the delivery of complete package units to your satisfaction is a must with us.

*DuPont trade mark for its tetrafluoroethylene resin

PATENTS PENDING

The SPHERE Company INC.

25 AMITY STREET CLifford 6-2550 LITTLE FALLS, N. J.

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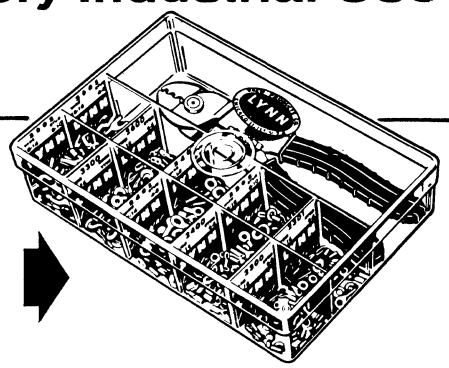
LYNN Lightning Solderless Terminals by VACO

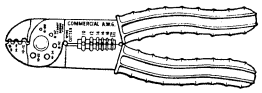
Wide Assortment for Every Industrial Use



No. 2195 Service Kit

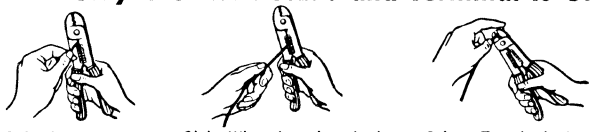
A GENERAL PURPOSE ELECTRICAL, RADIO AND TV KIT containing everything needed for making clean, fast, trouble-free electrical connections. No soldering! No fuss or muss! Kit includes . . . No. 1902 Crimping Tool and Terminals Nos. 2300, 2301, 2302, 2400, 2401, 2402, 2600, 2601, 2602, and 3300 . . . all in a clear plastic box with tight-fitting lid. Individual bins marked with terminal stock number cards.

No. 1902 BOLT CUTTING and CRIMPING TOOL



New type VACO Crimcut Tool has threaded holes for screwing in and shearing 4-40, 6-32, 8-32, 10-24 and 10-32 bolts or machine screws . . . plus crimping die, wire cutters and wire-stripping die. Shock-proof, slip-proof plastic handle grips. For No. 22 to No. 10 gauge wire.

Only 3 SIMPLE STEPS and Terminal Is On



1. Cut Wire. Use the wire cutter built into the crimping tool to cut wire proper length.

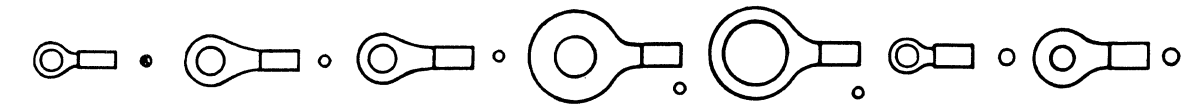
2. Strip Wire. Insert end of wire into proper wire stripping opening, close jaws, rotate tool one-half turn, then pull insulation off wire.

3. Crimp Terminal. Insert stripped portion of wire into terminal barrel, place barrel in proper crimping nest with seam directly opposite crimping tooth and close tool like pliers.

Extra long barrel on terminal provides easy crimp and perfect contact. Only ONE crimp necessary. Barrel *always* remains round.

Quick Reference Chart for Easy Terminal Identification

RING TONGUE TERMINALS



No. 2300 — Hole Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 22 - 16

No. 2301 — Hole Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 22 - 16

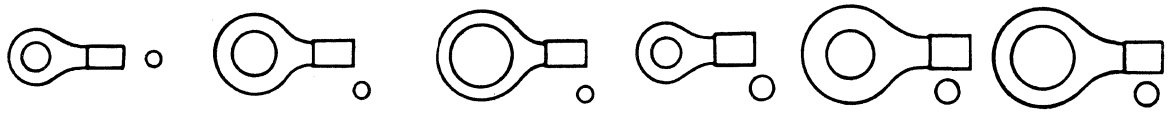
No. 2302 — Hole Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 22 - 16

No. 2303 — Hole Dia. — 17/64" — Stud Size — 12 - 1/4 — Wire Size — 22 - 16

No. 2304 — Hole Dia. — 13/32" — Stud Size — 3/8 — Wire Size — 22 - 16

No. 2400 — Hole Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 16 - 14

No. 2401 — Hole Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 16 - 14



No. 2402 — Hole Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 16 - 14

No. 2403 — Hole Dia. — 17/64" — Stud Size — 12 - 1/4 — Wire Size — 16 - 14

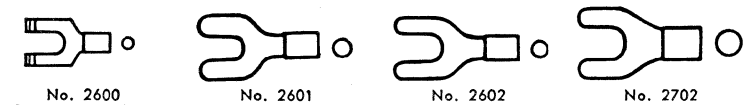
No. 2404 — Hole Dia. — 13/32" — Stud Size — 3/8 — Wire Size — 16 - 14

No. 2502 — Hole Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 12 - 10

No. 2503 — Hole Dia. — 17/64" — Stud Size — 12 - 1/4 — Wire Size — 12 - 10

No. 2504 — Hole Dia. — 13/32" — Stud Size — 3/8 — Wire Size — 12 - 10

SPADE TONGUE TERMINALS



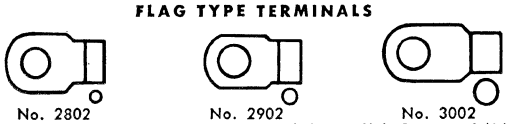
No. 2600 — Slot Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 22 - 16

No. 2601 — Slot Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 16 - 14

No. 2602 — Slot Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 16 - 14

No. 2702 — Slot Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 12 - 10

FLAG TYPE TERMINALS



No. 2802 — Hole Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 22 - 16

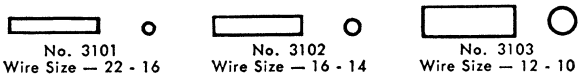
No. 2902 — Hole Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 16 - 14

No. 3002 — Hole Dia. — 13/64" — Stud Size — 8 - 10 — Wire Size — 12 - 10

HOOK TYPE TERMINAL

No. 3300 — Slot Dia. — 5/32" — Stud Size — 4 - 6 — Wire Size — 22 - 16

BUTT CONNECTORS

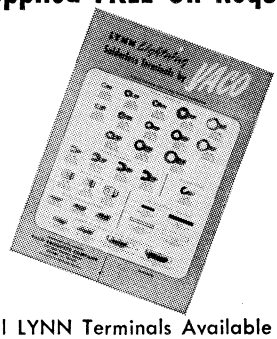


No. 3101 — Wire Size — 22 - 16

No. 3102 — Wire Size — 16 - 14

No. 3103 — Wire Size — 12 - 10

Terminal Sample Card Supplied FREE On Request



All LYNN Terminals Available in Popular $ Paks or in "C" Paks (100 per carton).

VACO PRODUCTS CO. • 317 East Ontario Street • Chicago 11, Illinois, U.S.A.

In Canada: Atlas Radio Corp., 50 Wingold Avenue, Toronto 10

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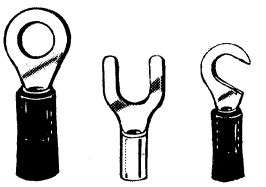
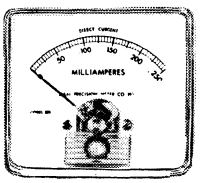
ELECTRONIC COMPONENTS

SOLDERLESS TERMINALS



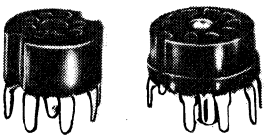
All types and sizes.
Insulated and Non-Insulated.

PANEL METERS



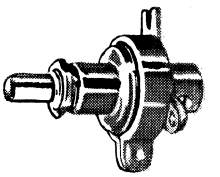
All-purpose types in Clear Plastic and Black Bakelite.

PRINTED CIRCUIT SOCKETS



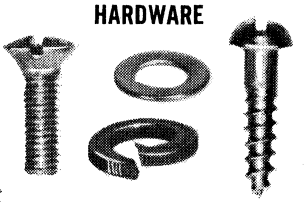
8 types in various sizes from 7 to 9 pins with center shields.

PLANETARY DRIVES



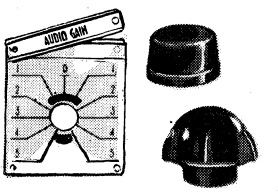
Single Speed and Two Speed Models.

HARDWARE

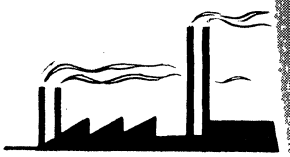


Screws, nuts, bolts and metal, fibre and lock washers.

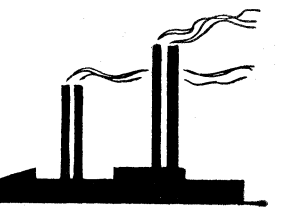
DIAL PLATES & KNOBS



Many sizes and types to meet most applications.



Waldom Quality Line for Industry includes: Anode Connectors, Azimuth Dials, Crimping Tools, Instrument Cases, Jack or Trimmer Covers, Terminals and many others.



Ask your Distributor for the Waldom Catalog, Brochures and Price Lists. If he cannot help you, write WALDOM direct.

Obtainable from your local Electronic Parts Distributor

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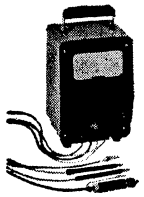
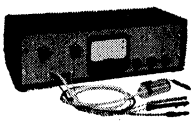
Acton Laboratories, Inc.
LABORATORY INSTRUMENTS OF EXCEPTIONAL PRECISION

VOLTAGE MEASUREMENT

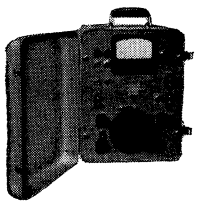


TYPE 810-A VTVM — Balanced circuits and liberal inverse feedback to insure long-time stability and accuracy. 7 full scale DC ranges: 1-1000 volts; 6 AC ranges; 1-300 V (rms); 7 resistance ranges 0.2 to 500 with multipliers of x1-x1 meg. DC accuracy ±2%; AC accuracy ±3%. Frequency response ±1 db, 10 cps to 700 mc. 100 meg input impedance for DC measurement. High input impedance to 700 mc maintained by 1.2 mmf input capacitance of AC probe.

TYPE 815-A VTVM — Has wide ranges. 9 full scale DC ranges; 0.1-1,000 volts; 8 AC ranges: 0.1-300 volts (rms); 9 DC current ranges: 0.001 ua to 100 ma; 9 resistance ranges: 0.2 to 500 with multipliers x0.1 to x10 meg. DC accuracy ±2%, AC ±3%, both 1 V range and higher. Frequency response 15 cps to 100 MC. DC input impedance 100 meg; AC 5 mmf and 10 meg. Also available as 815-AR (rack mount — gray panel).

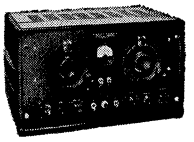


IMPEDANCE MEASUREMENT

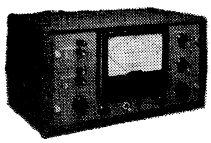


TYPE 310-B Z-ANGLE® METER — Measures in polar form the impedance, phase angle, dissipation factor, and storage coefficient of any RLC combination. One balancing control permits accurate analyses to be made more quickly and easily than with conventional AC bridges. Measures impedances from 0.5 to 100 k. Frequency range: 30 cps to 40 kc. Accuracy of impedance magnitude is ±1% to 20 kc and ±2 degrees for phase angle. Unit has internal 400 cps and 60 cps signals.

TYPE 314-A LOW-IMPEDANCE Z-ANGLE® METER — Measures low values of complex impedances in polar form. Direct readings of impedance in ohms, phase angle in degrees, and dissipation factor. Freq. range of 30-1000 cps, impedance-magnitude range of 0.005-1000 ohms accurate to ±1%, and dissipation-factor range of 0 to infinity. Phase angles measured from −90° to 0° to +90°, with accuracy of ±1°. 4-terminal arrangement nullifies effect of lead impedance and insures accurate measurements. Also available as 314-AR (rack mount).

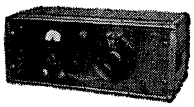


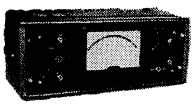
PHASE MEASUREMENT AND GENERATION



TYPE 320-AB PHASE METER — Measures phase difference between 2 signals (1 cps to 100 kc) of any wave shape and indicates phase angle on large meter with separate ranges of 360°, 180°, 90°, and 36°. Accuracy is ±(1% of full scale + 3 degrees). Requires no adjustments, corrections, or balancing operations. Amplitude range is .7 to 120 volts rms. Input impedance of 10 meg and 13 mmf. Also available as 320-ABR (rack mount).

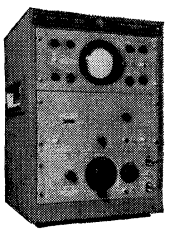
TYPE 709-A BROADBAND SECONDARY PHASE STANDARD — Calibrates phase measuring instruments and measures phase when used with oscilloscope. Develops 2 sinusoidal signals variable from 0° to 360° with respect to each other. Range is 20 cps to 20 kc. Accuracy of ±1° from 20 cps to 10 kc. High input impedance, low output impedance. Inherent distortion less than 1%. 0.5 to 5-volt output varies less than ±2% with phase shift. Also available as 709-AR (rack mount).





TYPE 328-A TRANSISTORIZED PHASE METER — Frequency range 10 cps to 50 kc. Direct reading from 0 to 360° in 6 ranges of 60° each on large 5" meter scale. Absolute accuracy of 1° from 10 cps to 10 kc. Amplitude range .25 to 170 volts peak except at low frequencies. Input impedance: one megohm shunted by 20 mmf. Internal output impedance is approx. 100,000 ohms. Recorder connector provided. Power: 105-125 volts, 60 cycle AC, 20 watts. Terminals provided for operating from an external 45 volt battery, 50 mil drain. Also available as 328-AR (rack mount).

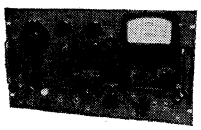
TYPE 7000-B AUDIO PRIMARY PHASE STANDARD — Calibrates phase detectors and phase shifting devices but can also be used to measure phase shift. Supplies 2 sinusoidal signals of same frequency whose phase relationship is continuously variable from 0° to 360° with ±0.05° accuracy, set by Lissajous pattern. Any single frequency available from 30 cps to 20 kc. Output of 1 to 10 volts rms from impedance of approximately 200 ohms.



TYPE 706-A ULTRA-SONIC PRIMARY PHASE STANDARD — Calibrates high frequency phase meters, phase detectors, and phase-shifting devices. Generates 2 sine-wave signals having variable phase difference 0° to 360° at any specified single frequency 20 to 200 kc. Phase angle accuracy of ±0.1 degree set by observation of multiple frequency Lissajous pattern on built-in scope. Also available as 706-AR.

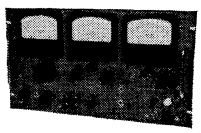
TYPE 511-A POWER AMPLIFIER — Low distortion, low noise and phase shift compensated amplifier for 50 cps to 50 kc range. Output load characteristics: 5 ohms 12.8 watts, 25 ohms 13 watts, 200 ohms 15 watts, 1200 ohms 12 watts, down 1 db at 50 kc. Phase compensation permits application as drive source for Type 7000-B. Also available as 511-AR (rack mount).

TRANSMISSION AND DELAY MEASURING SETS



Measures the absolute amplitude and relative delay characteristics of 600 ohm transmission circuits in the frequency range from 200 cycles to 24 kc. The instrument consists of two basic units: the 451-A Transmitter and the 452-A Receiver.

The instruments will operate 32°F to 130°F and with normal 60 cycle line voltages ranging from 105 to 125 volts. It has an overall precision and accuracy of ±50 microseconds and a drift rate not exceeding ±50 microseconds per 30 minutes.



POTENTIOMETER TESTING EQUIPMENT

TYPE 394-A PONOGOMETER® STANDARD — Measures equivalent noise resistance (ENR) of single or multiturn precision potentiometers. Provides for establishing threshold level of ENR from 10-2000 ohms. ENR's above threshold level established produce both visual and audio indication. 100 kc frequency response flat to 50 kc. Accuracy is ±(3% of threshold value + 3 ohms). Recovery time is 1.5 seconds maximum. Also available as 394-AR (rack mount). Ideal for incoming inspection or laboratory analysis.

TYPE 395-C PONOGOMETER® STANDARD — Calibrates Ponogometer®. Accuracy 1%. Also available as 395-CR (rack mount).

TYPE 396-B PONOGOMETER® ATTENUATOR — Extends range of threshold resistance of Ponogometer®. Permits direct measurement of ENR's from 10 ohms to 100 k. Frequency response is ±3 db from 12 cps to 1.5 mc. Available as 396-BR (rack mount).

RESEARCH AND DEVELOPMENT

Acton Laboratories, Inc., also has complete facilities and experienced engineering staff to provide specialized research in and development of electronic components and instruments.

ENVIRONMENTAL TESTING

Testing to military and commercial specifications in a fully equipped Environmental Testing Laboratory is another important service provided by Acton Laboratories, Inc.

DUAL SPEED DRIVES, Types DSD-1 or DSD-2, are manually operated speed reducers for high or medium velocity ratios. Features — spring loaded gears and bearings, aluminum dials (3" or 5" diameter available), complete freedom from backlash within the rated torque output range. Accuracy 6 minutes of arc. Precision drive PDW-1, accuracy 1 minute of arc.

WRITE OR CALL ACTON LABORATORIES, INC. 536 MAIN ST., ACTON, MASS. COlonial 3-7756

See YELLOW SECTION for Local Offices, Telephone, etc.

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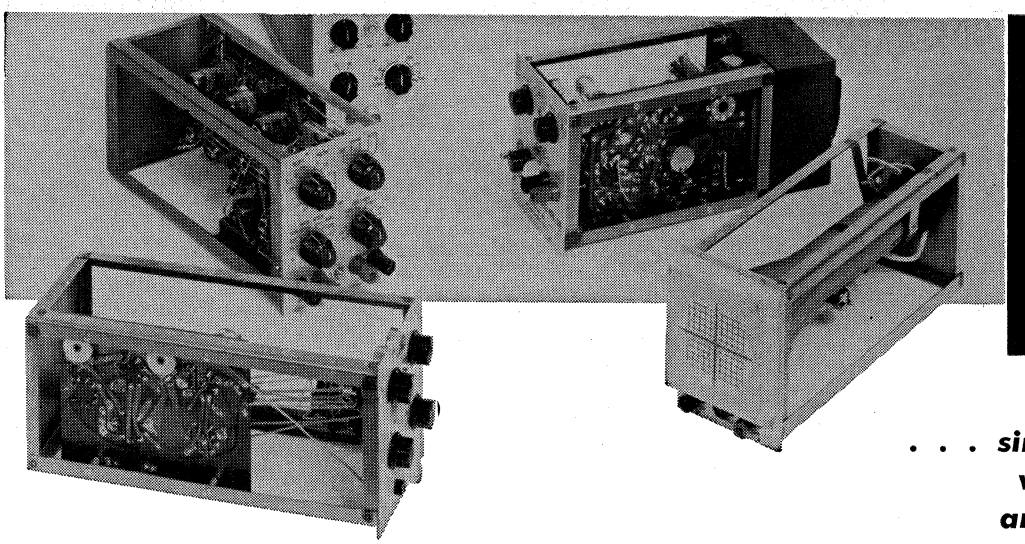
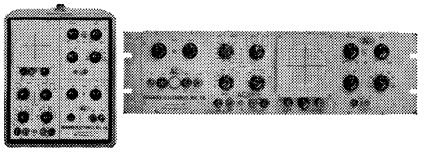


MODULAR OSCILLOSCOPES

. . . single and multi-beam with interchangeable amplifiers and sweeps

TAILORED TO YOUR APPLICATION: Separate modules are assembled into a complete oscilloscope for high frequency, low frequency, phase shift, or special measurement applications as desired. Basic CRT and Power Supply modules, plus any two others comprise a complete unit. Oscilloscopes to meet military specifications can be supplied on special order.



MINIATURIZED PRECISION DESIGN: Compact, lightweight design incorporates all these quality features: Direct reading amplitude and time calibrations; sweep expansion; driven and recurrent sweeps; regulated DC and pre-amp heater voltages; and efficient layout of controls.

PORTABLE OR RACK-MOUNTED: Preassembled at the factory with standard 19" x 5¼" rack mount panel, or in compact portable case with retractable handle (overall dimensions only 9½" wide, 11½" high, 12 1/16" deep).

PARTIAL LIST OF AVAILABLE MODULES

200-1 CATHODE-RAY TUBE UNIT

Choice of 3½" square or 3" round flat-face CRT with edge-lighted plastic scale.

Illuminated Scale: 0.2 in./div. in a 10 x 10 Array. Illumination adjustable by front panel control.
Intensity Modulation: Front panel connection to CRT cathode. Low frequency time constant of 10 ms.
Dimen: 4¼" wide by 5¼" high by 11" deep.

200-2 POWER SUPPLY

Supplies necessary power for the 200-1 unit and any other two units. All DC voltages and preamplifier heater currents are regulated. Focus and Intensity controls for the 200-1 unit are on the front panel.

Output Voltages: +300 and —150 volts D.C., —1200 volts CRT potential, CRT Focus and Intensity potentials, 6.3 volt heater power.

Input Power: 105 to 130 volts, 50/60 cycles, 150 watts.

Dimensions: 4¼" wide by 5¼" high by 11" deep.

200-3 SWEEP GENERATOR AND HORIZONTAL AMPLIFIER

Produces a wide range of calibrated sweeps from 5 seconds to 1 microsecond duration. Also may be used as a medium gain low frequency amplifier.

Sweep Generator:
Sweep: Driven or recurrent. Miller integrator circuit.
Sweep Speeds: 12 calibrated ranges, 0.5 μs to 0.5 sec/div, may be extended at 1 sec/div/mfd with external capacitance. Accuracy 5%.
Sweep Expansion: Any portion may be expanded 5X.
Trigger Amplifier: DC coupled to allow triggering from any portion of waveform, either slope, ac or dc, internal, external, or line.
Trigger Requirements: 1 div deflection or 1 volt peak external minimum. A 3-decade attenuator allows triggering from 350 volt signals.

Horizontal Amplifier:
Frequency Response: Essentially identical to module 200-6, both AC and DC coupling.
Sensitivity: Cont. variable in 3 decade ranges, 30 mv/div to 30 volts/div.
Polarity: Amplifier can invert or not invert signal.
Input Impedance: 2 megohms, approx 50 mmf.
Dimensions: 4¼" wide by 5¼" high by 11" deep.

200-5 HIGH FREQUENCY AMPLIFIER

A medium gain high frequency amplifier with calibrated input attenuator. It is normally used as a vertical amplifier for observation of high frequency pulses but may be used for a horizontal amplifier if a linear sweep is not required.

Frequency Response: DC to 4 mc (30% down). AC coupling 30% down at 4 cycles.
Rise Time: less than 0.1 microsecond.
Sensitivity: 7 calibrated ranges, 50, 150, 500 mv/div, 1.5, 5, 15, 50 volts/div. Continuously variable from 50 mv/div to 50 volts/div.
Input Impedance: 2 megohms shunted by 40 mmf. Attenuator probe may be used to increase impedance to 20 megohms shunted by 15 mmf.
Maximum input voltage (DC plus peak AC): 500 volts dc coupled.
Calibration Voltage: 1 volt ±2% peak to peak line frequency square wave at front panel jack.
Dimensions: 4¼" wide by 5¼" high by 11" deep.

200-6 DIFFERENTIAL LOW FREQUENCY VERTICAL AMPLIFIER

A high-gain low frequency amplifier with calibrated input attenuator. It is normally used as a vertical amplifier but may also be used as a horizontal amplifier if linear sweeps are not desired.

Frequency Response: less than 10% down at 100 kc, 30% at 250 kc, 50% at 500 kc. Direct coupled. AC coupled: down 10% at 10 cycles.
Rise Time: under 5μs, no over-shoot, smooth rise RC.
Sensitivity: Continuously variable from 5 mv/div to 50 volts/div with direct reading dials.
Input Impedance: 2 megohms, less than 60 mmf.
Maximum Input (peak AC plus DC): 500 volts direct coupled, 1000 volts AC coupled.
Calibration Voltage: 5 mv peak to peak line frequency square wave selected by input attenuator.
Dimensions: 4¼" wide by 5¼" high by 11" deep.

200-9 ELECTRONIC SWITCH MODULE

Medium gain low frequency unit for simultaneous observation of two signals. Direct reading calibrations accurate within 10%.

Frequency Response: DC to less than 30% down at 100 KC-AC coupling: 10% at 10 cps.
Sensitivity: Continuous variation from 50 mv/div to 50 volts/div with direct reading gain control calibrations accurate to better than 10%.
Input Impedance: 2 megohms shunted by approx. 60 mmf.
Switching Modes: A or B signal only, or A and B chopped at 10KC, or A and B on alternate sweeps.
Dimensions: 4¼" wide by 5¼" high by 11" deep.

AE

SPECIALISTS IN DATA DISPLAY DEVICES

Advanced Electronics offers unique capabilities for design and manufacture of special purpose instrumentation — including direct display cathode ray storage tube equipments, large screen displays, high speed data transmission systems, and digital computer systems. We invite your inquiry.

ADVANCED ELECTRONICS MANUFACTURING CORP. ★ 2116 S. SEPULVEDA BLVD., LOS ANGELES 25, CALIFORNIA
See YELLOW SECTION for Local Offices, Telephone, etc.

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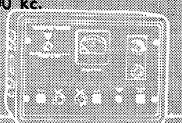
PHASE METERS

1 CPS to 500 MEGACYCLES
20 MICROVOLT SENSITIVITY
0.05 DEGREE ACCURACY

TYPE 405

TYPE 405 SERIES: Direct reading in degrees, no adjustment, 0.3v to 70v, 0.25° accuracy.

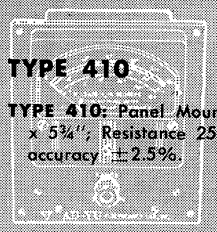
405L—1 cps to 20kc. **405**—8 cps to 100 kc. **405H**—8 cps to 500 kc.



TYPE 205B

TYPE 205A1-2: 100 kc to 15 mc; 0.05° accuracy; direct reading in us; 0.01v sensitivity.

TYPE 205B: 10 mc to 500 mc; 0.05° or 1% accuracy; sensitivity 20 microvolts with external receiver; direct reading in mus.



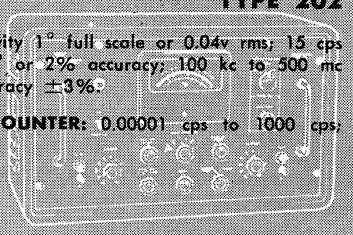
TYPE 410

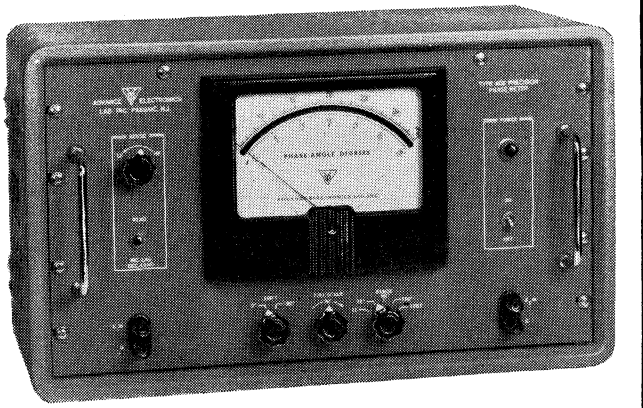
TYPE 410: Panel Mount Phase Meter: Panel cutout 4¼" x 5¾"; Resistance 25,000 ohms, input signal 110±30v; accuracy ±2.5%.

TYPE 202

TYPE 202: Sensitivity 1° full scale or 0.04v rms; 15 cps to 200 kc, 0.02° or 2% accuracy; 100 kc to 500 mc with probe, accuracy ±3%.

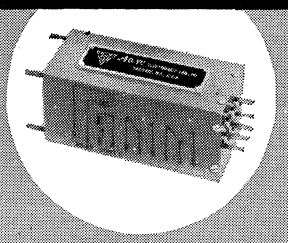
PHASE ANGLE COUNTER: 0.00001 cps to 1000 cps; accuracy ±0.5°.





TYPE 405

MAGNETIC AMPLIFIER RELAYS



RL-101: Sensitivity 140 microwatts; contacts DPDT 15 amperes.

RL-102: Sensitivity 40 microwatts; contacts DPDT 2 amperes.

RL-103: Sensitivity 80 microwatts; contacts DPDT 2 amperes.

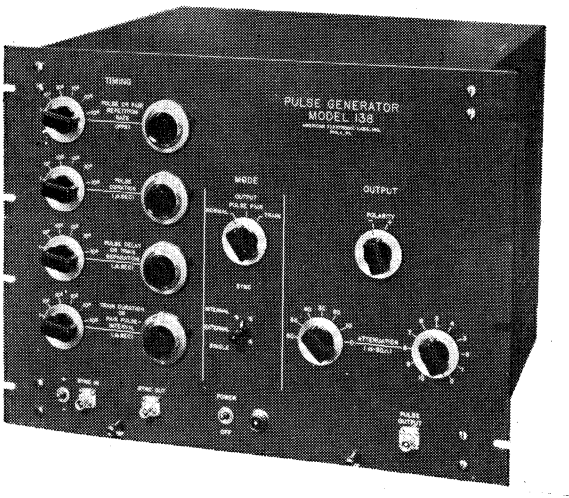
AD-YU ELECTRONICS LAB., INC.

Formerly ADVANCE

249 Terhune Ave., Passaic, N. J.

AEL PULSE GENERATOR with a "BRAIN"

- 1 μs to 1.0 second (no sag!)
- Rise and fall times nominal at 0.15 μs
- Less than 1 cps to 250 kc
- Single PULSES, recurrent PULSES, aperiodic PULSES
- Single PAIRS, recurrent PAIRS, aperiodic PAIRS
- Single TRAINS, recurrent TRAINS, aperiodic TRAINS
- ±35 volts output into 50 ohms
- Calibrated attenuator to 70 db, 1 db steps
- Spike, sine or square wave sync accepted

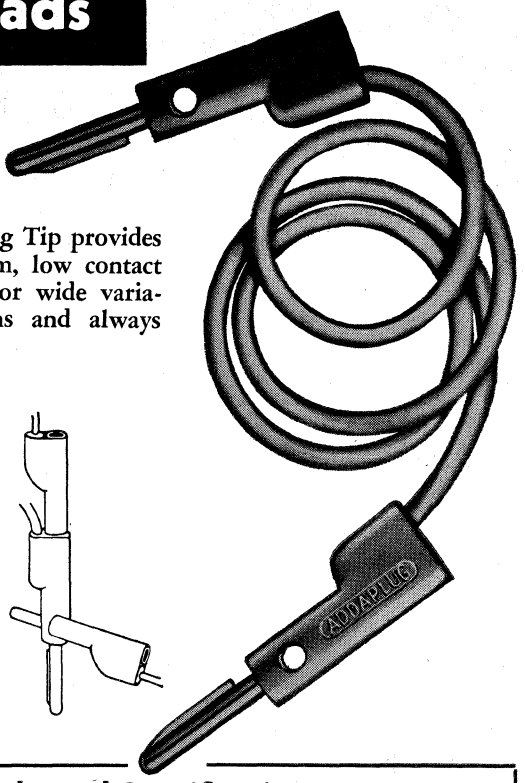


Data available on request

AMERICAN ELECTRONIC LABORATORIES, INC. 121 N. SEVENTH ST., PHILA. 6, PA.

Addaplug® Connecting Leads

- ***reduce equipment setup time***
- ***insure positive connections***
- ***save money***

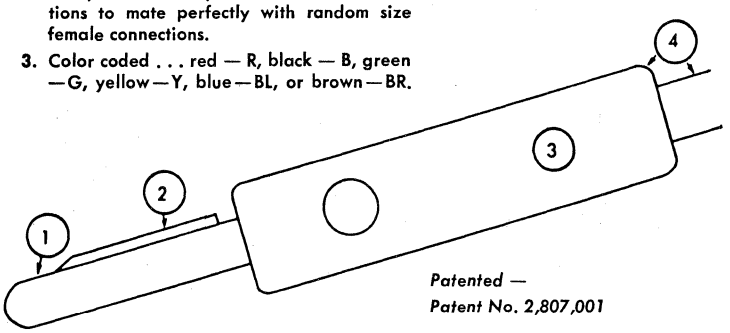


Addaplugs are the most practical, efficient and economical way to hook up and interconnect equipment. Multiple connections can be made quickly, easily and *safely* at any plug body. Addaplugs feature a special patented *Spring-Action Tip* which has extremely long life. The Spring Tip provides a wiping action for uniform, low contact resistance. It compensates for wide variations in female connections and always makes a positive contact.

Design Features

1. Special patented spring-action tip provides self-wiping action and gives uniform, low contact resistance (less than 0.001 ohm). Spring is of stainless steel for infinite life.
2. Spring action provides good grip and contact pressure. Compensates for wide variations to mate perfectly with random size female connections.
3. Color coded . . . red — R, black — B, green —G, yellow—Y, blue—BL, or brown—BR.

Stacking — Side holes and stacking feature (Bi-Axial Type) provide unlimited connections for multiple interconnection of all types of equipment.



Patented —
Patent No. 2,807,001

4. Lead is polyvinyl insulated, highly flexible stranded wire integrally molded to plug for perfect insulation. Strong and durable . . . resists failure due to flexing at junction of plug and wire.
5. Fits standard terminal posts, jacks, alligator clips and spade lugs. Needs no special adapters for most connections.
6. Outlasts homemade leads 4 or 5 times. Costs less.

Immediate delivery. Order direct.

Condensed Specifications

Three types

Regular Addaplug Lead — Heavy duty, general instrument hook-up in schools, laboratories, and demonstration displays. 18 ga. wire — 65x36 stranding, insulated wire 0.205" O.D. Overall plug size — 2¼"x⅜".

Bi-Axial Addaplug Lead — General purpose, instrumentation work, bread-boards, servo setup, component parts of instruments. 18 ga. wire — 65x36 stranding, insulated wire 0.140" O.D. Overall plug size — 2-1/64" x 17/32".

Axial Addaplug Lead — Same as Bi-axial Lead above except without 0.166" side hole.

Lead Lengths

8", 12", 24", and 36" standard (measured from plug to plug). Other lengths available.

Colors

Red, black, green, yellow, blue and brown are standard. Other colors available.

Bulletin 591E gives complete specifications and prices.

Custom Insert Molding

Complete design, production and testing facilities for plug-in electronic components molded in vinyl and polyethylene plastic compounds.

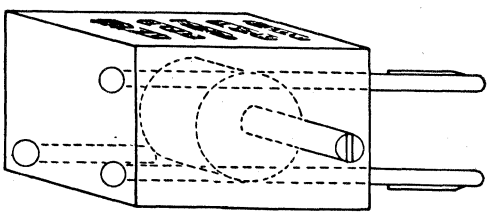
Resistors, capacitors, potentiometers and other components molded in various shapes for plug-in use.

Trade names, trade marks, part numbers incorporated into mold design with provision for changes.

Standard or special colors.

Special connecting leads with various end terminations.

Send print for quotes and delivery.



Typical example: plug-in potentiometer unit for use on analog computer. Molded in vinyl plastic utilizing Addaplug bodies. All three terminals of potentiometer are accessible with Addaplug Connecting Leads for connection to other circuits. Each unit individually tested before shipment.

ASSOCIATED ENGINEERING CORPORATION

65 Kent Street — Brookline 46, Massachusetts

telephone: ASpinwall 7-4664

See YELLOW SECTION for local offices, telephones, etc.

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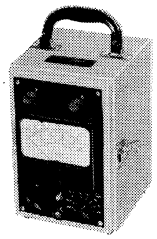
ASSOCIATED RESEARCH INCORPORATED

3773 W. Belmont Avenue • Chicago 18, Illinois

Phone . . COrnelia 7-4040

INSULATION RESISTANCE Testers

Five Million Megohms



VIBROTEST® Megohmmeter

Models for Laboratory, Production and Portable Applications

Direct reading resistance measurements to five million megohms and higher . . . of electronic circuits, cable assemblies, transmission lines, motors, servos, generators, components and insulating materials.

VIBROTEST® megohmmeters have an electronic power supply providing test potentials to 1000 v d-c, thus eliminating the cranking and leveling of older designs.

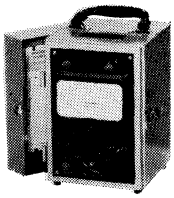
Push-button operation makes possible high speed production testing of electronic assemblies and components. The welded steel carrying case is finished in baked grey hammertone enamel. The removable cover protects the controls and indicating meter.

Write for bulletin "VIBROTEST®", detailing the many special megohmmeters available.

VIBROTEST® Megohmmeter Model 201 . . . Ranges on the 4½" meter: 200 megohms, 2000 ohms and 0-50/300/600 v, a-c and d-c. Only . . . $136.50.

PRECISION OHMMETER (½ of 1%)

- **Accuracy of ½% . . . is Four Times Better!**
- **Portable Convenience with Laboratory Accuracy.**
- **Compensates for Lead and Battery Resistance.**



Direct reading resistance meaurements that are four to six times more accurate than with most ohmmeters . . . of leads, coils, other electronic components and circuits, from .05 ohm to 100,000 ohms.

Operates from self-contained batteries. Welded steel case and cover finished in baked grey hammertone enamel. Price, including batteries and leads, only $128.00.

Model 244 . . ranges 0-50/500/5,000/50,000 ohms.
Model 246 . . ranges 0-100/1,000/10,000/100, 000 ohms.

GROUND RESISTANCE Tester

Direct Reading VIBROGROUND®

Measure resistance to ground of electronic, telephone and power equipment, shielding, lightning protection and other installations where performance and safety require an accurate determination of ground resistance.

VIBROGROUND® is direct reading and requires no computations, cranking or leveling. Operates from self-contained power supply. Housed in welded steel case with protecting cover, finished in baked grey hammertone.

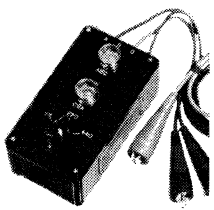
Write for bulletin "VIBROGROUND®", including data on instruments measuring earth resistivity and conductance.

PHASE SEQUENCE Indicator

Instant indication of phase rotation in three phase, 60 or 400 cycle circuits. Has no batteries, moving parts or binding posts. Convenient pocket size, only 3"x5"x2", weight is less than one pound. Also available for panel mounting.

Model 40: 120/240/480v, 60c . . only $27.50
Model 44: 120/240/480v, 400c . . only $34.75

Write for Bulletin 7-1.1

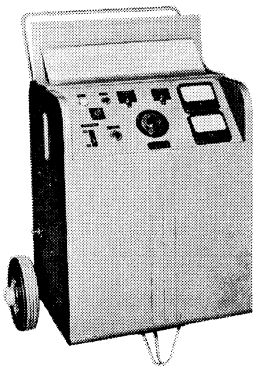


INSTRUMENTATION DESIGN Facilities

10-35.11

HIGH VOLTAGE Testers

Assemblies • Cables • Components • Materials
150 KV and up . . . A-C or D-C Test Potentials



Mobile HYPOT®

Insulation breakdown, dielectric strength and leakage current at potentials of 150 kv or more . . . are determined with HYPOT® testers.

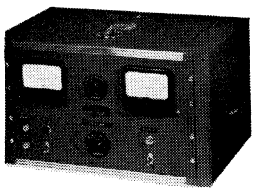
Models provide either a-c or d-c testing, in power ratings for every application. They meet applicable ASTM and MIL specifications for testing elements of completed missile systems, airborne and ground radio and radar, as well as components and insulating materials.

Mobile HYPOT® models offer a-c or d-c test potentials of 150 kv and up, in output ratings adequate for testing heaviest power equipment. Readily transportable for convenient use in laboratory, factory and for field testing. Advanced safety features protect equipment and operator.

A unique metering circuit in d-c Mobile HYPOTS® eliminates distortion of leakage current indication by corona, surface or phase leakage currents. Write for new bulletin "Mobile HYPOT®"

to 30 KV, A-C or D-C . . . Bench HYPOT®

Over-potential tests to 30 kv with a wide range of power ratings are provided in bench semi-portable HYPOT® models measuring only 21" wide and 16" deep.

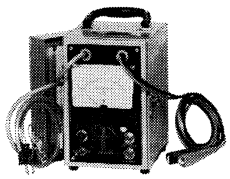


These offer many feaures of the larger HYPOT® instruments, such as fast acting circuit breaker to protect equipment, safety voltage interlocks, and continously variable test potential that is directly metered.

Four series of bench type HYPOTS® are available, with maximum output potentials of 30,000, 20,000, 10,000 and 5,000 volts. Models providing a-c or d-c test potentials and wide range of power ratings are included. Special models have high current output for rapid charging of large capacitors and similar applications in production testing. Write for bulletin "Practical HYPOT® Testing" and catalog describing semi-portable HYPOT® models.

Model 424 . . output 0-5000 v d-c, at 100 microamperes, but has short circuit output of 5 milliamperes for rapid charging of capacitors.

to 10 KV, A-C . . . Portable HYPOT® Jr.



Model 412 . . output from 0 to 1500 v a-c. Indicator lights for insulation breakdown and excessive leakage current. Only . . . $137.50.

Test completed electrical and electronic systems for voltage breakdown, as well as assemblies, components and materials.

HYPOT® Jr. a-c test potential is continuously variable with ranges from 0 to 1,500, 2,500, 4,000 and 6,000 v. The sturdy steel case and lid are finished in baked grey hammertone. Output ratings from 50 to 230 va are offered.

Excess leakage current is indicated by a leakage light or by audible means if desired. Insulation breakdown or short-circuit are indicated by breakdown light. These facilities make the HYPOT® Jr. well suited for automatic testing. Write for bulletin "HYPOT® Jr."

SPECIALIZED Instruments

In addition to these general purpose instruments, an unequalled selection of meghommeters (5 million megohms and up) and high voltage breakdown testers (150 kv and up) are offered for specialized applications, as well as:

INSULATION MATERIAL Tester . . measures dielectric strength of insulation samples to ASTM specifications at a-c potentials of 35,000 v or more.

LIQUID INSULATION Tester . . developed for breakdown test of transformer oil, but has been applied to many other tests of insulating fluids. Write for Bulletin 4-60.1.

"THUMPER" CABLE FAULT Locator . . pinpoints to within a few feet, location of defective cable insulation. Bulletin 5-60.1.

INSTRUMENT CURRENT Transformers . . Donut design for metering up to 4500 amperes.

For design of your special instrumentation . . . required in all fields of research and development, or production and maintenance testing . . . our facilities plus twenty-three years of experience, are available. Your inquiry is invited by letter or phone.

See YELLOW SECTION for Local Offices, Telephone, etc.

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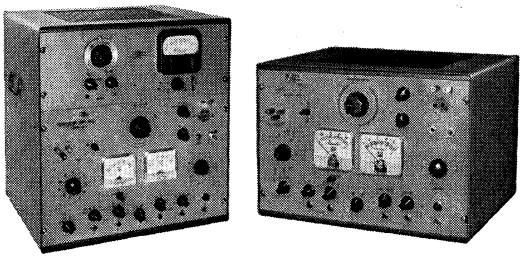
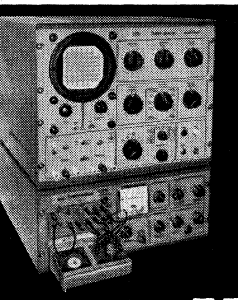
COMPLETE LINE OF TRANSISTOR TEST EQUIPMENT



General Purpose Transistor Test Set, KP-2 Series

• **Research and quality control with maximum reliability** • **Direct Precision Measurements** • **Up to 2 amps 200v.** Based on h parameters using basic straight forward circuitry. Features common bases or emitter, direct measurement of h parameters plus α and β cutoff. Meter indication of DC parameters — I_{co}, I_{eo}, V_{cer}, V_{ebf}.

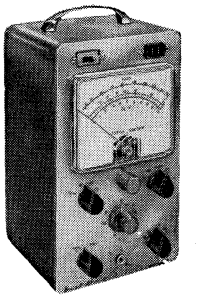


Curve Tracer, Model MW-1

• Newest, most Versatile on market Features Highest maximums in broad ranges (up to 30 amperes and 300 volts — 450 watts maximum). Lowest impedance. Positive overload protection. Unique tube adapter allows vacuum tube measurements by external provision of screen and filament supplies.

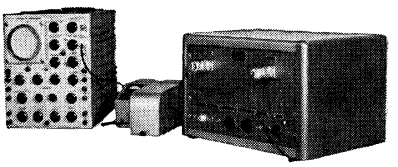
Transistor Test Set, Model GP4

• Standard of the Industry for low power transistors. Measures h parameters and equivalent T coefficients NPN and PNP junction and surface-barrier transistors, common base or emitter circuits α and β cutoff, and I_{co} and C_c. Measurement frequency from 100 cps to 1 mc.



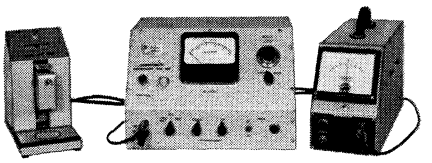
Beta Tester, Model KT-1

• Lightweight • Portable • Easy to use. Measures Betas h_{ie} and I_{co}. This completely self-contained unit features a transistorized 1 kc oscillator and batteries, printed-circuit construction and meter overload protection.



Minority Carrier Lifetime Test Set, Model JJ

**Basic Tool for the Industry . . . Provides a reproducible measure of minority carrier lifetime of both germanium and silicon. Evaluates performance characteristics.



Semiconductor Resistivity Test Set

• Precise. • Easy to operate . . . Features exclusive FOUR-POINT-PROBE. Reliable applications for both production quality control and R&D. Measurement accuracy ±5%.

Special Equipment NOW AVAILABLE

Automatic Transistor Test Set, Model LJ-1

Automatically checks any number of transistors at levels from 0.1 v to 200 v, DC, and at current levels from 10 microamperes to 200 milliamperes. Accuracy 1%. Custom designs available for special uses.

Write Today for further technical information on Baird-Atomic test instruments to:

Baird-Atomic, Inc.

33 UNIVERSITY RD., CAMBRIDGE 38, MASS.

Baird Atomic

Instrumentation for Better Analysis

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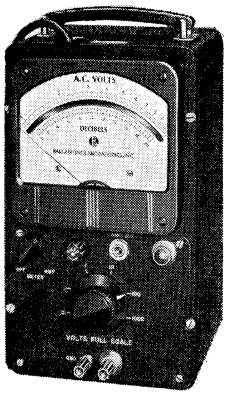
BALLANTINE
ELECTRONIC VOLTMETERS

Ballantine Voltmeters are unique electronic instruments offering great sensitivity, wide frequency coverage and a high order of precision, and are designed for maximum compactness and convenience in operation. Alone or in combination with Ballantine accessories, they may be used to measure AC voltages from 20 microvolts to 28,000 volts, DC voltages from 10 microvolts to 100 volts and AC and DC currents from 0.1 microampere to 10 amperes.

Each Ballantine Voltmeter comprises a multi-stage amplifier, a signal rectifier and a specially designed moving coil indicating instrument whose deflection is proportional to the logarithm of the current through it. By using logarithmic scale meters the same accuracy is achieved *AT ANY POINT ON THE SCALE.* The accuracy of the usual linear meter is proportionally smaller for down scale readings. Negative feedback is employed to stabilize the voltmeter by counteracting the effect of changes in line voltage, tubes and other circuit parameters.

Modifications can be obtained in any of the standard instruments shown below to meet particular preferences in special scales, mountings, finishes, terminal arrangements, etc. We also invite inquiries concerning special custom instruments other than these in meeting your own particular requirements.

Write today for complete catalog. Contains detailed information on all Ballantine Voltmeters, Amplifiers and Accessories.



AUDIO to 250kc MODEL 300D

The Model 300D is a new instrument which combines some of the original designs of the Model 300 Voltmeter with greatly improved stability, reliability and extended life. It features a large, easy to read logarithmic mirror-scale indicating meter; high input impedance; freedom of disturbing effects of line voltage fluctuations of either long time or transient variety; small size and light weight.

Other features such as operating the tubes well below their normal ratings will assure long term accuracy and freedom from frequent calibration checks.

Special design emphasis was given to provide a voltmeter of such reliability as is usually found only in laboratory standards.

SPECIFICATIONS

Voltage Range ..... **1 mv — 1000 v**
Frequency Range ..... **10 cps — 250 kc (sine wave)**
Accuracy ..... **2% ENTIRE RANGE ANY POINT ON SCALE**
Input Impedance ..... **2 meg shunted by 15 $\mu\mu$f except 25 $\mu\mu$f on most sensitive range**
Scales ..... **Logarithmic voltage scale from 1 to 10; auxiliary linear scale in decibels from 0 to 20**

AUDIO to 150kc MODEL 300

The Model 300 is the forerunner and the most popular of all sensitive type AC voltmeters. This voltmeter has withstood the test of time, and in its present improved form offers reliability, ruggedness, precision, and low-cost. It has been adopted as the standard voltmeter for many standard tests.

This instrument employs a decade attenuator incorporating precision wire-wound resistors, a high-gain three stage negative feedback stabilized amplifier, a rectifier and a logarithmic meter responding to the average values of the voltage wave but calibrated in RMS values of a sine wave.

SPECIFICATIONS

Voltage Range ..... **1 mv to 100 volts**
Frequency Range ..... **10 cps to 150 KC**
Accuracy ..... **2% ENTIRE RANGE ANY POINT ON SCALE**
Input Impedance ..... **0.5 meg shunted by 30 $\mu\mu$f**
Scales ..... **Logarithmic voltage scale from 1 to 10; auxiliary linear scale in decibels from 0 to 20**

SUB-AUDIO to 150kc MODEL 302C
Battery Operated

The fact that the Model 302C Voltmeter is powered by its own batteries makes it particularly useful in cases where no external AC power source is available or where it is not desirable to use such a source because of limitations imposed by even a small amount of residual 60 cps line frequency hum. The Model 302C is also particularly useful where measurements are to be made in ungrounded or symmetrical circuits.

While possessing unsurpassed voltage sensitivity for a battery-operated instrument, since it measures down to 100 microvolts, the Model 302C permits measurements to be made from 2 cps through 150 kc with high input impedance.

SPECIFICATIONS

Voltage Range ..... **100 μv — 1000 v**
Frequency Range ..... **2 cps — 150 kc**
Accuracy ..... **3% 5 cps — 100 kc ANY POINT ON SCALE**
Input Impedance ..... **2 meg shunted by 10 $\mu\mu$f***
Noise Level ..... **Less than 10 μv referred to shorted input circuit**
Scales ..... **Logarithmic voltage scale from 1 to 10; auxiliary linear scale in decibels from 0 to 20**
*** Shunt capacitance, 25 $\mu\mu$f on two most sensitive ranges**

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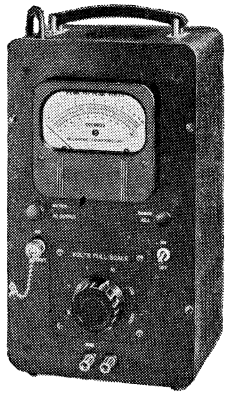
BALLANTINE
ELECTRONIC VOLTMETERS



PEAK-TO-PEAK MODEL 305

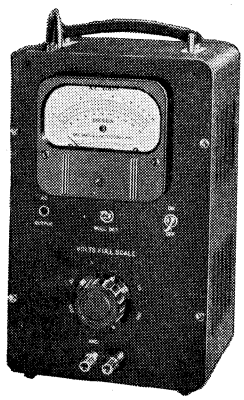
The Model 305 Voltmeter is designed to measure peak to peak values of repetitive waveforms. It responds to peak values of short periodic pulses having a repetition rate so low that it is impossible to measure their true peak values on ordinary electronic voltmeters. This voltmeter will measure peak-to-peak voltages from 1 millivolt to 1,000 volts (with an accuracy of better than 5%) for pulses from 3 to 250 microseconds having a repetition rate as low as 20 per second.

The Model 305 Voltmeter employs a resistance-capacity decade attenuator, a high gain negative feedback stabilized amplifier, a rectifier and a logarithmic indicating meter. Special circuits are used to respond to waveforms of very low energy content.

SPECIFICATIONS

Voltage Range ..... 1 mv — 1000 V peak-to-peak
Freqency Range ..... 10 cps — 100 kc (sine wave)
Pulse Width ..... 3 μsec — 250 μsec
Min Rep Rate ..... 20 pulses per sec
Accuracy ..... 5% for pulses and 3% for sine waves AT ANY POINT ON SCALE
Input Impedance ..... 2 meg shunted by 8 $\mu\mu$f*
Scales ..... Logarithmic voltage scale from 1 to 10; auxiliary linear scale in decibels from 0 to 20

* Shunt capacitance, 15 $\mu\mu$f on two most sensitive ranges



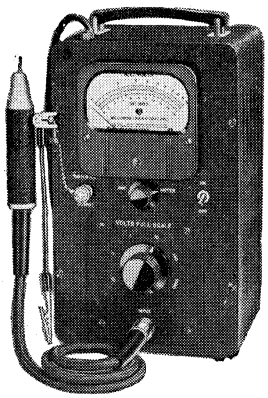
AUDIO to 2mc MODEL 310A

The Model 310A provides greater sensitivity, a wider frequency range, a higher input impedance, but somewhat less accuracy than the Model 300. It fills an extremely broad variety of needs, such as high level acoustic measurements, low level vibration measurements, microphone and phonograph studies, audio amplifier tests, carrier telephone transmission, ultrasonic development, and AM broadcast band signal measurements. A device is provided for removing the zero suppression existing in the logarithmic meter of the Model 310A, thus allowing it to be used as an effective bridge null detector for signals down to 10 microvolts.

SPECIFICATIONS

Voltage Range ..... 100 μv — 100 v
Down to 40 μv at reduced accuracy
Frequency Range ..... 10 cps — 2 mc
As null detector 5 cps — 4 mc
Accuracy ..... 3% 15 cps — 1 mc and 5% elsewhere AT ANY POINT ON SCALE
Input Impedance ..... 2 meg shunted by 9 $\mu\mu$f*
Scales ..... Logarithmic voltage scale from 1 to 10; auxiliary linear scale in decibels from 0 to 20

* Shunt capacitance, 19 $\mu\mu$f on two most sensitive ranges

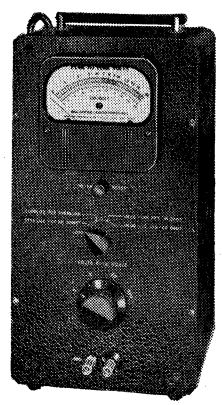


AUDIO to 6mc MODEL 314

The Model 314 particularly fulfills the need for an accurate, compact, wide-range voltmeter of great sensitivity to facilitate the development and servicing of equipment in video applications, as well as in other fields such as r.f. heating, vibration, ultrasonics, piezo-electricity, etc. It is recommended for consideration as an attractive alternative to Models 300 and 310A whenever the latter are regarded as being limited with respect to frequency range, input impedance, and maximum voltage indication for the application being considered.

SPECIFICATIONS

Voltage Range ..... 1 mv — 1000 v
(100 μv — 1 mv without probe)
Frequency Range ..... 15 cps — 6 mc
Accuracy ..... 3% 15 cps — 3 mc and 5% elsewhere AT ANY POINT ON SCALE
Input Impedance ..... 11 meg shunted by 8 $\mu\mu$f
(1 meg shunted by 25 $\mu\mu$f without probe)
Scales ..... Logarithmic voltage scale from 1 to 10; auxiliary linear scale in decibels from 0 to 20



INFRASONIC 0.05 cps to 30 kc, MODEL 316

The Model 316 satisfies the need for reliable voltage measuring apparatus in such applications as the development, design and routine testing of automatic control systems involving low frequency servo-mechanisms, and in many other fields where sub-audio frequencies down to 0.01 cycle are encountered. An example of its utility is in monitoring the outputs of a number of commercially available, low-frequency signal generators which are not furnished with an output meter.

This model is almost completely free of meter pointer "flutter" down to 0.05 cycle, while down to 0.01 cycle the variation will be small compared to the sweep occurring when using a dc voltmeter to observe the peak amplitude of infrasonic waves.

SPECIFICATIONS

Voltage Range ..... 20 mv — 200 v peak-to-peak
Frequency Range ..... 0.05 cps — 30 kc
(Down to .01 cps with correction)
Accuracy ..... 3% ENTIRE RANGE AT ANY POINT ON SCALE
Input Impedance ..... 10 meg shunted by 17 $\mu\mu$f or 40 $\mu\mu$f depending on setting
Scales ..... Logarithmic voltage scale from 2 to 20; auxiliary linear decibel scale from 0-20

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BALLANTINE
ELECTRONIC VOLTMETERS

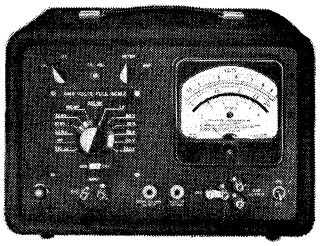
TRUE ROOT-MEAN-SQUARE INDICATION MODEL 320

The Model 320 is a sensitive, general purpose, wide-range electronic instrument designed for voltage measurement in AC systems operating at power, audio and ultrasonic frequencies where it is essential to determine the true root-mean-square magnitudes of periodic complex waves or noise potentials. It accepts distorted waveforms with a crest factor from 5-15 depending on scale reading. It must not be confused with a wide variety of electronic voltmeters of either the average or peak responding types which although stated to read RMS voltage do so only when the waveform is sinusoidal.

Operation is not dependent on thermocouples or other thermally sensitive devices and thus this model is not subject to drawbacks as accidental burnout, sluggish response, insensitiveness, low input impedance and susceptibility to fluctuations of ambient temperature.

SPECIFICATIONS

Voltage Range ..... 100 μv — 320 v
Frequency Range ..... 5 cps — 500 KC
Accuracy ..... 3% 15 cps — 150 KC and 5% elsewhere AT ANY POINT ON SCALE
Stability of Internal Calibrator 0.5%
Input Impedance ..... 10 megs shunted by 18 $\mu\mu$f below 10 mv; 10 megs shunted by 8 $\mu\mu$f above 10 mv
Scales ..... Logarithmic voltage scale from 1 to 3.2 and from 3.1 to 10; auxiliary decibel scale from 0 to 10



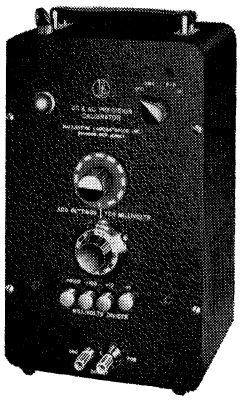
DC & AC PRECISION CALIBRATOR MODEL 420

The Model 420 provides an accurate and a most convenient means for calibrating voltmeters, oscillographs, and other voltage sensitive devices, in the laboratory, and also in the shop and in the field where its ruggedness and simplicity of operation is found very advantageous. The Model 420 is an exceptional instrument having built-in stable signal sources of DC and distortion free AC together with a continuously variable precision attenuator system. It is ideal as a secondary standard.

Note the benefits: A. No preliminary setting up adjustment. B. Output voltage can be read directly from the dials.

SPECIFICATIONS

Voltage Range .... 0-10 v RMS; Peak-to-Peak, or DC
Frequency (Std. Model) ..... 1 KC
Voltage Accuracy (long term) ..... Better than 0.5%
Distortion and Hum ..... Less than 0.25%
Setting Resolution Approaches 0.01% above 10 mv
Output Impedance (AC) ..... 2-20 ohms depending on range setting
Output Impedance (DC) ..... 0-4000 ohms depending on dial setting



DECADE AMPLIFIER MODEL 220B

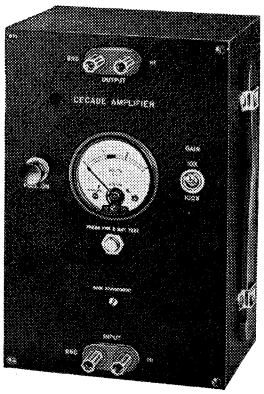
For increasing the Sensitivity of any AC Voltmeter by 10 or 100 times

The Model 220B Decade Amplifier provides stabilized voltage amplifications of precisely 10 or 100, either of which may be selected by a panel-mounted switch. It is powered by self-contained readily available commercial batteries having a life of at least 150 hours with normal use. A meter is provided on the panel for testing the condition of the batteries.

An important application of this instrument and the Model 300 Voltmeter is in low level noise measurements, such as in the test methods of specification JAN-R-11. The amplifier may be used within the limits of its frequency response of 10 to 150,000 cps with other Ballantine Voltmeters or for other applications when stable voltage gains of 10 or 100 are desired.

SPECIFICATIONS

Voltage Range ..... 20 μv — 50 mv
Frequency Range ..... 10 cps — 150 kc
Accuracy of gain ..... 2% ENTIRE RANGE
Input Impedance ..... 5 meg shunted by 15 $\mu\mu$f
Output Impedance ..... Less than 900 ohms in series with 2 μf for 10x gain; less than 7,000 ohms in series with 2 μf for 100x gain
Noise referred to Input ..... 25 μv open circuit 8 μv short circuit

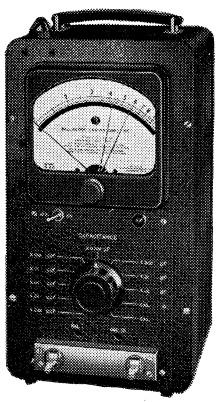


DIRECT READING CAPACITANCE METER MODEL 520

This instrument represents one of the fastest and most convenient means available for measuring capacitance with good accuracy over an extremely wide range of values, such as those encountered in paper, plastic, mica, ceramic, and air-dielectric type capacitors. Furthermore, the principle of operation permits its use in the measurement of direct capacitance occurring in three-terminal systems. This property, together with the ability to register capacitance down to one one-hundredth of a micromicrofarad, renders the Model 520 of particular usefulness in segregating stray effects from the measurement of very low value capacitors having appreciable lead-to-ground capacitance. Capacitance is read directly on a large 5-inch mirrored scale meter which also features two adjustable indexes for "go-no-go" testing.

SPECIFICATIONS

Capacitance Range ..... 0.01 $\mu\mu$f to 12 μf
Accuracy ..... 2 % from 0.1 $\mu\mu$f to 12 μf and 5% from 0.01 to 0.1 $\mu\mu$f, when the capacitor dissipation factor does not exceed 0.05 AT ANY POINT ON SCALE
Test Frequency ..... 1 KC
Meter ..... Logarithmic mirror scale reading from 1 to 12



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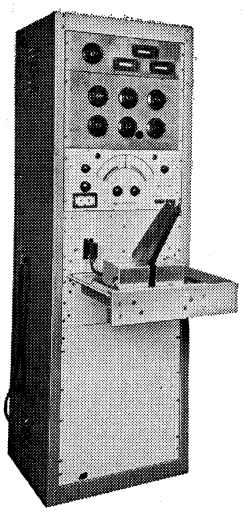
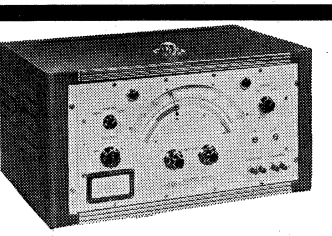
COMPONENT TEST EQUIPMENT

SORTING MECHANISMS



Sorting Mechanisms are available for use with Barnes instruments and other selection devices. A given mechanism can generally accommodate a variety of sizes of workpieces. These mechanisms are custom built, but incorporate standard techniques in the handling of axial lead, radial lead, disc and rod elements. Sorters are available for good-bad, high-good-low and multiple class sorting.

Speed depends upon the number of classifications and the length of the test cycle, but is in the range of 1,200 to 6,000 pieces per hour.



DEVIATION BRIDGE

A servo driven "Null Balance" resistance comparison Bridge, useful for sorting, inspection, and matching of resistors, and for potentiometer linearity checking and resistor adjusting.

Standard Range: Plus—minus 2% and 20%

Range: 10 ohms to 20 megohms

Size: 19 x 8¾ Relay rack mount

Bridge Voltage: 1.5 to 100 volts DC.

Power: 115 V 60 cycles 100 watts

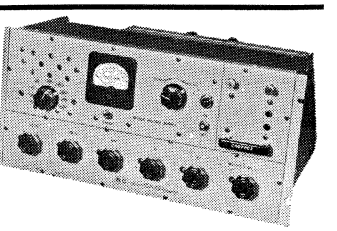
Models Available:

Type 38 S — Indicator only, visual sort
Type 38 C — Automatic sort, low level output
Type 38 R — Automatic Sort — Relay Output
Type 38 D — Digital Output

SORTING COMPARATOR

The sorting comparator is a sensitive detector that indicates whether or not an input electrical quantity is higher or lower than a standard preset value. Calibration can be in terms of resistance, or D.C. voltage, or D.C. current. It is useful in sorting a variety of electronic components.

This instrument is available in these basic models:



1. Two-way; gives simple high, low indication.
2. Three-way; gives high - good - low indication.
3. Multiple; gives multiple class sort in one measurement.

DATA RECORDER

The Barnes Data Recorder is basically a resistance comparison bridge, recording deviation from nominal value. With auxiliary equipment, measurements of impedance and phase angle can be made. It is most useful for obtaining life test, quality control, and qualification test data.

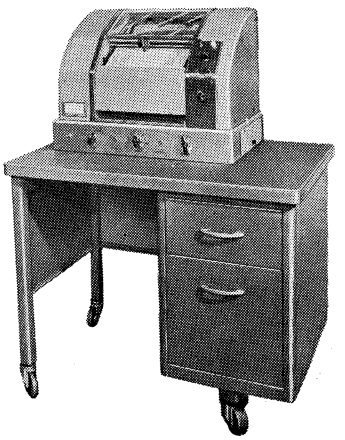


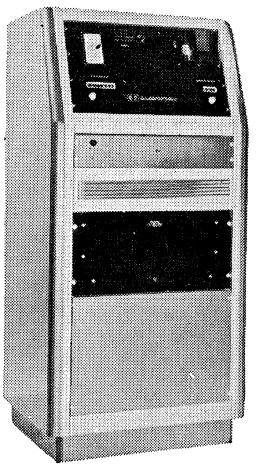
Chart: 8½ x 11 inches, Standard division for 10 readings on 10 samples. Positive indexing for removal between readings.

Scales: Standard plus-minus 2% and 20%.

Accuracy: On 20% scale ± .2%; on 2% scale, ± .03%.

Range of Measurement: 10 ohms to 20 megohms.

Bridge Voltage: 1.5 to 100 volts DC across the sample.



AUTOMATIC BALANCING CAPACITANCE BRIDGE

The Barnes Capacitance Bridge is an adaptation of the General Radio Type 716-C Capacitance Bridge, providing automatic balancing of the "C" and "D" dials, and numerical readout.

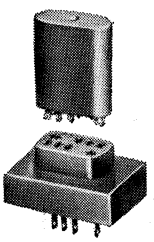
Standard Specifications:

Capacitance Range: 100 uu F to 1.1 uF, in four ranges
Dissipation Factor Range: 0 to 16% in three ranges
Range Switching: Manual
Accuracy: Equal to Basic Bridge accuracy
Test Frequency: 1,000 cycles per second

Optional Features:

Range switching can be automatic for either Capacitance or Dissipation Factor, or both.
Potentiometers can be incorporated to permit readout with a digital voltmeter or recorder.
Analog to Digital Converters can be incorporated to permit direct digital readout.
Another Basic Bridge can be used for other ranges or measurement frequencies.

TEST SOCKETS



The Barnes Test Socket is a long life, reliable fixture for testing Relays, Transformers, and other hermetically sealed components. Standard models are available for many of the more common headers, and sockets can be custom built for practically any header. Models are available for solder hook, pin, turret and other headers. Sockets can have two isolated contacts to each header terminal for low resistance measurements.

General Specifications:

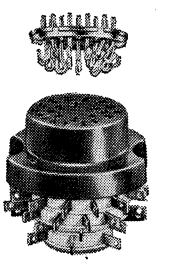
Operating temperature: —65° to +150° Centigrade
Breakdown Voltage: 1,500 volts RMS
Insulation Resistance: 50,000 Megohms

Delivery:

Standard Models: Stock to two weeks
Custom Models: 4 to 8 weeks

Price:

$10.00 to $85.00 depending upon quantity and whether standard or custom. Write for full information.



BD
BARNES DEVELOPMENT COMPANY
213 WEST BALTIMORE PIKE, LANSDOWNE, PA.

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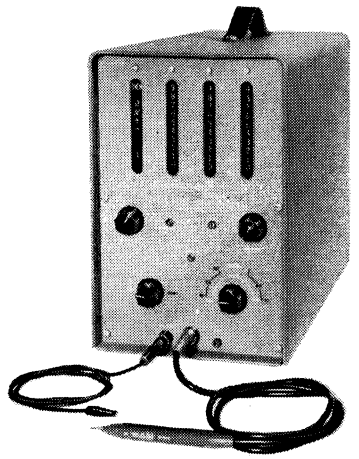
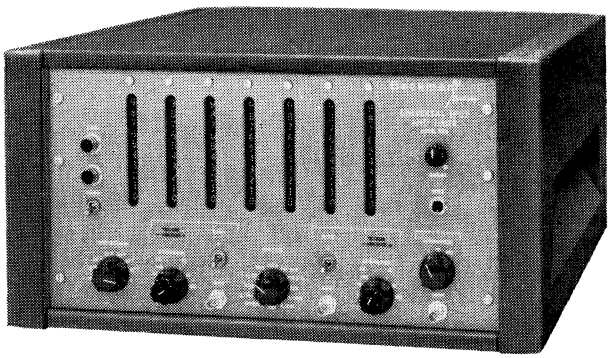
Digital Test and Control Equipment

ELECTRONIC COUNTERS
FREQUENCY METERS
TIME INTERVAL METERS
DC & AC VOLTMETERS
COUNTER-CONTROLLERS
INDICATORS & PRINTERS
DATA CONVERTERS



This digital volt-ohm meter is typical of portable Berkeley instruments. Equipment described as "portable" below is mounted in a similar cabinet.



This 10MC EPUT meter and timer is typical of standard Berkeley test and control equipment. Unless otherwise noted, instruments described below are mounted in a similar cabinet approximately 20" wide, 10" high and 16" deep. With cabinet removed, all such instruments fit easily into a 19-inch relay rack.

EPUT® METERS

Long considered standard equipment for making rapid precise frequency measurements, Berkeley EPUT meters are now available with over twenty standard modifications designed for an ever-broadening variety of applications. Four basic models (one a portable) offer top counting speeds of 100Kc, 1Mc and 10Mc. Most EPUT meters are equipped to make period measurements of low frequency signals.

TIME INTERVAL METERS

These instruments measure the interval between applied electrical signals by counting cycles of a highly stable internal oscillator. The full line offers meters of four degrees of precision ranging from a tenth of a milli-second to a tenth of a micro-second. Instruments feature selectable sensitivity for noise discrimination, trigger level adjustable over a wide range, slope selection and very high input impedance.

UNIVERSAL EPUT AND TIMERS

Combining the functions of an EPUT meter and time interval meter in a compact economical package, these instruments are widely preferred as general purpose laboratory equipment for precise frequency and time measurement. Universal instruments feature as many as ten distinct operating functions. Top counting speeds range from 100Kc to 10Mc; timing units from 0.1 micro-second to one second. A 100Kc portable model is available.

PRESET COUNTER-CONTROLLERS

Counters which deliver output signals when selected numbers are reached are widely used for precise control of diverse operations. Output signals may be relay closures, sharp voltage pulses or changes in dc level.

7400 Series controllers deliver output signals at one or two preset totals and will automatically reset to zero after last output signal if desired. Operated at a maximum speed of 10Kc, preset points are variable in increments of one count; at 100Kc, in increments of 10 counts, and at 1Mc in increments of 100 counts.

5800 Series controllers utilize miniature magnetic amplifiers for maximum reliability in industrial control applications. Operable at speeds up to 500 counts per second, these units are obtainable with from 1 to 12 preset points. Units with 1 or 2 preset points are mounted in a special dust tight cabinet 11" high 8" wide and 8" deep.

PRESET EPUT METERS

These instruments will create direct digital indication of rotating speed, flow, pressure, temperature and similar physical quantities in any desired units—for example, rpm, gals/sec, psi, etc. Direct indication is made possible by a counting interval variable over a wide range in small increments.

DIGITAL FREQUENCY MEASUREMENT UP TO 12,000Mc

Model 7570 Series heterodyne converters extend frequency measuring range of 10Mc EPUT meters with increased accuracy and sensitivity. Equipped with from one to three converters, all simultaneously housed in the same cabinet, the range can be extended to 110Mc, to 220Mc or to 1000Mc. Sensitivity of one milliwatt or better insures that loading effects will not distort measurements of weak signals.

Digital presentations of frequencies up to 12,000Mc can be obtained with the Model 7580 computing transfer oscillator operated with a universal EPUT and timer. Built-in computer calculates harmonic number which, preset into counter, creates a decimal display of actual frequency under test. Because manual calculations are unnecessary, measurements are ordinarily performed in one-fifth the time previously required.

DIGITAL VOLT-OHM METER

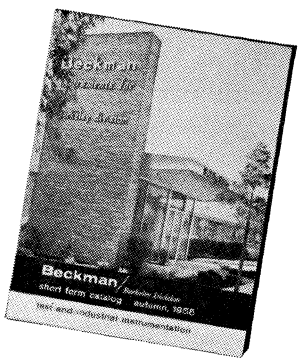
Model 5350 is an all-electronic portable instrument designed to measure dc voltage, ac voltage and resistance. Digital indication is complete with decimal point and polarity sign to eliminate human error. Full scale dc voltage ranges are 1v, 10v, 100v and 1000v with 0.2% accuracy. AC ranges are 1v, 10v, 100v and 500v rms; resistance ranges, 10k, 100k, 1M and 10M. Built-in dc voltage, ac voltage and resistance standards permit calibration without auxiliary equipment.

READOUT DEVICES, DATA CONVERTERS

Nearly all Beckman electronic counters generate a binary-coded output representing the measurement indication. Available at a convenient rear-panel jack, these signals will drive Beckman **digital recorders, remote in-line indicators, output scanners** and **various data converters.** All readout devices and converters are specifically designed for simple, reliable operation with basic counting equipment.

TRANSDUCERS

Beckman manufactures a variety of transducers which translate physical events into electrical pulse suitable for counting and timing purposes. Tachometer pick-ups and photoelectric sensing elements are typical.



FREE 16-PAGE CATALOG

Catalog C706 contains detailed technical data on these and related instruments. Write, or fill out reader service card.

SALES ENGINEERS AT YOUR SERVICE

Factory-trained sales and service engineers, located in over 30 offices throughout the U.S. and Canada, will help you select equipment for your individual needs. See "Beckman/Berkeley Division" in the yellow section for the sales representative nearest you.

T14

Beckman® / *Berkeley Division*
A Division of Beckman Instruments, Inc.,
2200 Wright Avenue, Richmond, California

See YELLOW SECTION for Local Offices, Telephone, etc.

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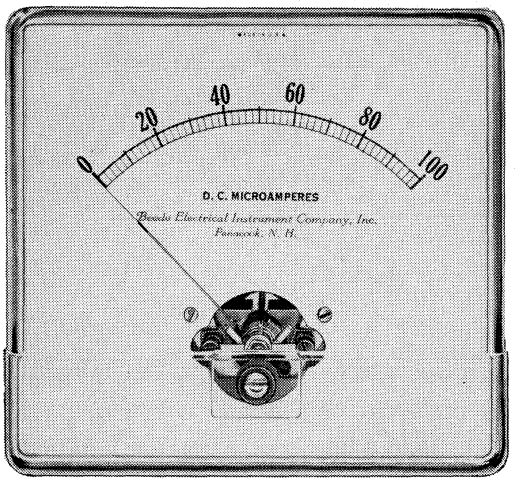
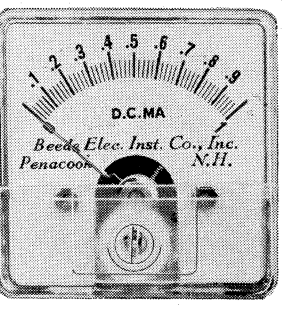




BEEDE

FOR NEW DEVELOPMENTS AND REPLACEMENT REQUIREMENTS

SPECIFY

BEEDE METERS

MAXIMUM QUALITY — DEPENDABILITY
RELIABILITY AND ACCURACY

•

Micro Ammeters — Milliameters — Ammeters — Millivoltmeters — Voltmeters — Surpressed Scale Meters — Expanded Scale Meters — VU and DB Meters — Pyrometers — Temperature Compensated Pyrometers — Null Indicators — Type A, B, & C Sensitivities — Full Wave Rectified AC Voltmeters — Repulsion Type AC Current and Volt Meters — Elapse Time Meters.

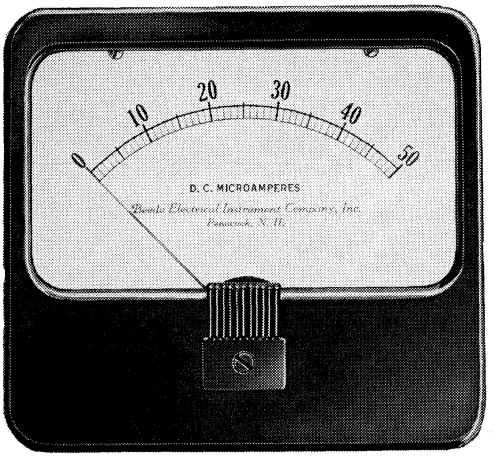
•

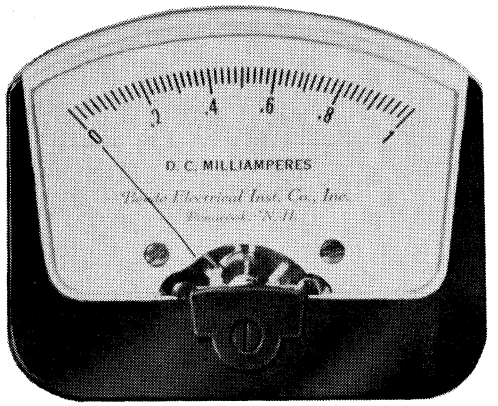
Magnetically self shielding movements available.

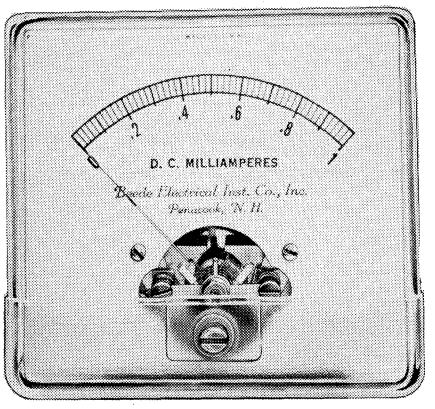
Available in over 65 case styles from 1 ½" to 7" in Styrene, Bakelite and metal.

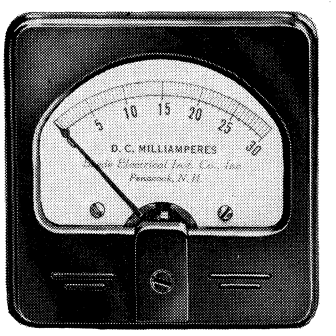
•

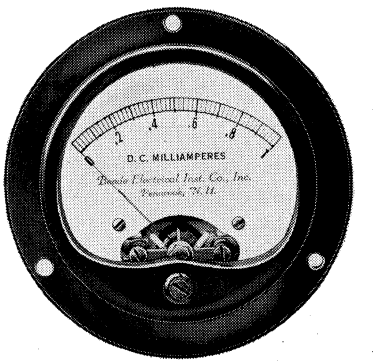
SURFACE, FLUSH AND EDGEWISE MOUNTING











For complete information, write directly to —

BEEDE ELECTRICAL INSTRUMENT CO., INC.

PENACOOK, NEW HAMPSHIRE

See YELLOW SECTION for Local Offices, Telephone, etc.

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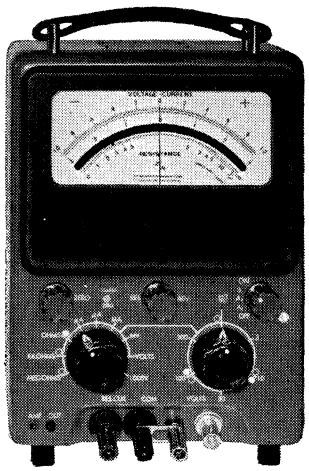


Model 110A Portable

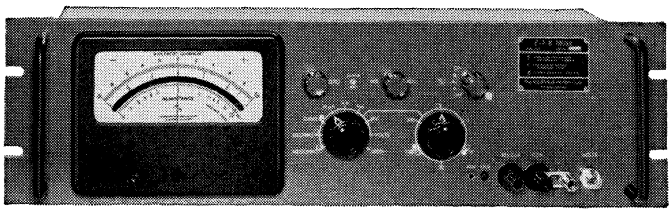
Precision dc Measurements

MODEL 110A E-I-R METER

- *1 mv to 1000 v full scale*
- *1 mμa to 300 ma full scale*
- *10 ohms to 100 megohms*
- *Electrometer input*
- *Transistorized output and meter drive circuit*
- *1000 hour battery life*

The Model 110A E-I-R Meter is a battery powered partially transistorized instrument for dc measurements of voltage, current and resistance. Long battery life and freedom from power line connection make it an extremely versatile instrument for general laboratory use. Battery operation expands the usefulness of this meter. For example, making current measurements in high voltage circuits.

Because a number of today's circuits use both positive and negative potentials, a center zero output indicator was chosen eliminating the need for a polarity reversal switch and switching operation.



Model 110AR Rack Mounting

CURRENT RANGES: 18 Ranges: ±1, 3, 10, 30, 100 and 300 milli-microamperes dc full scale; ±1, 3, 10, 30, 100 and 300 microamperes dc full scale; ±1, 3, 10, 30, 100 and 300 milliamperes dc full scale. Accuracy of indication is better than ±2% of full scale. Voltage drop for all current ranges is 100 millivolts.

Typical uses for the Model 110A include measurement of leakage currents and resistances, grid currents of vacuum tubes, semi-conductor characteristics and potential measurements in high resistance circuits such as computer circuits. The 110A can be used as a null indicator, as a deviation bridge limit indicator and reading direct deviations from a reference voltage. Isolation of meter circuit from case permits operation up to 500 volts maximum between case and meter.

SPECIFICATIONS

VOLTAGE RANGES: 13 Ranges: ±1, 3, 10, 30, 100 and 300 mv, ±1, 3, 10, 30, 100, 300 and 1000 volts dc full scale. Accuracy of indication is better than ±2% of full scale. Input resistance, 101 megohms.

RESISTANCE RANGES: 8 Ranges: direct reading resistance scales; 10, 100 ohms center scale; 1, 10 and 100 kilohms center scale; 1, 10 and 100 megohms center scale. Accuracy of resistance indication is better than ±4% at midscale degenerating to not less than ±5% at 0.3 and 3 on scale. Minimum scale marking is 0.02 and maximum 100.

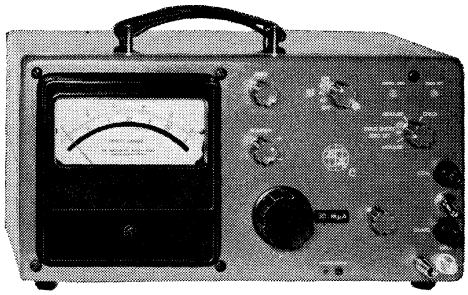
Dimensions: 6-½" W x 9-⅝" H x 5-⅜" D - 6 lbs.

Dimensions: (110AR) 19"W x 5¼"H x 4½"D

PRICE: (fob factory) 110A—$315.00, 110AR $350.00

MODEL 120 WIDE RANGE AMMETER

- *± 1μμa to ±300 ma full scale*
- *Transistorized meter circuit*
- *1500 hour battery life*
- *Accuracy better than 2% throughout entire range*
- *Amplifier or recorder output provided*
- *Available in portable or rack mounting*



Model 120 Wide Range Ammeter

The Model 120 Wide Range Ammeter is a portable, battery operated instrument for precise measurements of current in the laboratory, in systems installations or on the production line. Simple to use, with no external shunts to change, the Model 120 is applicable to a wide variety of problems in semi-conductor work, spectrometry, vacuum tube grid current studies, etc. Voltage drop for scale ranges 300 μa up through 300 ma is 100 mv. For scale ranges 1 μμa up through 100 μa, optionally the voltage drop can be approximately 100 μv across the input terminals with current shunt feedback or 1 volt without current feedback.

The meter circuit is isolated from the case with an insulation resistance greater than 10,000 megohms and capacitance of approximately 500 μμf. The instrument can be operated with 500 volts maximum between the case and meter circuit.

SPECIFICATIONS

RANGES	24 steps, ±1 μμa through ±300 ma, full scale
ACCURACY	±1% from 1 mμa through 300 ma; ±2% from 1μμa through 300 μμa
DRIFT	3 mv after 5 minute warmup; 2 mv per hour after 1 hours operation and substantially less than 1 mv per hour after extended operation
DIMENSIONS	13" W x 8-¾" D x 7-½" H - 17 lbs.
PRICE (fob factory)	120 — $745.00 120R— (7" Rack Mounting)—$745.00

Write for complete technical information on these instruments or contact your local Belleville-Hexem representative for a demonstration.

Belleville - Hexem CORPORATION

638 University Avenue, Los Gatos, California 3

See YELLOW SECTION for local offices, telephones, etc.

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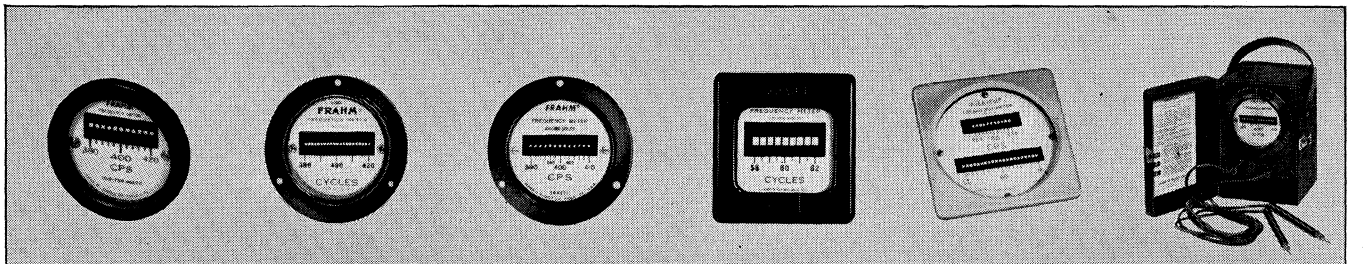
FRAHM® RESONANT REED FREQUENCY METERS by Biddle SINCE 1910

15 to 1500 cps
(Special up to 1700 cps)
2 to 62 reeds
•
Molded Plastic or Metal Cases
•
Sealed if required
•
2½" to 8½"
•
Panel Mounting or Portable

The inherent simplicity and unfailing accuracy of Frahm Resonant Reed Frequency Meters have gained wide acceptance for them in many fields.

The James G. Biddle Company introduced the first vibrating reed instruments in this country over 40 years ago. Throughout these many years our ability and our facilities, for producing only the highest quality instruments, have steadily improved. Our many years of experience, study of materials, processes, and controls, are your assurance of satisfactory performance over long periods of service.

Frahm Frequency Meters are available in switchboard, miniature and portable types in a wide variety of ranges for frequencies from 10 to 1500 cps or even to 1700 cps for special applications. Specially designed instruments can be made to your specifications. We invite your correspondence regarding applications which require special modifications of range, methods of actuating, scale graduations or other design characteristics. Write for our bulletin which contains complete specifications and prices . . . BULLETIN 32 EEM



Catalog 2997, 2½" round metal case—380-420 cps

Catalog 5097, round —380 to 420 cps, 100-150 volts (3½")

Catalog 4890, round 3½" case—400 cps, 1 cycle interval

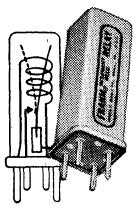
Catalog 4964-2 rectangular — 58.0 to 62.0 cps, 100-150 volts

Showing a 4½" metal case with square bezel, special range

Portable Type with a Miniature Round Frequency Meter (3½")

FRAHM RELAYS AND OSCILLATOR CONTROLS

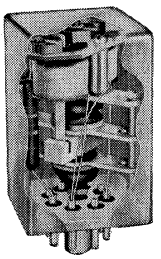
—for selective calling, remote operation, supervisory control, data transmission, telemetering, and monitoring.



The transmission of a number of control signals over a single communication circuit of any type is simplified by the use of these components.

REED RELAYS act like bandpass filters with narrow response bandwidth which operate on SPST contact—available with any one single nominal response frequency for each reed in them within the range from 20 to 1000 cps.

FRAHM ROC RESONANT REED OSCILLATOR CONTROLS are circuit components for electric oscillators—they maintain oscillator output frequency within close limits—also used as electro-mechanical bandpass filters.



Applications include: electrical and acoustical measurements, electrical communication systems (selective calling), remote operation and supervisory control of machinery and apparatus, electrical computers and telemetering systems, electro-mechanical bandpass filters.

Frahm ROC Oscillator Controls are available with any one nominal control frequency between 20 and 1100 cps—constant within ±0.15% of the nominal control frequency.

We particularly encourage inquiries on special applications.

Write for Bulletin on Reed Relays —33 EEM . . . and ROC Oscillator Controls—34 EEM

Cat. Number	Range Cycles	Number of Reeds	Interval between reeds cycles	Type of Case	Sealed	Accuracy %
2955	45—55	11	1.0	2½" metal	Yes	0.3
2956	47.5—52.5	11	0.5	" "	Yes	0.3
2966	55—65	11	1.0	" "	Yes	0.3
2967	57.5—62.5	11	0.5	" "	Yes	0.3
2995	390—410	11	2.0	" "	Yes	0.3
2997	380—420	11	4.0	" "	Yes	0.3
2996	375—425	11	5.0	" "	Yes	0.3
4850	49—51	21	0.1	3½" metal	Yes	0.1
4860	59—61	21	0.1	" "	Yes	0.1
4861	58—62	21	0.2	" "	Yes	0.1
4890	390—410	21	1.0	" "	Yes	0.1
4956	47.5—52.5	11	0.5	3½" plastic	No	0.3
4957	48.0—52	11	0.4	" "	No	0.3
4959	48.0—52.0	10	1.0	" "	No	0.3
	58.0—62.0		1.0			
4964	58.0—62.0	9	0.5	" "	No	0.3
4965	56.0—64.0	9	1.0	" "	No	0.3
4966a	58.0—62.0	11	0.4	" "	No	0.3
4966	57.5—62.5	11	0.5	" "	No	0.3
4967	55.0—65.0	11	1.0	" "	No	0.3
4996	375—425	11	5	" "	No	0.3
4997	380—420	11	4	" "	No	0.3
5066	55—65	21	0.5	" "	No	0.3
5067	50—70	21	1.0	" "	No	0.3
5097	380—420	21	2	" "	No	0.3
5098	360—440	21	4	" "	No	0.3
6405	45—55	21	0.5	4½" metal (sq. bezel)	Yes	0.3
6410	55—65	21	0.5	" " " "	Yes	0.3
6497	380—420	21	2.0	" " " "	Yes	0.3
6498	360—440	21	4.0	" " " "	Yes	0.3
6505	44—56	25	0.5	5½" metal square	No	0.3
6510	54—66	25	0.5	" " "	No	0.3
6515	48—72	25	1.0	" " "	No	0.3

Voltages 100 to 150 v—D.C. resistance 100 ohms per volt—Instruments meet MIL Specification

Cases meet ASA standard diameter dimensions

3½" meters available in round plastic, round metal (sealed or unsealed), or round plastic with square bezel

Portable instruments available in all ranges shown with 3½" cases

B904

JAMES G. BIDDLE CO.

• ELECTRICAL TESTING INSTRUMENTS
• SPEED MEASURING INSTRUMENTS
• LABORATORY & SCIENTIFIC EQUIPMENT

1316 ARCH STREET
PHILADELPHIA 7, PA.

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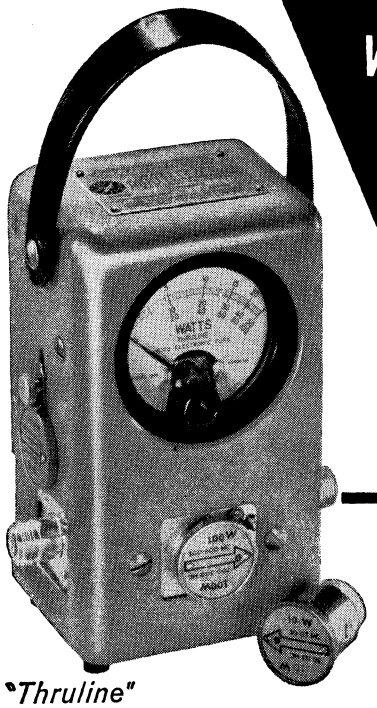
when rf power must be absorbed or accurately measured...



"Thruline"

50 OHM NOMINAL

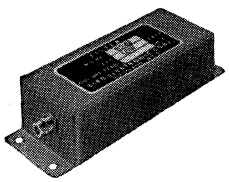
You will find dependable coaxial line instruments and accessories at Bird Electronic. Specialization in this field, backed by a constantly growing engineering staff and enlarged physical facilities, has resulted in the continuous development of new designs to meet specific requirements. If you are searching for more than a standard product for field or laboratory use, turn to Bird Electronic. Our years of experience in this field may assist you in the solution of your problem.

DIRECTIONAL RF WATTMETERS

Direct reading . . . "thru" type . . . for measuring forward or reflected power in complete systems under operating conditions . . . inserted between transmitter and antenna or load . . . full scale power and frequency range determined by plug-in elements.

Model	Line	Impedance	Frequency ELEMENTS	Power	Connector
43	RG-8/U etc.	50 ohms	25-60; 50-125 100-250; 250-500; 400-1000 mc	10; 25; 50; 100; 250; 500 W	N; C; HN; UHF
4712	1⅝	50 ohms	200-500 400-1000 mc	.5; 1.0; 1.5; 2.5; 5.0 KW	Rtma Std.
460	3⅛	50 ohms	200-500 mc	1; 2.5; 5; 10 25; 50 KW	Flange
480	3⅛	51.5 ohms	400-1000 mc		Sleeve Bullet
490	6⅛	51.5 ohms	200-500 mc	25; 50 and 100 KW	

COAXIAL RF FILTERS



Designs utilize both distributed and lumped constant . . . insertion loss and VSWR are very low in pass band . . . high attenuation in stop band . . . new miniature filters as light as 5 ounces. Will produce in quantity to your specs.

	Low Pass	Low Pass	Low Pass	Low Pass	High Pass	Band Pass
Models	5310	5311	522	819-1200	530	5131
Cut Off	90 mc	160 mc	400 mc	1200 mc	420 mc	45 mc & 105 mc
Stop Band	100-180 mc	180-320 mc	500-1200 mc	1900-4000 mc	100-375 mc	33.7-39.7 mc 120-1000 mc
Max. Power	100W	100W	150W	3.5KW	50W	25W
Min. Stop Band Atten.	55db	55db	55db	40db	60db	25db 40db
VSWR in p.b.	1.5	1.5	1.35	2 to 1	2.5	1.6
Connectors	Female N		Male-Female N			Female BNC

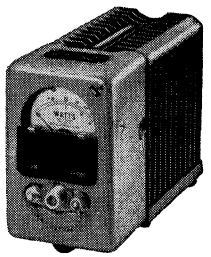
Chart shows characteristics of typical Filters

"Termaline" RF ABSORPTION WATTMETERS

Portable . . . direct reading . . . non-radiating "load" type wattmeter . . . used in field or laboratory to measure and absorb power . . . accuracy ± 5% of full scale . . . VSWR 1.1 to 1 maximum over operating range.

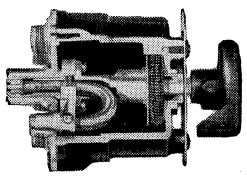
Model	Freq. Range	Max. Power	Power Range Scales	Input Connector
611	30-500 mc	60W	0-15; 0-60	Female N
612	30-500 mc	80W	0-20; 0-80	
67	30-500 mc	500W	0-25; 0-100; 0-500	Coplanar with Adapter to UG-21/U. (optional) RG-17 & RG-19 cable assemblies: adapters to rigid lines
67C*	30-500 mc	2500W	0-100; 0-500; 0-2500	
824*	30-220 mc	5000W	0-5000	

*Water cooled (other available models described in specification sheets)



COAXIAL SWITCHES

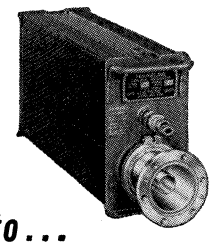
Small compact design permits the "Coaxwitch" selector to be incorporated into many electronic units where repeated channel switching is required. Finger-tip operation: pull knob, rotate and push in to make contact.



Model	74	718	72R	62-2
Positions	Six	Eight	Reversing Switch	Two
Coaxial Circuits	One	One	Two	Two
Connector	Type N female connectors are standard on all models to receive UG-21/U series plug. Use adapters with other cables and connectors.			

"Termaline" RF LOAD RESISTORS

Reflection-free terminations for 50 ohm coaxial lines . . . low VSWR . . . non-radiating . . . water cooled ratings 2500 W to 50 KW . . . air cooled rating to 1500 W.



Model	Max. Power	Freq. Range	Max.* VSWR	Connector
80	5W	0-1KMC	1.1	"N", "C", "BNC"
80A	20W	0-500MC	1.1	
81	50W	0-1KMC	1.1	N Female
81B	80W	0-1KMC	1.1	
82A	500W	0-1KMC	1.1	Coplanar with Adapter to UG-21/U
883	1.2KW	0-1KMC	1.1	LC
888	1.5KW	0-1KMC	1.1	3⅛ Flanged

*Other VSWR requirements can usually be met by special selection.

turn to...

BIRD ELECTRONIC CORP.
EXpress 1-3535
1800 E. 38 St., Cleveland 14, Ohio
Western Representative:
VAN GROOS COMPANY, Woodland Hills, Calif.

See YELLOW SECTION for Local Offices, Telephone, etc.

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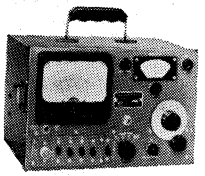
B-T LABS® VHF FIELD STRENGTH METER

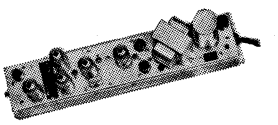


Model FSM-1 54mc to 216mc — A portable, precision instrument for accurate measurement of RF signal strength. Measures signal levels from 10 microvolts to 3.0 volts — in 10 full-scale ranges — with an accuracy of ±1.5 db. When used with B-T UHF converter, range includes entire UHF band. Also measures percentage of AM modulation and IM distortion.

Features include: ● Continuous tuning from 54mc to 216mc. ● Unaffected by temperature changes from 0° through 120° F. ● Built-in carrying handle and special strap for field use.

Dimensions: 11¼ x 9¼ x 7¾ inches *Input Impedance:* 75 ohms **$310 net**

MASTERLINE CRYSTAL CONTROLLED CONVERTERS



For . . . lab testing and development • community TV systems • TV distribution systems • translator and satellite stations.

Model MVC: Hi-to-Lo channel VHF converter **$240.00 Net**
Model MLC: Lo-to-Lo channel VHF converter **$240.00 Net**
Model MUC: UHF to VHF converter Extremely stable, self-powered with two matched 75 ohm outputs. All channel VHF mixing network. Flat within ½ db over full 6 mc output. For color and black and white TV. **$240.00 Net**

B-T LABS® BLONDER-TONGUE LABORATORIES, Inc.
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● Industrial TV Cameras ● TV Systems ● VHF and UHF Amplifiers ● TV Accessories

eem

THE ELECTRONIC INDUSTRY'S ONLY ANNUAL CATALOG AND BUYING DIRECTORY THAT'S KEPT UP-TO-DATE THROUGHOUT THE YEAR

for full details refer to the inside back cover

Guaranteed, long-term accuracy 1%

Designed primarily for the Electronic, Radio and Television Engineer, the AvoMeter 8 is unlike any test instrument you have ever used. *Compare it only with a laboratory standard... for both are hand calibrated, with long-term accuracy conservatively specified... and guaranteed.*

In ruggedness, portability, ease of operation... and, most important in versatility, the AvoMeter 8 is superior even to the most costly standards. Wherever you require an accurate, dependable multi-range meter, use the AvoMeter 8... moderately priced at $89.01.

Accuracy: 1% DC current; 2% DC voltage; 2¼ AC current and voltage. **Guaranteed!**

Sensitivity: 20,000 ohms/volt DC; 1,000 ohms/volt AC.

Hand Calibration assures maximum accuracy throughout every range.

Mirrored Scale and knife edge pointer prevent parallax errors.

Overload Protection by automatic cutout.

AC Current Readings from 1 ma. to 10 amps.

Reversing switch ends lead changing on signals slowly varying polarity.

Zeroing Controls for each resistance range permit changeover without resetting.

Decibel Scale for audio frequency tests.

Accessories (optional): Resistance Range Extension Unit provides readings from 0.025 ohms to 200 megohms; Current Transformers extend AC range to 400 Amps; High Voltage DC Multipliers extend DC range to 25,000 volts; Leather Carrying case.

$89 01

2353

For complete literature address inquiries to Dept. ZY1299.
Special Instruments Division
BRITISH INDUSTRIES CORPORATION, 80 SHORE ROAD, PORT WASHINGTON, N. Y.

Order from Local Electronic Parts Distributor or Write for List.

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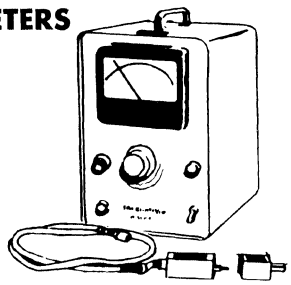
VOLTMETERS

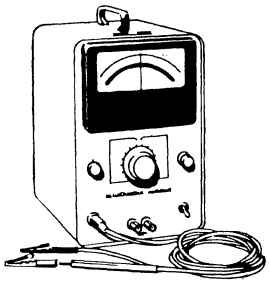
SENSITIVE RF VOLTMETERS

- RANGE:
  Model 91-C: 1 mv to 3 v.
  Model 91-CA: 0.3 mv to 3 v.
- FREQ. RANGE: 10 kc to 600 mc.
- ACCURACY: 5% to 200 mc.
  10% to 600 mc.
- High impedance probe and 52 ohm adapter.
- Special adapters and voltage divider available.



MODEL 91-C Price $395
MODEL 91-CA Price $495

DIFFERENTIAL DC VOLTMETER-AMPLIFIER



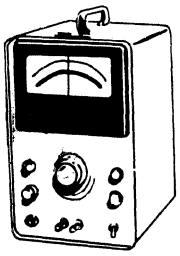
- RANGE: 10 μv to 1000 v.
- ACCURACY: 3% full scale.
- COMMON MODE REJECTION: 80 db.
- INPUT RESISTANCE: 10 megohms to 100 megohms.
- Zero center meter.
- OUTPUT CAPABILITY: 0.5 ma into 1500 Ω.

MODEL 98-A Price $395

NULL DETECTORS

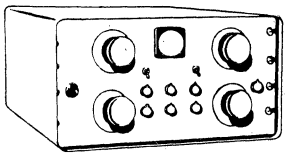
NEW DC NULL DETECTOR

- For use with bridges. Provides compression for hunting or linearity for close tolerance work.
  (Tentative Specifications)
- HUNTING RANGE: 60 db.
- FULL SCALE SENSITIVITY:
  VOLTAGE: 10 μv to 100 v.
  CURRENT: 1 $\mu\mu$a to 10 μa.
  POWER: 10^{-17} watts to 10^{-3} watts.
- INPUT RESISTANCE: 10 meg.
- OUTPUT RATING: 1.0 v across 500 Ω.
- MAX. AMPLIFIER GAIN: 100 db.



MODEL 56-A

NEW AC NULL DETECTOR



MODEL 51-A

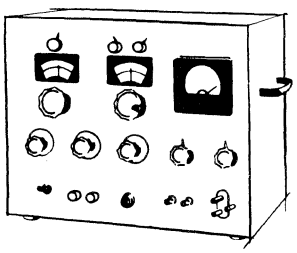
- TUNING RANGE: 20 cycles to 200 kc.
- SENSITIVITY: 10μv for 1/4 inch CRT deflection or 100 μa dc output.
- PHASE SENSITIVE.
- HUNTING RANGE: 75 db with AVC on; 25 db with AVC off.
- INPUT IMPEDANCE: 1 megohm shunted by 100 $\mu\mu$f.
- Discrimination of 2nd harmonic of tuned freq. is 35 to 40 db.
- Useful as a low frequency impedance bridge detector, tuned voltmeter, or in wave analysis.

BRIDGES

THREE TERMINAL

CAPACITANCE BRIDGE

- CAP. RANGE: .0002 $\mu\mu$f to 11,000 $\mu\mu$f.
- APPROX. ACCURACY: $\pm$0.25% + range factor.
- Measures direct or grounded capacitanee and conductance.

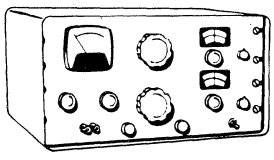


MODEL 74-C Price $935

- Self-contained 100 kc oscillator and detector.
- Special models available at 1000 $\sim$, 465 kc and with built-in dc bias for diode testing.

NEW INDUCTANCE BRIDGE

(Tentative Specifications)



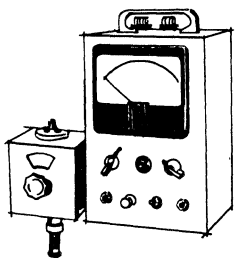
MODEL 63-A

- INDUCTANCE RANGE: .002μh to 1.1 henry.
- INDUCTANCE ACCURACY: $\pm$0.25% + range factor.
- RESOLUTION: .01%.
- TEST FREQUENCIES: Continuously variable from 1 kc to 100 kc with internal oscillator and detector.
- EFFECTIVE SERIES RESISTANCE RANGE: .01 to 110,000 ohms.
- Non-interacting inductance and resistance balance controls.

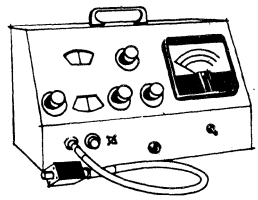
UHF GRID DIP METER

- FREQ. RANGE: 300 to 1000 mc.
- Small, lightweight probe.
- High sensitivity for both capacitive and inductive coupling.
- Internal 120 $\sim$ modulation or external modulation.
- May be operated as a diode detector.

MODEL 101-B Price $275



RF DISTORTION METERS



MODEL 85 Price $740

- FREQ. RANGE:
  Model 85-B: 1 to 100 mc.
  Model 85-C: 0.1 to 6 mc.
- SENSITIVITY: 60 db below 1 v.
- INPUT IMPEDANCE:
  Approximately 50 ohms.
- Rapid measurement of total distortion.
- Same voltmeter features as model 91-C above.

REPRESENTATIVES

NEW ENGLAND: George Gregory Assoc., West Newton, Mass. • **NEW YORK:** S. B. M. Assoc., Rochester, N. Y. • **N. J., N. Y. C., L. I., WESTCHESTER:** N. L. R. Assoc., W. Orange, N. J. • **E. PENNA., MD., WASH., D. C.:** C. F. Paddock, Silver Springs, Md. • **SOUTH EAST:** J. L. Highsmith & Co., Charlotte, N. C. • **FLORIDA:** A. H. Lynch & Assoc., Inc., Ft. Myers, Fla. • **MICHIGAN:** Anderson Electronics Co., Roseville, Mich. • **W. PENNA., OHIO:** Dayton Assoc., Dayton, O. • **CALIFORNIA:** J. F. O'Halloran & Assoc., N. Hollywood, Calif. • **EXPORT:** A. V. Marano & Co., N. Y. C.

Boonton ELECTRONICS Corp. Morris Plains, N. J. Phone: JEfferson 9-4210

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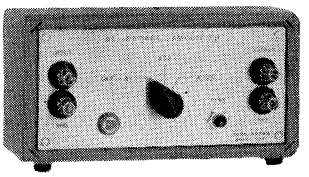
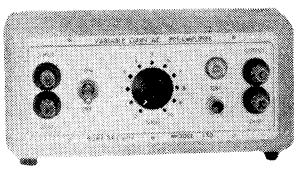
BB INSTRUMENTS

Consider the real advantages of TRANSISTORIZED LABORATORY INSTRUMENTATION



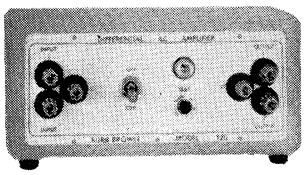
Transistorized AC Decade Amplifier

The Model 100 is a two-stage, non-inverting feedback amplifier self-powered from ordinary flashlight batteries offering x10, x100 gain - 2% accuracy and 1-800 Kcps frequency response. **$127.00**



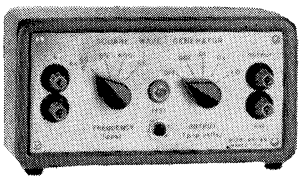
Transistorized Variable Gain AC Preamplifier

The Burr-Brown Model 110 is a continuously variable two-stage, non-inverting, self-powered, feedback amplifier featuring high input impedance with 0-300 gain and a 10-500 Kcps frequency response. **$155.00**



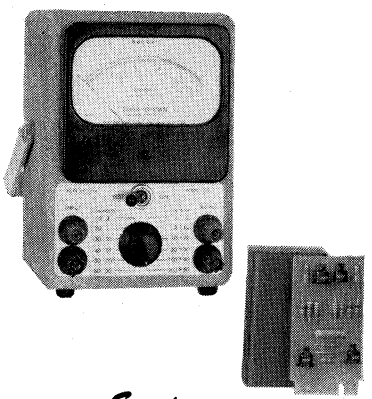
Transistorized Differential AC Amplifier

Designed with four unity gain stages in push-pull the Model 120 is essentially a self-powered, broadband, center-tapped transformer providing common mode rejection by a passive element matrix. Useful in applications requiring isolation or measurement of "floating" signals. -0.5 db gain and 1-500 Kcps frequency response with 60db rejection. **$116.00**



Transistorized Square Wave Generator

The circuit employs two transistors in a multivibrator circuit and two transistors as current regulators to insure flat waveforms. Model 200 provides a 5-30,000 cps frequency range with a rise time of 0.25 FS μs **$118.00**



Transistorized AC Millivoltmeter

Burr-Brown Model 300 incorporates an original circuit to provide for high input impedance and a voltage regulator system to insure uniform performance throughout battery life. Small size and unusually long battery life make this instrument popular in the laboratory and in the field. Used to measure audio and supersonic signals, it provides accurate low-level measurement at power frequencies lmv-300v FS, 3% 10-100 Kcps. **$228.00**

Transistorized Operational Amplifiers

Being high gain differential amplifiers, phase corrected for all types of external feedback, the Model 130 Series provides the user with a convenient and versatile gain package. By proper selection of feedback elements, a wide variety of performance characteristics may be obtained. High power effeciency makes operation possible from either power lines or batteries. Both germaniun and silicon units are available. **$62 up**

NO GROUND PROBLEMS
Complete isolation from AC power lines. No hum or ground loops. Allows precision measurement of power frequencies.

MORE COMPACT
Small and easy to use, no wasted bench space, instantly ready for use.

MORE RELIABLE
Long trouble-free operation due to the inherent reliability to transistors operated without heat at conservative ratings.

VERSATILE
Thousands of proven applications in leading laboratories everywhere.

HIGH-POWER EFFICIENCY
Typical power consumption is less than 75mw. Long life from batteries and "cool" operation in permanent installations.

NON-MICROPHONIC
For precision measurement at low levels.

CUSTOMIZED *Execkit* TRANSISTORIZED *instruments*

Custom portable instrumentation for specific needs. Designed for air travel in attractive compact luggage.

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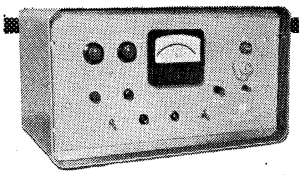


DYNAMIC CAPACITOR ELECTROMETER

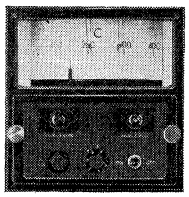
Model 202 Electrometers are basically charge-measuring devices of high sensitivity to measure extremely low voltages and currents. It is a direct-reading millivoltmeter and operates on three ranges, 10, 100 and 1,000 mv full scale. To use the Dynamic Capacitor Electrometer as a micro-microammeter, provision is made for plugging in appropriate input resistors.

SPECIFICATIONS

MILLIVOLTMETER OPERATION—Ranges: 10, 100, 1000 millivolts. **Input Resistance:** Greater than 10^{15} ohms. **Voltage Sensitivity:** 10 mv full scale (50 divisions). **Charge Sensitivity:** 3 x 10^{-13} coulombs full scale. **Accuracy:** ±2% of full scale.

MICROMICROAMMETER OPERATION — Current Sensitivity: 10^{-14} amperes full scale when used with a 10^{12} ohm input resistor. **Accuracy:** ±2% of full scale not including input resistor. **Stability:** Less than ±1 mv per day drift.

PHYSICAL CHARACTERISTICS: Size: 10½" x 19½" x 12". **Weight:** 45 lbs. net. **Recorder Outputs:** Three output jacks. **Price:** $1,075 f.o.b. Carlstadt.

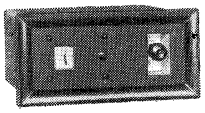


New TRANSITORIZED CONTROLLERS

Curtiss-Wright Indicating Controllers provide inexpensive yet accurate indication and control of temperature and other variables that can be expressed in voltage, current, or power. They are "on-off" type controllers and basically consist of a moving coil, cross-coil, or dynamometer movement which is inductively coupled to a no-contact type circuit which in turn controls a relay.

Controllers with one or two independent control set-points provide simple on-off control, off-low-high, or left and right contacts with a center dead zone. They can be used as inexpensive warning devices as well as for accurate temperature control of plastics molding presses, annealing furnaces, drying ovens, chemical baths, etc.

RANGES	SENSING ELEMENT	MOVEMENT
30 to 1,200°F Fe-Const. 30 to 2,000°F CrAl-Al 30 to 3,000°F Pt-PtRh	Thermo-couple	D'Arsonval Moving Coil
Smallest range 300 to 3,000°F Largest range 30 to 800°F	Nickel or platinum resistance thermometer	Cross-coil



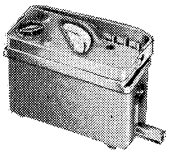
DC AMPLIFIERS

Model 6601 DC Amplifier

Model 6601 Self-Balancing DC Amplifier has seven ranges, 2-5-10-50-100-200 mV, and delivers either 2.5 or 5 ma for recording, indicating or control purposes.

OUTSTANDING FEATURES:

ZERO DRIFT: Less than 0.5% f. s. for life of tube.
LINEARITY: 0.2% (10 mV or higher ranges). 0.5% (2 mV range).
ACCURACY: 0.5% - 1% for 2mV range.
INPUT RESISTANCE: Minimum 1,000 ohms for 2mV range, proportionally higher in other ranges.
OPERATING VOLTAGES: 115V, 60 cps. ±10%.



INSULATION TESTERS

Model 8002 Insulation Tester

Curtiss-Wright Insulation testers are small, extremely rugged, portable megohm-meters which have a builtin, hand-cranked test voltage generator. Patented mechanical rectifier permits generation of up to 5,000V Easy hand-cranking ±1.5% accuracy. Scale length ¾"

MODEL NO.	TEST VOLTAGES	MEASURING RANGES	
8001	500V	0 - 50 megohms	0 - 260V 0 - 520V
8002	100V 500V	10 megohms 0 - 50 megohms	Four low ranges:
8003	250V 500V	0 - 25 megohms 0 - 50 megohms	0 - 200 ohms 0 - 2,000 ohms
8004	500V 1000V	0 - 50 megohms 0 - 100 megohms	0 - 20,000 ohms 0 - 200,000 ohms
8005	625V 1250V 2500V	0 - 100 meg. and 0 - 200 meg. and 0 - 400 meg. and	6.5 - 500 meg. 13 - 1000 meg. 26 - 2000 meg.
8006	5000V 2500V	0 - 500 meg. and 0 - 1000 meg. and	24 - 2000 meg. 48 - 4000 meg.
8007	For earth resistance measurements	0 - 2 ohms 0 - 10 ohms 0 - 100 ohms	0 - 1,000 ohms 0 - 10,000 ohms
8008	For measuring earth resistivity (ohm-cm) and earth resistance	0 - 2 ohms 0 - 10 ohms 0 - 100 ohms	0 - 1,000 ohms 0 - 10,000 ohms

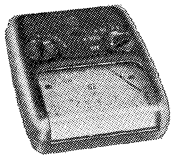
PORTABLE BRIDGES & MULTITESTERS

The new Curtiss-Wright bridges and multimeters are ideal for all electrical and electronic work where good accuracy is desired for a portable instrument.

Model 7009 Wheatstone Bridge has a total range of 0.05 to 50,000 ohms divided in five ranges. ±0.5% to ±2% accuracy depending on range used. Extremely simple operation - one range switch, one large dial. Can also be used with external a-c test voltage and scope null detection for higher sensitivity of null.

Model 7010 Thomson Bridge has four ranges covering total range of 0.0001 to 2 ohms. ±1% to ±2% accuracy depending on range.

Model 7001 Multimeter is an extremely rugged versatile, and accurate AC-DC current and voltmeter with 20 ranges (up to 6 A a-c!), including ohm scale for rough measurement of resistance and calibrated scale in foot-candles for light measurements. Uses selenium light cell for power. ±1% accuracy.



Model 7002 R-C Meter is a very handy pocket R-C Meter with ±1.5% accuracy for the resistance scale. Individually calibrated ranges (3) covering 5 to 1,000,000 ohms and 0.5 to 2,500 mfd. Uses 1.5 battery. Scale length 1¾".

CURTISS-WRIGHT

CORPORATION • ELECTRONICS DIVISION
INSTRUMENTS DEPT. • GENEVA 8-4000
631 CENTRAL AVE. • CARLSTADT, N. J.

See YELLOW SECTION for local offices, telephones, etc.

TRADE NAME DIRECTORY

aids in locating information

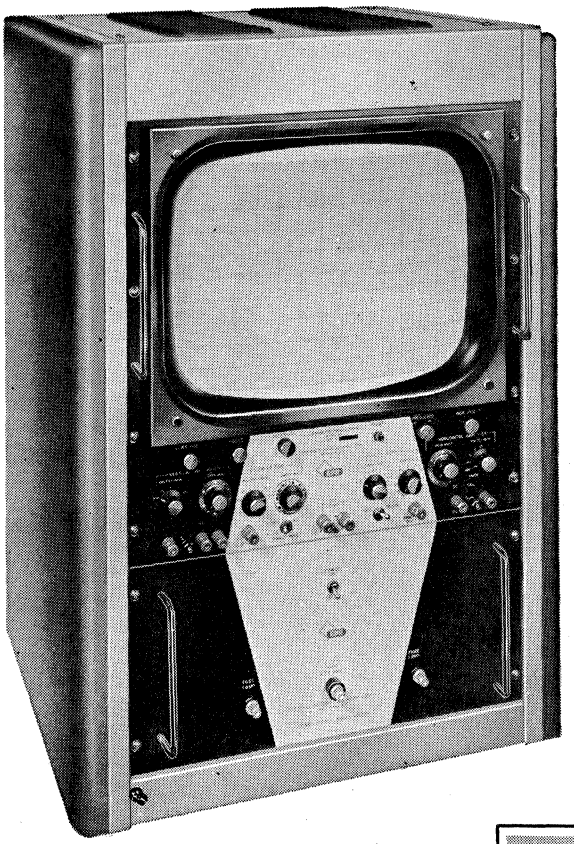
ABOGLAS - Natvar Corp
ACCRA-CORE - Misco Precision Casting
ACCUTRON - The Sheffield Corp
ACCWIRE - Accurate Insulated Wire Co
ACE - Arro Expansion Bolt Co
ACE - Ace Engrg & Machine Co Inc
ACEPOT - Ace Electronic Assoc

Many times you recall a product only by trade name. This special directory immediately discloses the name of the manufacturer.

REFER TO END OF THE YELLOW SECTION

Tell Them You Saw It In **eem**

LARGE SCREEN OSCILLOSCOPE



ALL NEW . . . FEATURING A 17-INCH CATHODE RAY TUBE!

10MV/inch sensitivity — Highly stabilized input amplifiers for drift free operation — Accurately calibrated controls for an overall 2% accuracy — Features 1% linearity — Input jacks front and rear — Accurately stabilized voltage regulators — Frequency response, DC to 500KC — Resolution, 40 lines per inch deflection.

RUGGED AND HANDSOME!

Available for standard 19-inch rack mounting — Enclosed in cabinet for bench use or in consolette for portability.

MODEL 917

APPLICATIONS

Used for standard laboratory testing where accuracy is important — Reduced eye fatigue when used for repetitive production testing — Excellent for computer readout observation.

Special modifications to your requirements available upon request.

Deflection System	— Magnetic	Input Voltage	— Maximum-600V P-P
Cathode Ray Tube	— 17-inch rectangular aluminized with cylindrical face	Sensitivity	— Continuously variable from 10MV to 100V P-P/inch
Phosphor	— P7 standard	Vertical Frequency Response	— DC to 500KC horizontal from DC to 250KC
Accelerating Potential	— 6KV	Sweep Modes	— Both driven and recurrent
Resolution	— 40 lines/inch	Sweep Speed	— 10 microseconds/inch to 1 second/inch continuously variable
Linearity	— within 1% of full scale along major coordinate axis	Sweep Accuracy	— 3% full range
Input	— vertical and horizontal single ended . . . AC-ORDC	Vertical Time Rise	— 1.5 μ S
Input Impedance	— 2 megohms shunted by 35 μμFD	Horizontal Rise Time	— 3 μ S

EPR **EASTERN PRECISION RESISTOR CORP.**

675 Barbey St., Brooklyn 7, New York

Order from Local Electronic Parts Distributors or Write for List.

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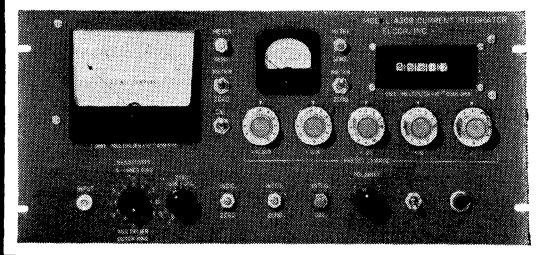
TWO instruments in ONE

CURRENT INDICATOR AND INTEGRATOR

MODEL A309A



The Model A309A Current Indicator and Integrator is a sensitive current indicator that also measures the total charge collected in a given length of time. Developed especially for use with high-voltage particle accelerators, such as the Van de Graaff generator, the instrument can be used in any application requiring the measurement of accumulated charge.

FEATURES

- Wide current range: 1 x 10^{-3} to 3 x 10^{-9} amp. in 12 switch settings.
- High accuracy: 1% of full scale.
- Internal calibrating current source to check proper operation.
- Front panel switch allows instrument to be used with current of either polarity.
- Pre-setting feature provides means of safeguarding against over-exposure.
- Permits many experiments with particle accelerators that would otherwise be extremely difficult if not impossible.
- Register readout gives digital accuracy on charge measurement.

COMPLETE TECHNICAL DATA AND PRICES ON REQUEST

Elcor inc.
1225 W. BROAD ST., FALLS CHURCH, VA.
ELECTRONIC RESEARCH • DEVELOPMENT • MANUFACTURING
A SUBSIDIARY OF FAIRFAX MANUFACTURING CO., INC.

- MEASURES CURRENTS FROM 1 MILLI-AMPERE TO 3 MILLI-MICROAMPERES.
- INTEGRATES INPUT CURRENT AND REGISTERS ACCUMULATED CHARGE.

See YELLOW SECTION for local offices, telephones, etc.

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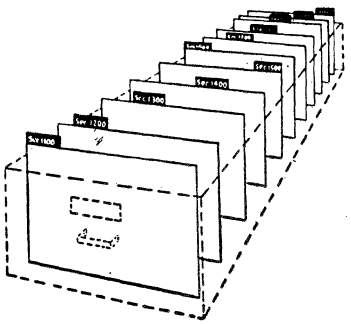

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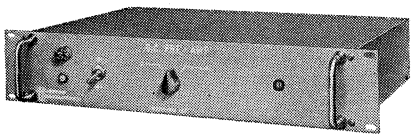
$3.50 for set of 54 imprinted folders

Electro Instruments

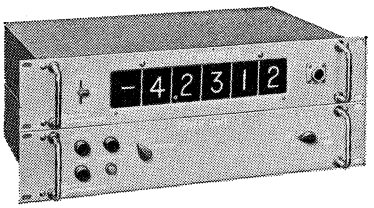
The complete line of digital measuring instruments;

MODULAR INSTRUMENTS for measuring DC to 0.01%, AC to 0.1%, ohms to 0.01%, DC ratios to 0.01%, and AC ratios to ±2 digits



Pre-Amp Model DXX-020

Input: 1 microvolt to 1 volt DC
Gain Multiplication: X1, X10, X100
Accuracy of Gain Multiplication: 0.01%
Zin: 100 megohms or greater
Output: ±10 volts (gain of 10 and 100 only)
Drift: Less than ±100 microvolts in 24 hours



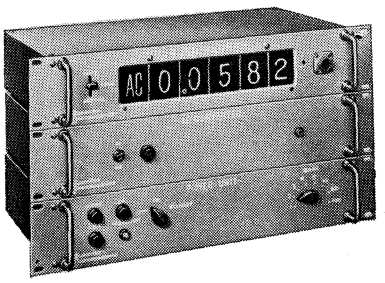
DC Digital Voltmeters

Model DVA-400

Display: 4 digits, polarity, decimal point
Range: .0001- 999.9 volts
Accuracy: ±1 digit
Automatic Features: Polarity, ranging
Controls: Digits gain, manual and automatic ranging, power on-off-standby

Model DVA-500

Display: 5 digits, polarity, decimal point
Range: 0.0001 - 1100.0 volts
Accuracy: ±(0.01% and 1 digit)
Automatic Features: Polarity, ranging
Controls: Digits gain, manual and automatic ranging, power on-off-standby



AC-DC Digital Voltmeters

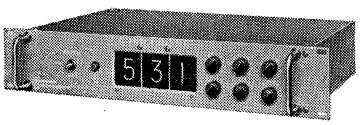
Model DVA-410

DC Same as DVA-400
AC
Accuracy: 0.1% or 2 digits
Frequency Response: 30-10,000 cycles
Automatic Features: Ranging
Range: .0001 - 999.9 volts
Controls: Same as DVA-400, AC-DC

Model DVA-510

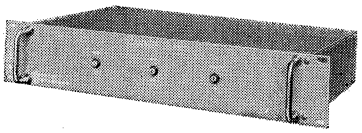
DC Same as DVA-500
AC
Accuracy: 0.1% or 2 digits
Frequency Response: 30 - 10,000 cycles
Automatic Features: Ranging
Range: 0.0001 - 0999.9 volts
Controls: Same as DVA-500, AC-DC

Auxiliary Input Modules



Control Scanners

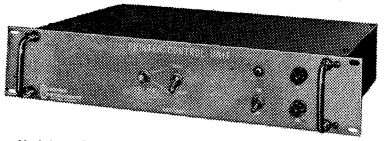
1,000 point command capacity
10,000 point command capacity



Slave Scanners

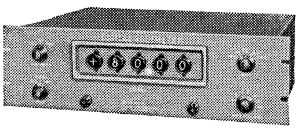
Up to 10,000 points
or multiple wire scanning

Auxiliary Output Modules



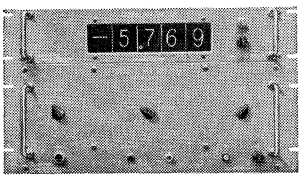
Available for operating electric typewriters, card punch, tape punch and printers.

ALL-ELECTRONIC DIGITAL VOLTMETERS AND A-D CONVERTERS



Model 8409 digital voltmeter and ratiometer

- 100 milliseconds maximum balance time
- 50 readings/sec. average
- 1000 megohms input impedance up to 9.999 volts; 10 megohms up to 999.9 volts.
- Automatic polarity and ranging
- Plug-in circuit boards for easy maintenance
- Totally transistorized

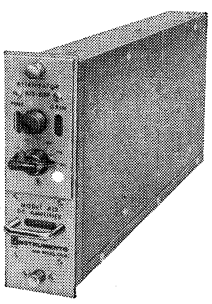


7000 Series — High Speed A/D Converters
High Speed — 7000 Series

- Up to 1000 conversions per second
- Automatic polarity
- 1 megohm input impedance
- 3 digit resolution 0.1%; 4 digit 0.01%
- BCD electrical output

MODEL A-12 WIDEBAND DC AMPLIFIER

- Totally transistorized — dissipates only 7 watts
- Drift less than 2 microvolts per 200 hours
- Single ended or differential input
- 19″ panel accommodates eight instruments
- Plug-in attenuators and mode selectors
- DC to 50,000 cps
- Noise less than 10 microvolts wideband
- Operates to specifications from 0 to 50°C.



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Electro Instruments, Incorporated

3540 AERO COURT
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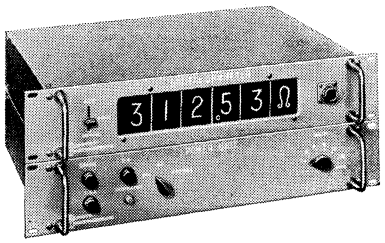
wideband DC amplifiers; and X-Y recorders and accessories



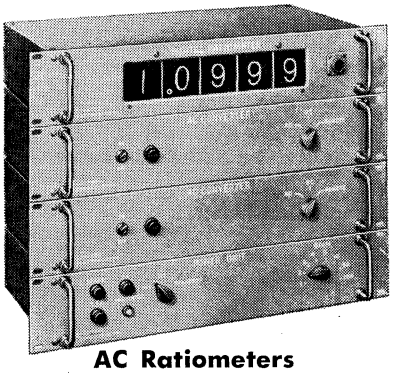
Digital Ohmmeters

Model DOA-400

Display: 4 digits
Range: 00.01 ohms to 9.999 megohms
Accuracy: 0.01% -0.1%
Automatic Features: Ranging
Controls: Digits gain, manual and automatic ranging, power on-off-standby

Model DOA-500

Display: 5 digits
Range: 000.01 ohms to 9.9999 megohms
Accuracy: 0.01% - 0.1%
Automatic Features: Ranging
Controls: Digits gain, manual and automatic ranging, power on-off-standby

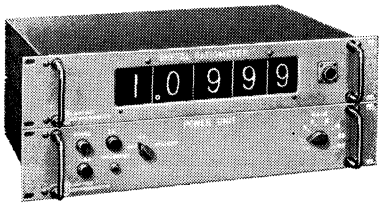


AC Ratiometers

Model DRC-480**
Display: 4 digits **Ratio Range†:** .0000-9999
Accuracy*: ±2 digits
Controls: Digits gain, power on-off-standby, AC-DC Remote
External Reference: 1 volt rms

Model DRC-490***
Display: 4 digits **Ratio Range†:** .0000-.9999
Accuracy*: ±2 digits
Controls: Digits gain, power on-off-standby, reference selector, AC-DC Remote
External Reference: Choice of 3

* Calibration at 400 cycles; 60 cycle models also available.
** Two DXX-040 converters required.
*** One DXX-040 and one DXX-050 converter required.
† Model DRC-480L and DRC-490L, 10% overscale readout.



DC Ratiometers

Model DRC-400
Display: 4 digits
Ratio Range*: .0000 - .9999
Accuracy: ±1 digit
Controls: Digits gain, power on-off-standby
External Reference:** 1 to 10 volts

Model DRC-500
Display: 5 digits
Ratio Range*: .00000 - .99999
Accuracy: ±(0.01% and 1 digit)
Controls: Digits gain, power on-off-standby
External Reference:** 10 to 100 volts

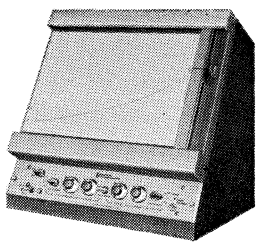
Model DVC-400†
Display: 4 digits, polarity
Ratio Range*: 00.00 - 999.9 volts
Accuracy: ±1 digit
Controls: Digits gain, power on-off-standby
External Reference:** ±100 volts

* Models DRC-400L and DRC-500L, 10% overscale read out. For higher ratio ranges, see Bulletin M-190.
† Recommended for computer applications.
** Internal reference supply optional, specify DRA in place of DRC.

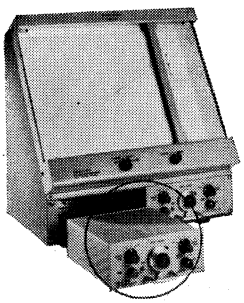
X-Y RECORDERS

Every operating convenience possible has been built into these E-I X-Y Recorders to provide maximum simplicity of control and ease of maintenance. All models are available for bench use or rack mounting.

Model 100

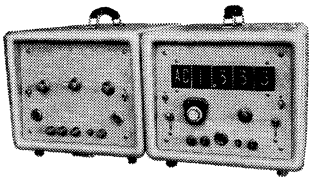


Model 200



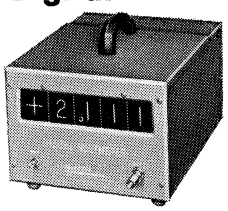
NEW! MODEL 400 All-Transistorized X-Y Recorder-Input modules available for general purpose, computer, low level differential, time base, curve following and many other specialized functions.

PORTABLE DIGITAL MULTITESTERS—For AC, DC, DC/DC ratio, AC/AC ratio and AC/DC ratio measurement



- Totally transistorized
- Mil-type components throughout
- Plug-in circuit boards for maintenance ease
- Sensitivity control for measuring on noisy channels

INDUSTRIAL DIGITAL MEASURING INSTRUMENTS Digital Voltmeters, Digital Ohmmeters, Digital Ratiometers



- Low cost instruments to meet industrial requirements
- Portable or rack models
- Continuous and automatic internal Zener diode reference
- Automatic polarity and ranging
- Sensitivity control for measurement ease

BRIEF SPECIFICATIONS

	Model 200	Model 215	Model 225	Model 100
Accuracy Static:	±0.2% full scale	±0.2% full scale	±0.2% full scale	±0.2% full scale
Dynamic:	±0.2% at 20″/sec.	±0.2% at 20″/sec.	±0.2% at 20″/sec.	±0.2% at 15″/sec.
Scales:	0.1, 1.0 and 10 v/in.	0.5, 1.0, 2.5, 5.0 mv/in with vernier	16 ranges from 1.0 mv/in to 50 v/in.	16 ranges from 1.0 mv/in to 50 v/in.
Input Resistance:	200 Kohms/volt or 2 megs. max.	Essentially infinite at balance	200 Kohms/volt or 2 megs. max.	200 Kohms/volt or 2 megs. max.
Zero Adjust:	Zero anywhere on paper	Zero anywhere on paper	Zero anywhere on paper	Full Scale X and Y.
Reference:	Internal or external computer reference	Internal	Internal	Internal
Paper Size:	11″ x 17″	11″ x 17″	11″ x 17″	8½″ x 11″
Slewing Speed Pen:	20″/sec.	20″/sec.	20″/sec.	13″/sec.
Carriage:	30″/sec.	30″/sec.	30″/sec.	19″/sec.

See YELLOW SECTION for local offices, telephones, etc.

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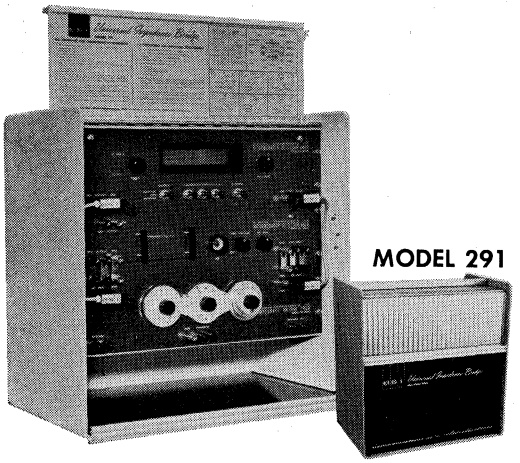
esi

Impedance Bridges



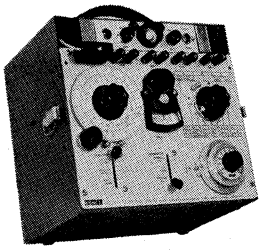
MODEL 291

MODEL 291 UNIVERSAL IMPEDANCE BRIDGE

Outstanding accuracy combined with simplicity of operation. Dc and ac impedance measurements covering seven decades of inductance, capacitance, resistance and conductance, and three decades of D and Q. Four place readings; accuracy to 0.1%. Complete with line operated ac and dc generator-detector units designed specifically as companion units for the bridge. Mounted in an attractive case with operating instructions in the cover and an insulating platform for supporting components under test.

291—UNIVERSAL IMPEDANCE BRIDGE (With Accessories).....$995.00*
290-R—UNIVERSAL IMPEDANCE BRIDGE (Less Accessories)..... 395.00*
840-R—DC GENERATOR-DETECTOR..... 280.00*
860-R—AC GENERATOR-DETECTOR..... 250.00*

For Further Information Request Catalog Sheet C-13.



MODEL 250-DA

MODEL 250 PORTABLE IMPEDANCE BRIDGE

MODEL 250-DA—A compact, rugged bridge for precision measurements of inductance, capacitance and resistance, and D and Q, with self-contained line operated ac and dc generators and detectors. Price $565.00*

MODEL 250-C1—The battery powered version of the bridge, complete, less headphones. Price $375.00*

MODEL 855—A line operated generator and detector for the model 250-C1. Price $200.00*

For Further Information Request Catalog Sheet C-16.

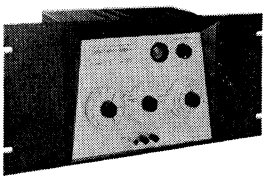
MODEL 230-R

MODEL 230-R LABORATORY RESISTANCE BRIDGE

A precision, high resolution Wheatstone bridge. Five place readings; initial accuracy 0.01%, long term accuracy 0.02%. Human engineered controls provide simple operation and direct in line readings with automatic decimal point location. Internal guarding permits accurate measurements to 12 kilomegohms. Price: $450.00*

For Further Information Request Catalog Sheet C-21.

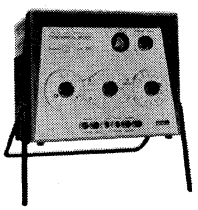
MODEL 270-R



MODEL 270 CAPACITANCE BRIDGE

Capacitance measurements at audio frequencies with accuracy approaching primary standards. Provision for absolute calibration against known standards. Resolution 0.01%. No zero capacitance correction. Seven decades of capacitance range and three decades of dissipation factor. Available for either bench or rack mounting. Price: $575.00*

For Further Information Request Catalog Sheet C-15.



MODEL 260

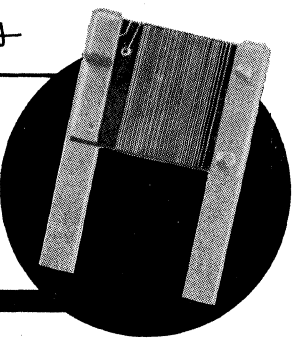
MODEL 260 COMPARISON BRIDGE

A precision bridge for comparing resistive, capacitive or inductive components against suitable standards to 0.01% in terms of both magnitude and phase angle. Self-contained audio-frequency generator and detector with dual electron ray tube null indicator. Clearly identified controls and convenient in line reading. Price: $550.00*

For Further Information Request Catalog Sheet C-12.

*All prices f.o.b. Portland, Oregon.

excellent scientific instruments



PRECISION MICA CARD RESISTORS The secret of the outstanding accuracy and excellent stability of ESI bridges and other instruments lies in our precision resistors. Each resistor is carefully built and precisely adjusted in our own plant to assure the maximum control of quality. They are unifilar wound on mica cards to minimize both series inductance and shunt capacitance. The resistance wire used is a modern alloy having unusual stability, extremely low temperature coefficient over a wide range of temperature and negligible thermal emf to copper.

esi Electro-Measurements, Inc.

7524 S. W. MACADAM AVENUE • PORTLAND, OREGON

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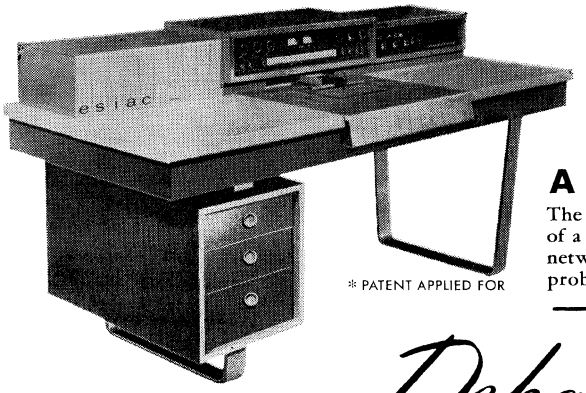


* PATENT APPLIED FOR

esiac MODEL 10 Computer

A NEW TOOL FOR THE DESIGN ENGINEER

The ESIAC is an analog computer* for calculating and plotting values of algebraic functions of a complex variable. It can be used in the design of servomechanisms, in the synthesis of networks, in the analysis of electromechanical and electroacoustical devices, or in other problems which require the solution of Laplace transforms of linear differential equations.

Deka-line Components

DEKAVIDER® & DEKAPOT® DECADE VOLTAGE DIVIDERS

Resistive voltage dividers using the Kelvin-Varley circuit. High resolution and accuracy. For use from dc through audio frequencies. Linearities to 10 parts per million. Model DP Dekapot for panel mounting, Model DV Dekavider for bench use, Model RV Dekavider for rack mounting. Prices: from $95.00 to $525.00*

For Further Information Request Catalog Sheet C-23.

DEKATRAN DECADE VOLTAGE DIVIDERS

Accurate ac voltage dividers with high input impedance, low output impedance, very small phase shift and environment free precision. The DT-45 provides 0.001% accuracy and 5 place resolution. The DT-35 features rugged compactness with 0.01% accuracy and 4 place resolution. Prices: DT-35, $160.00* DT-45, $275.00*

For Further Information Request Catalog Sheet C-22 (DT-45) and C-24 (DT-35).

DEKASTAT® and DEKABOX® DECADE RESISTORS

Adjustable resistance standards of high accuracy containing one or more decades of precision fixed resistors. Some models include an interpolating rheostat. Accuracies to 0.005% initial, 0.02% long term. Temperature coefficient less than 0.002% per degree Centigrade. Model DS Dekastat for panel mounting, Model DB Dekabox for bench use, Model RS Dekastat for rack mounting. Prices: from $63.00 to $550.00*

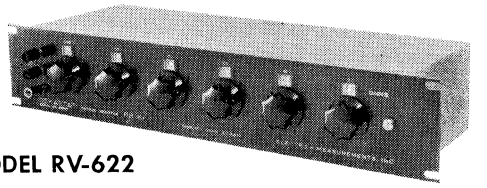
For Further Information Request Catalog Sheet C-18.

DEKAPACITOR® and DEKABOX® DECADE CAPACITORS

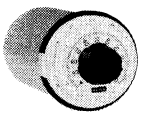
Adjustable, low loss decade units. Hermetically sealed polystyrene capacitors except below 1000 micromicrofarads where high quality ceramic or mica capacitors are used. Accuracy 1%. Model DK-30 Dekapacitor for panel mounting, Model DC-40 Dekabox for bench use. Prices: DK-30, $200.00 and DC-40, $240.00*

For Further Information Request Catalog Sheet C-18.

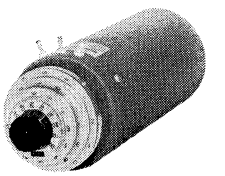
*All prices f.o.b. Portland, Oregon.



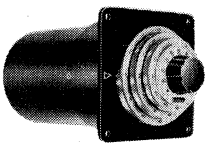
MODEL RV-622



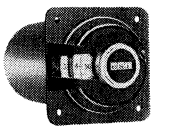
MODEL DP-213



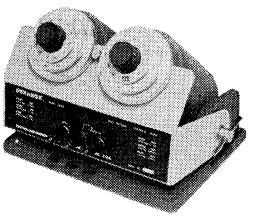
MODEL DP-311



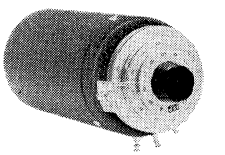
MODEL DT-45



MODEL DT-35



MODEL DB-655



MODEL DK-30

NATIONWIDE ENGINEERING SERVICE THROUGH THESE CONVENIENT PHONES

EAST COAST

New England and up-state New York
Technical Instruments, Inc.
90 Main St., Reading, Mass. ..... REading 2-3930
4 Regent St., Rochester, N. Y. ..... GReenfield 3-0860
229 Sunflower Dr., Liverpool, N. Y. ..... GRanite 1-7870
6 Courtland Dr., Loudonville, N. Y. ..... ALbany 4-7359
119 Ann St., Hartford, Conn. ..... JAckson 5-4846
1115 Main St., Bridgeport, Conn. ..... FOrest 8-4582
Philadelphia, New York City (all five boroughs), Nassau County L.I., Westchester County, N. Y.—Dial operator and ask for ..... Enterprise 6619
New Jersey—Dial operator and ask for WX-6619
Baltimore and suburban areas—Dial operator and ask for ..... Enterprise 9-3350
Washington, D. C. and suburbs—Dial operator and ask for ..... Enterprise 1-3331
Burlington, N. C.—Dial operator and ask for WX-1000
Atlanta, Georgia—Dial operator and ask for WX-1000
Orlando, Florida—Dial operator and ask for WX-1000

CENTRAL

Ohio, Michigan and W. Pennsylvania—M. P. Odell Company
26614 Center Ridge Rd., Westlake, Ohio ..... TRinity 1-8000
10531 S. McNichols Rd., Detroit, Mich. ..... UNiversity 2-1573
750 Penn Ave., Pittsburgh, Pennsylvania ..... FRemont 1-1231
2676 Salem Ave., Dayton, Ohio ..... CRestviel 7-4441
Indiana, Illinois, East Wisconsin, Iowa—Ridgeway Engineering, Inc.
6100 W. North Ave., Chicago, Illinois ..... TUxedo 9-5715
1606 N. Illinois St., Indianapolis, Ind. ..... MElrose 5-2401
Minnesota, West Wisconsin, S. Dakota, North Dakota—Pinkney and Hine
1925 Nicollet Avenue, Minneapolis, Minn. ..... FE 8-0523
Missouri, Kansas—Harris-Hanson Company
2814 S. Brentwood Blvd., St. Louis, Mo. ..... MIssion 7-4350
7916 Pasco Ave., Kansas City, Mo. ..... HIland 4-9494
Texas, Oklahoma, Arkansas, Mississippi, Louisiana
Harry D. Edmiston
P. O. Box 5832, Dallas, Texas ..... TAylor 7-2853

WEST COAST

Los Angeles and San Diego—Dial operator and ask for ..... ZEnith 1088
San Francisco, San Mateo, Palo Alto, Sacramento and all East Bay Exchange cities—Dial operator and ask for ..... Enterprise 1-3031
Tucson, Phoenix and Albuquerque—Dial operator and ask for ..... Enterprise 675
Denver, Colorado—Dial operator and ask for ..... Enterprise 3331
Salt Lake City, Utah—Dial operator and ask for ..... ZEnith 711

NORTHWEST

Seattle, Washington—Dial operator and ask for ..... ZEnith 9351
All Other Points Call Portland, Oregon Collect ..... CHerry 6-3331

Electro-Measurements, Inc.

esi

7524 S. W. MACADAM AVENUE • PORTLAND, OREGON

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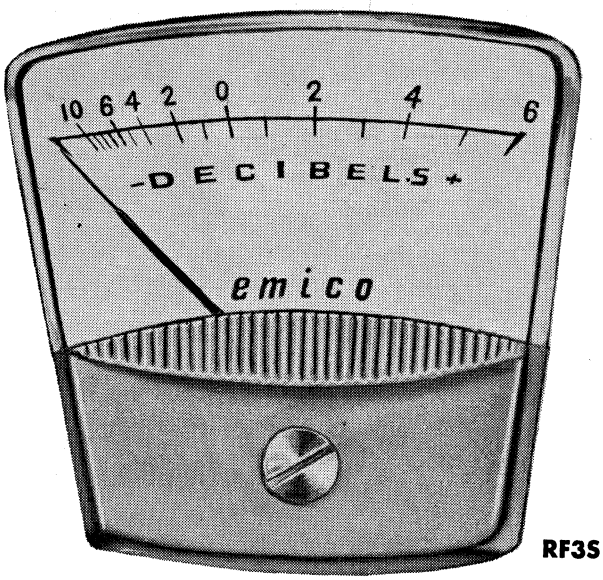
emico announces a new series



RF3S

The Starline MOVING MAGNET METER

with sensitivity up to 5,000 ohms/volt

ZERO ADJUSTER IS STANDARD

The new emico STARLINE moving magnet meter is the achievement of several years of research and development to increase the sensitivity and reduce the resistance of moving magnet meters . . . supported by many more years of experience in manufacturing this type of meter.

The STARLINE is available as a microammeter, milliammeter, ammeter (with external shunt, high resistance DC voltmeter, 1,000 ohm/volt AC meter (rectifier type) and standard 5,000 ohm decibel meter.

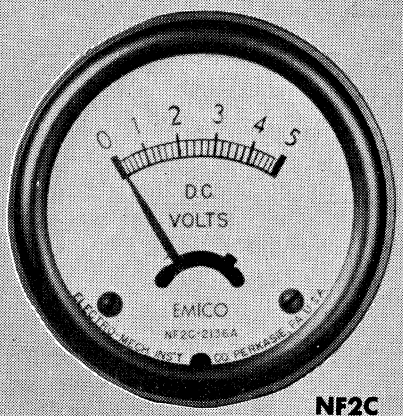
emico offers:

. . . a complete line of precision direct current indicating instruments having the simplicity of construction of polarized vane meters with accuracy and performance comparable to moving coil indicators. They are the outstanding result of many years of experience in instrument design, manufacturing techniques and the use of modern magnetic materials.

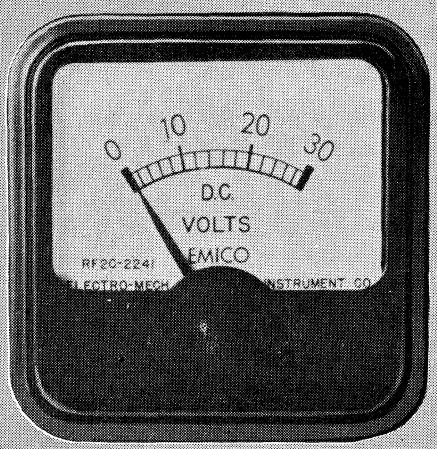
See Radio Master Pages G-424 & 425 for meter ranges, prices, etc. Write for catalog and complete information.

emico

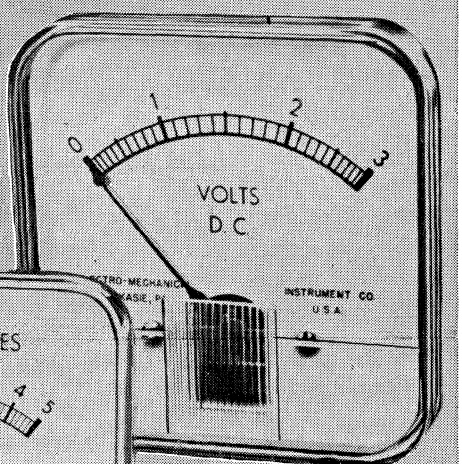
PRECISION-PLUS METERS



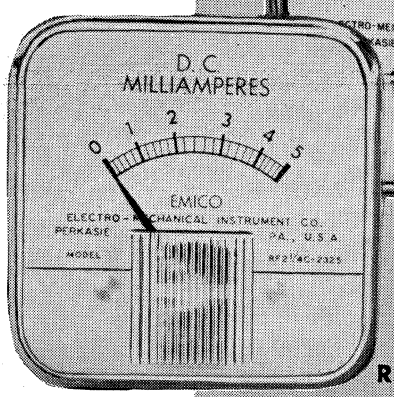
NF2C



RF2C



RF2¾C



RF2¼C

also available

EMICO instruments are available in the following sizes: NF-2", RF-2", RF-2½", RF-2¼", RF-2¾", and RF-4½" plastic front, at 3% accuracy. We invite your inquiries on instruments for special application.

ELECTRO MECHANICAL INSTRUMENT COMPANY

Perkasie, Pennsylvania

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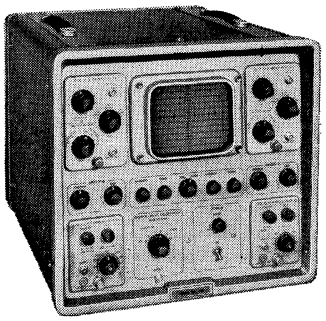
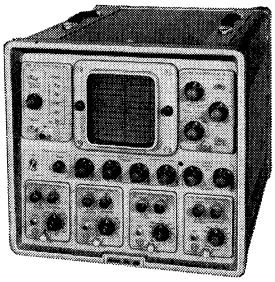
RELIABLE ETC PRODUCTS



MODEL K-270
Dual-Channel Oscilloscope

A highly flexible, 5-megacycle scope using plug-in preamplifiers, sweep generators, and marker-calibrator for maximum utility. New ETC 4½" by 5½" *rectangular*, 2-gun tube.

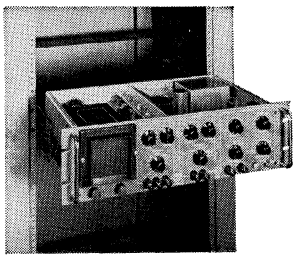
$875 less plug-ins



MODEL K470
Four-Channel Oscilloscope

Similar to the K-270 but with 4-separate channels. Expands as your needs grow with optional plug-in pre-amplifiers, sweeps, and marker-calibrator. Uses new ETC 5½" *square*, 4-gun tube.

$1750 less plug-ins



MODEL K-10-R
Rack-Mounted Oscilloscope

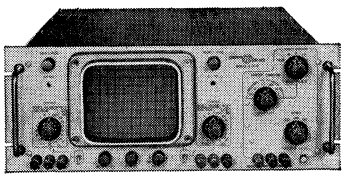
Using a new ETC 3½" *square* single-gun tube, this compact scope gives a raster size equal to a 5" round tube. DC to 500 kc at 10 mv/inch, direct-coupled. Transistorized calibrator.

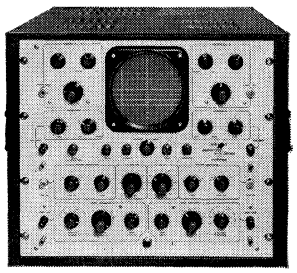
$475

MODEL K-11-R
High-Sensitivity Rack Scope

Features high-stability, identical X and Y amplifiers plus wide range of sweep speeds for precise measurements of voltage, time, and phase shift. Uses 4½" x 5½" *rectangular* C-R tube. Sensitivity: 1 mv/cm to 150 v/cm.

$595





MODEL K-215
Wide-Band, 2-Channel Oscilloscope

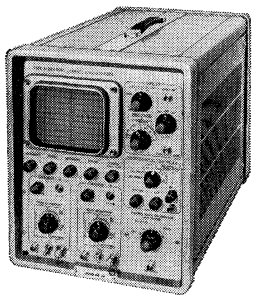
Handling dc to 15 mc with accurately-calibrated sweep speeds, the K-215 is ideally fitted for quantitative time and amplitude measurements with accuracy comparable to indicating meters. 2-gun 5" C-R tube.

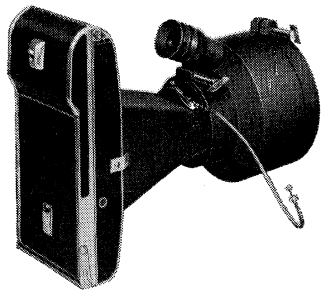
$2750

MODEL K-260
High-Sensitivity, Low-Cost 2-Channel Oscilloscope

Priced scarcely higher than most single-channel oscilloscopes, the K-260 gives truly professional 2-channel performance without switching. Identical vertical amplifiers handle dc to 500 kc with sensitivities to 200 μv/cm. Uses new 4½" x 5½" C-R tube for easy viewing.

$785





MODEL SM-200
Polaroid Land Scope Camera

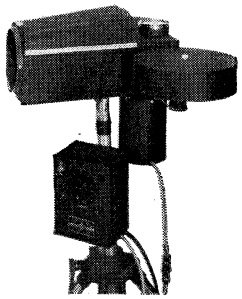
Gives immediate single prints on standard Polaroid Land film. 1 to 1 image ratio for maximum size. f/1.9 lens, speeds from 1 to 1/100 second—both adjustable without removing camera from scope. Monocular viewer. Fits all 5" scopes.

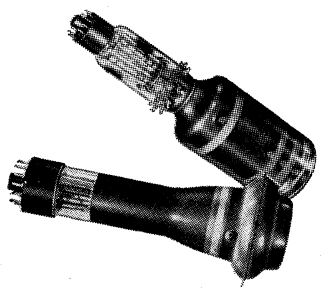
$325 with f1.9 lens

MODEL SM-100
Scope Recording Camera

Accurate single-frame or moving-film recording, ½" to 12,000" per minute, using 35 mm film or paper. Binocular viewer. Versatile tripod mounting and positioning. Variable speed adjustment.

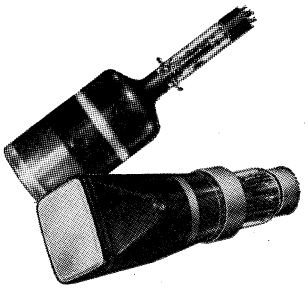
$985 with f:1.5 lens





Multi-Beam & Single-Beam
CATHODE-RAY TUBES

One, two, three, four, five, eight and ten gun types with round, rectangular, or square faces from 3 to 12 inches. Also many special C-R tubes including Dual X-axis input, Spiral band, Radial deflection, and Primary beam commutator types. Types to critical military and industrial specifications . . . by the pioneers in multi-gun C-R tubes.



electronic tube corporation

1200 E. Mermaid Lane • Philadelphia 18, Penna.

See page 1151 for specifications of typical ETC industrial and military tubes.

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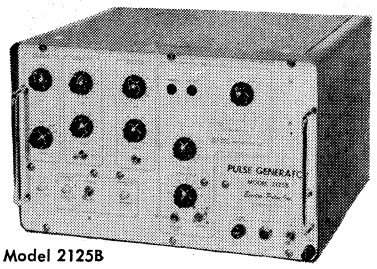
GENERAL PURPOSE PULSE GENERATORS

2120A Pulse Generator—fully calibrated .1—1000 μs pulse width, 0—10,000 μs delay, 10 cps—100 kc, 80 v from 93 ohms, .02 μs rise time.

2125B Pulse Generator—fast rise time general purpose unit, 10 cps—100 kc. Pulse width .07—100 μs, delay or advance 0—100 μs.

3450B Megacycle Pulse Generator—200 cps to 2 mc, 0—100 μs pulse delay, 1—100 μs pulse width, ±50 v output.



Model 2125B

4120A Variable Pulse Generator—economical compact unit 33 cps to 330 kc, 1—100 μs pulse delay, .25—100 μs pulse width, ±50 v output.

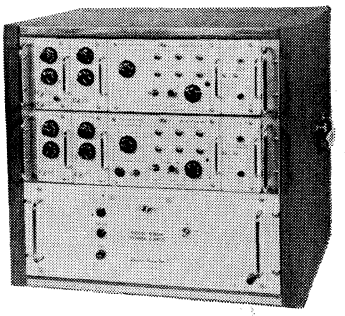
4550A 10 MC Pulse Generator—fully transistorized unit providing ± 10 v into 180 ohms at 18 mμsec rise time. 100 cps to 10 mc rep. rate, 40 mμsec—1000 μs variable width and 0—1000 μs delay.

DOUBLE PULSE GENERATORS

2140A Double Pulse Generator—high power independently controlled outputs, separate or mixed. 10 cps—100 kc. Calibrated widths and separation.

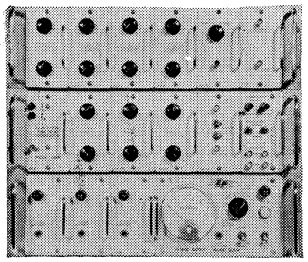
3460C Megacycle Double Pulse Generator—.1—100 μs separately controlled pulse widths, 0—100 μs separation, 150 cps to 1.5 mc, ± 40 v into 93 ohms separate or mixed.

4560A 10 MC Dual Pulse Generator—provides two ± 10 v pulses into 180 ohms at rep rates to 10 mc. 0—1000 μs separation and 40 mμsec—1000 μs pulse widths. Also available (Model 4565A) with delay on both pulse outputs.



Model 3460C

PDM, PCM, DIGITAL and WORD PULSE GENERATORS



Model 5621A

2150A Pulse Burst Generator—5 pulse output, on-off coding, independent delay, width, and provision for delay modulation.

5500A Word Generator—transistorized 40 bit arbitrary serial word generation, clock rates to 1 mc, ± 10 v into 180 ohm output.

5621A Digital Code Group Generator—provides 2 digitally positioned triggers, with 1 μsec resolution, either or both of which may be connected to initiate a 3-pulse group. Also available: 1 MC Digital Frequency Divider, additional triggers and group generators, and digitally controlled variable width Single and Double Pulse Generators.

TIME DELAY GENERATORS

1310A Time Delay Generator—precision delays and optional DPDT relay action 10μs to 10 sec, accurate width gate.

2200 Series Time Delay Generators—1 to 4 channels of 1—10,000 μs delay from external triggers. Trigger outputs.

2300 Series Time Delay Generators—Same as 2200 series, plus 10 cps to 100 kc internal trigger generator w/sync output.

TIME MARK GENERATORS

5700A Oscillograph Marker Generator—10 ms, 100 ms, 1 sec, 10 sec marker output for pen drive.

5710A Time Mark Generator—Separate or mixed markers 10 sec to 10 μsec in decades. Each output 20 v at 10% duty cycle.

5720A Time Mark Generator—Same as Model 5710A but also provides 1 μs markers.

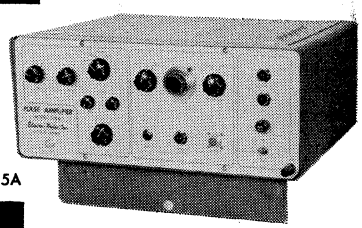
MAGNETIC CORE TESTING EQUIPMENT

5100A Series Pulse Code Generators—for core testing and word generation, clock rates to 1 mc, multi-channel 10 bit code with interval repeat, current output 50 ma to 5 amp per channel.

Model 81 Core Test Jig—for manual test of .080 or .100 OD memory cores. Coaxial pin, 1 and 10 ohm sampling resistors.

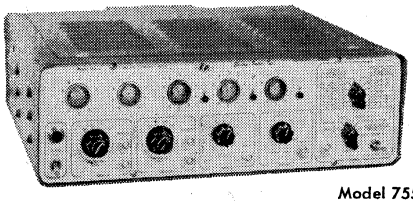
6020B Voltage & Current Calibrator—.5% accuracy measurements of DC, sine wave, or pulse voltages.

325A Current Pulse Amplifier—±50 ma to 5 amp high impedance output, variable rise time, self contained power supply.



Model 325A

ELECTRONIC COUNTING EQUIPMENT



Model 7550B

7100 Series Totalizers—1 to 6 glow transfer counter decades, optional 5 digit mech. register. 60 mv sensitivity.

7200 Series Preset Counters—2 to 5 preset decades, optional batch counter. Pulse and relay output. 10 kc and 200 cps count rate units available.

7340C Frequency Indicator & Counter—low cost reliable unit for RPM, flow measurement, etc. Reads 0.1 to 10,000 events per second.

7440B Time Interval Meter—measures time intervals or periods from 10 μs to 99 sec. AC or DC ±500 mv inputs w/level control.

7550B Time Interval & Frequency Meter—compact 5 decade universal counter. Measures frequency, period, interval, etc. Counting rate to 100 kc.

7600 Series Dual Preset Counters—2 to 4 decade presets with warning preset selection, pulse and relay output.

All data subject to change without notice

Electro-Pulse, Inc.

Write for Complete Data
Representatives in Major Cities
11861 TEALE ST., CULVER CITY, CALIF.
Phone: EXmont 8-6764 or TExas 0-9193

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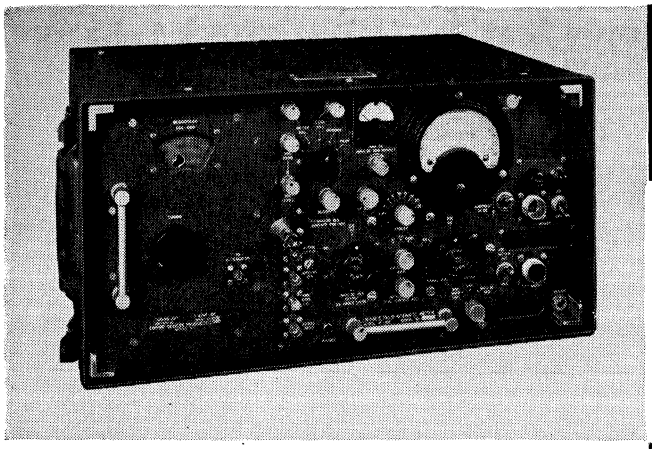
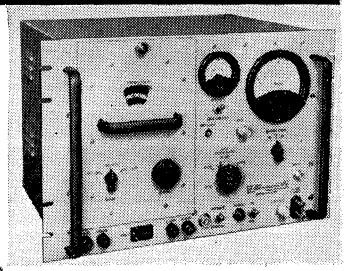


Empire's Reputation is built on Quality

AMPLITUDE MODULATION METER, Model MM-120

(Commercial equivalent of AN/USM-65) 15 KC to 1000 MC

Two quick change tuning heads • Measurement of modulation depth and envelop distortion of signal generators and transmitters • Measures levels as low as 0.01 volts • Full scale reading, 30%, 50% and 100%.



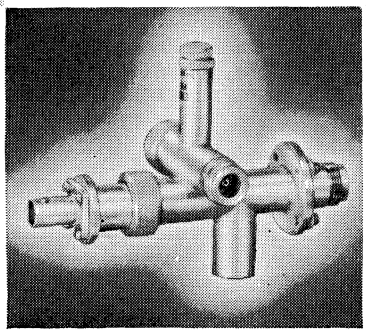
NOISE AND FIELD INTENSITY METER, Model NF-105

Approval status: MIL-I-6181B, MIL-I-26600 150 KC to 1000 MC

Four quick-change tuning heads • Single knob tuning for easy scanning Built-in impulse generator serves as calibrator • Carrier and peak reading VTVM • Aural slideback • Coaxial step attenuators • Regulated 'A" and "B" supply.

NOISE AND FIELD INTENSITY METER, Model NF-112

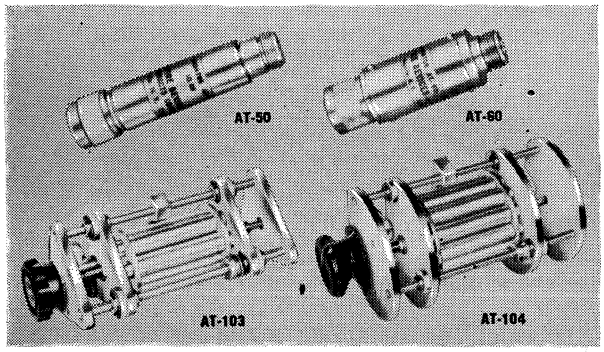
1000 MC to 10,000 MC



COAXIAL CRYSTAL MIXER, Model CM-107

Broad Band, Fixed Tuned • 225 MC to 5600 MC in 8 models • Input and L.O. VSWR better than 2 to 1 • L.O. rejection at IF output better than 30 DB.

CRYSTAL DETECTOR, Model DT-123



UHF ATTENUATORS, Models AT-50, AT-60

50 ohm resistive T-networks of concentric line construction.

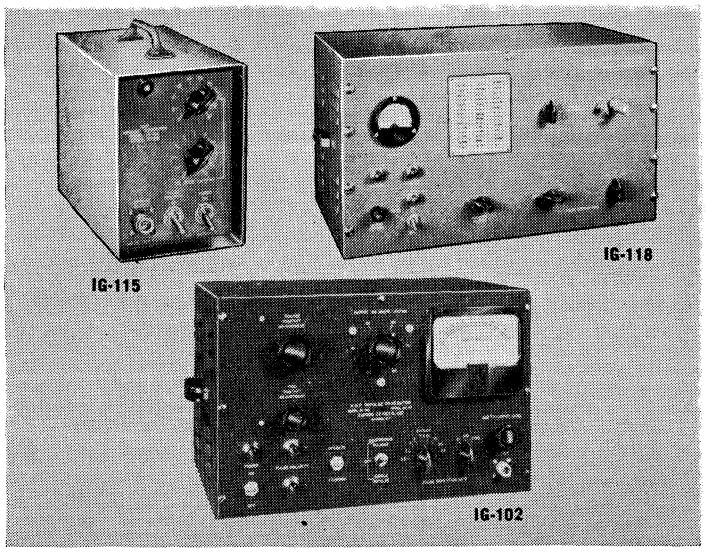
FREQUENCY RANGE:
AT-50: DC to 4000 MC.
AT-60: DC to 3000 MC.
VSWR: Better than 1.2 at all frequencies.
ACCURACY: ±½ DB.
RATED POWER:
AT-50: 1W continuous, 1KW peak
AT-60: 2W continuous, 2KW peak

STEP ATTENUATORS, Models AT-103, AT-104

These units use AT-50 pads in 6 step and 12 step coaxial turret arrangements respectively.

UHF ATTENUATOR PANELS Model AT-106

Attenuator panels — high attenuation with fine resolution.

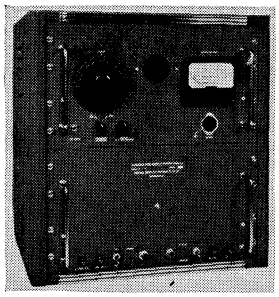


UHF IMPULSE GENERATORS, Models IG-102, IG-115, IG-118

Model	Flat Spectrum (±½ DB)	Peak Output Level	Repetition Rate
IG-102	10 KC to 1000 MC	70,000 μV/MC	2.5 to 2500 cycles
IG-115	10 KC to 1000 MC	100,000 μV/MC	60 cycles
IG-118	100 MC to 10,000 MC	9,000 μV/MC	2.5 to 2500 cycles

VARIABLE FREQUENCY POWER SUPPLIES, Models VP-410, VP-1000

POWER OUTPUT: 400W, 1000W respectively
VOLTAGE REGULATION: 2%, no load to full load
HARMONIC DISTORTION: 5% maximum, total



POWER DIVIDERS, Model PD-90

FREQUENCY RANGE: 800 to 10,000 MC in 5 models

Send for our Catalog No. N-357

EMPIRE DEVICES PRODUCTS CORP.

AMSTERDAM, NEW YORK **VICTOR 2-8400**

MANUFACTURERS OF:

FIELD INTENSITY METERS • DISTORTION ANALYZERS • IMPULSE GENERATORS • COAXIAL ATTENUATORS • CRYSTAL MIXERS

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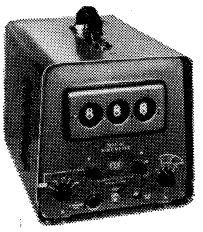
FRANKLIN
DIGITAL INSTRUMENTATION

Voltmeters · Multimeters · Digitizers · Converters · Accessories

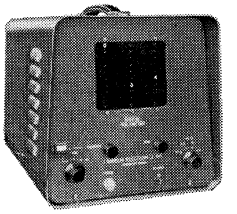
SERIES 400 PORTABLE VOLTMETERS AND MULTIMETERS



MODEL 400N . . . $890

Models 400 and 400N Digital Volt-Ohmmeters

All-electronic instruments of high accuracy and performance. Model 400 is with vertical readout. Model 400N is with in-line readout as shown in illustration.



MODEL 410 . . . $490

Models 410 and 410N Digital Voltmeters

The most popular digital instrument of the Franklin line. Provides voltage measurements with an accuracy equal to that of many precision bridge devices.

SPECIFICATIONS

(Pertinent specifications apply to all Series 400 instruments)

RANGES: 0 to 10, 100 and 1000 V dc positive or negative.
0 to 10, 100 and 1000 V ac (rms).
0 to 10K, 100K and 1 meg.

ABSOLUTE ACCURACY: DC; ± 0.3%, 0 to 10 V range; ± 0.5% all other ranges.
AC; ± 1%, from 0.5 V up, at 60 cps, all ranges.
OHMS; ± 0.2%, all ranges.

COMPARATIVE ACCURACY: ±0.1% all d-c and ohms ranges and ± 0.1% all a-c ranges from 1 V ac up, 60 cps.

INPUT IMPEDANCE: 20 meg. (shunted by 200 mmf for a-c).

A-C FREQUENCY RESPONSE: Flat within 0.5 db, 50 cps to 100 KC.

A-C RESOLUTION: .01 db of full scale above 0.5 V.

DIMENSIONS AND WEIGHT: 11" H x 10¾" W x 15½" D; 26 lbs. approx.

FOUR-DIGIT MODELS ARE AVAILABLE. REQUEST SERIES 500 INFORMATION FROM FACTORY.

SERIES 1300 ELECTRONIC DIGITIZERS

LABORATORY • PRODUCTION • DATA PROCESSING

MODEL 1310 ELECTRONIC DIGITIZER-VOLTMETER

SPECIFICATIONS

RANGE: 0.0 to 120.0 V dc. See matching d-c amplifiers for extending sensitivity to 100 microvolts.

ACCURACY: ± one count (equivalent to 0.1 volt).

SPEED: 60 readings per second maximum.

INPUT POLARITY: Floating to permit external polarity switching.

INPUT IMPEDANCE: 100 megohms.

OUTPUTS:
*Visual: 4 vertical reading illuminated decimal digits (000.0 to 120.0).
Binary: 1-2-2-4 four line code; (Binary 0 is 30 ± 5 volts; binary 1 is 77 ± 12 volts; referenced to internal ground).
Pulse Width: Time gate linearly proportional to the input voltage (100 microseconds per volt accurate to ± 5 microseconds).

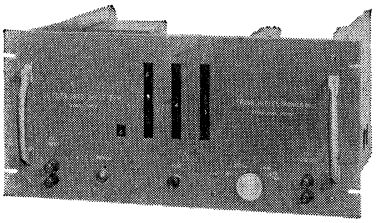
READING MODES:
1. Manual push button.
2. External relay closure.
3. Automatic self-triggering at 10 readings per second.
4. External triggering—reads on application of 20 volts minimum pulse with rise time of at least 5 volts per microsecond.

POWER REQUIREMENTS: 100-125 V, 60 cps, 200 watts.

DIMENSIONS: 19" rack panel unit 8¾" high, 15" deep.

WEIGHT: Approximately 50 pounds without cabinet.

ACCESSORIES: D-C Amplifier for range extension. Relay Code Converters for translating 1-2-2-4 binary coded data to decimal form.



STANDARD MODEL 1310 . . . $1,790.00

A versatile digital instrument for making precision voltage measurements in the laboratory and on the production line. Also used as the essential analog to digital conversion element in data processing systems.

MODELS 318 AND 319 PRECISION D-C AMPLIFIERS FOR INCREASING THE SENSITIVITY OF SERIES 1300 DIGITIZERS

SPECIFICATIONS

MODEL	GAIN RANGES	GAIN RANGE SWITCHING			POLARITY SWITCHING		PRICE
		LOCAL	REM.	AUTO.	MANUAL	AUTO.	
319RA	1, 10, 100, 1000	Yes	Yes	Yes	Yes	Yes	$1,140.00
319R	1, 10, 100, 1000	Yes	Yes	No	Yes	No	680.00
319	1, 10, 100, 1000	Yes	No	No	Yes	No	580.00
318RA	1, 10, 100	Yes	Yes	Yes	Yes	Yes	1,080.00
318R	1, 10, 100	Yes	No	No	Yes	No	620.00
318	1, 10, 100	Yes	No	No	Yes	No	550.00

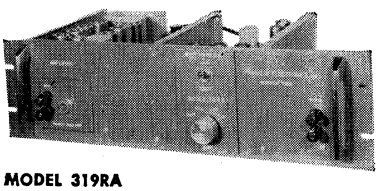
INPUT IMPEDANCE: Model 318; 1 megohm.
Model 319; 100,000 ohms.

GAIN ACCURACY: Within .05% absolute. When calibrated in combination with a particular Model 1310 Digitizer, this tolerance is effectively reduced to .025%.

NOISE LEVEL: Under .05 V peak to peak at output (under ½ count on Model 1310 Digitizer).

STABILITY: Zero drift under .05% full scale for 24-hour period. Gain drift less than .01% full scale over same period.

Request complete engineering specifications from factory.



MODEL 319RA

Franklin Models 318 and 319 D-C Amplifiers are specially designed to permit measuring extremely low voltages with the Series 1300 Digitizers.

Model 318 provides an input sensitivity of one millivolt per digit. Model 319 provides an input sensitivity of 100 microvolts per digit. Automatic range and polarity switching, as well as remote control provisions are available. All models have provisions for using the output signal to operate printers.

ENGINEERING AND DESIGN

Franklin's Communications and Control Division, headed by the well-known Dr. Martin Klein, is available for complex digital system design covering every phase of the process and missile industries. Address request for quotations to Communications and Control Division.

FRANKLIN electronics, inc.

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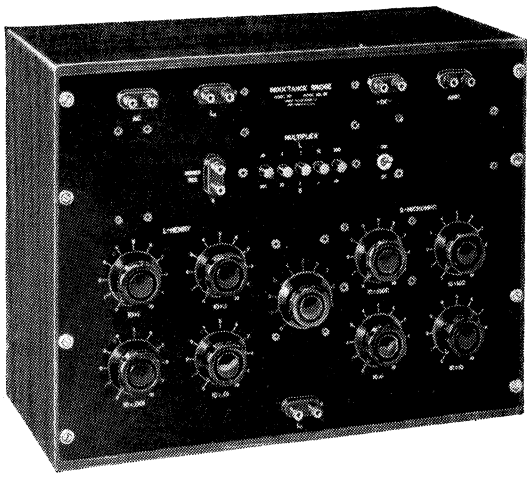
INCREMENTAL INDUCTANCE BRIDGE TYPE 1110-AB



USES

The Incremental Inductance Bridge is designed for measuring the inductance of Iron Core components at any frequency up to 10,000 cycles. Inductors can be measured with a superimposed direct current, therefore the bridge will measure the incremental inductance of coils. The bridge can be used for detemination of storage factor, "Q", either at a given frequency as a function of the applied voltage or at a given voltage as a function of the applied frequency. The bridge can be used by the manufacturers of iron core components for testing filter chokes, high Q coils, and iron core audio and supersonic frequency components. Due to its very wide inductance range the instrument can be used as a general purpose laboratory inductance bridge.

SPECIFICATIONS

Inductance: 1 Millihenry to 1000 Henry.
Frequency: The bridge is calibrated and adjusted at both 60 and 1000 cycles but can be used at any frequency up to 10,000 cycles.
Accuracy: 1% to 1000 Cycles, 2% to 10KC.
Conductance: 1 Micromho to 1 MHO.
"Q": 0.5 to 100.
Superimposed D.C.: Up to 1 Ampere.
Direct Reading: For use by unskilled operators.
Dimensions: 21" x 8" x 16⅝".
Weight: 48 lbs.

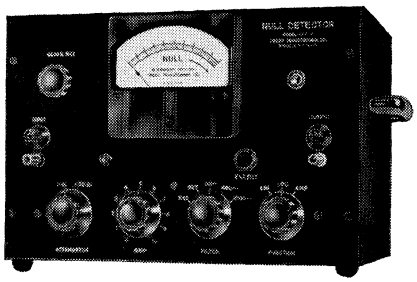
ACCESSORIES AVAILABLE

1140-A Null Detector, 1210-A Null Detector-V.T.V.M., 1170 D.C. Supply and 1180 A.C. Supply.

NULL DETECTOR AMPLIFIER TYPE 1140-A

USES

A sensitive null indicator for bridge measurements, providing visual null indications or aural when used in conjunction with headphones. The unit may also be used as a high gain amplifier for general laboratory work.

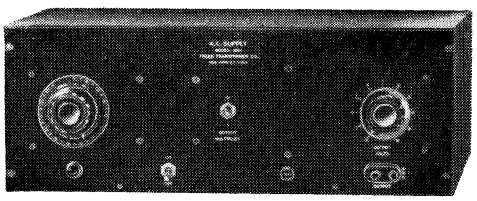


DESCRIPTION

Functionally the instrument consists of a high gain linear amplifier with a 30 db. input attenuator in addition to the variable gain control. A four-inch panel meter provides visual null indications, the response of the meter circuit is approximately logarithmic over a 40 db. voltage range. Resonant circuits tuned to 60, 400 and 1000 cycles limit the amplifier transmission characteristics to the three audio frequencies commonly used for bridge measurements or it may be used as a non-selective amplifier with filter "off." Other selective frequency can be obtained by use of a Type 1940 Filter Unit.

SPECIFICATIONS

Input Impedance: 1 megohm in parallel with 25 mmf. GAIN: 98 db. with 1 megohm load (6 mmf. shunt capacity).
Null Detector Sensitivity: At 1 kc. 100 microvolts will give a 15% meter deflection.
Selective Amplifier: 26 db. second harmonic attenuation at 60, 400 and 1000 cycles.
Power Supply: 105-125 volts, 50-60 cycles, 35 watts consumption.
Dimensions: 12" x 8½" x 10". **Weight:** 24 lbs.



A.C. SUPPLY TYPE 1180

USES

The type 1180 A.C. Supply is designed for both laboratory and production applications where a power line isolated source of A.C. test voltage is required. It will have particular application to bridge measurements where a source of voltage in small increments is needed.

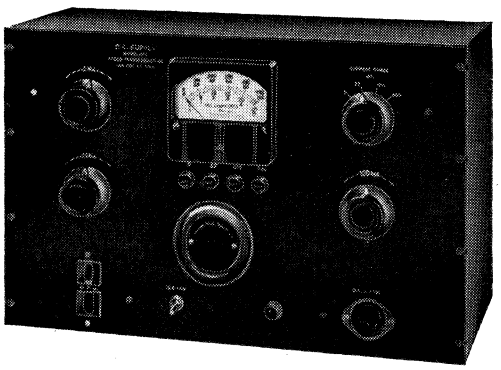
SPECIFICATIONS

Voltage Range: .01 — 130 volts AC — 50-60 cycles.
Dimensions: Width 19"; Depth 5"; Height 7".
Weight: 13½ lbs.

D.C. SUPPLY TYPE 1170

USES

Intended as a dependable source of direct current for the Incremental Inductance Bridge Type No. 1110-AB. Can also be used as a general laboratory substitute for a high voltage storage battery.



DESCRIPTION

Consists of an electronically regulated high voltage supply. Four independent control circuits provide four current ranges, namely 5 milliamperes, 25 milliamperes, 100 milliamperes and 500 milliamperes. The output current is indicated by a multirange 4" meter.

SPECIFICATIONS

Current Ranges: Four current ranges: 5, 25, 100 and 500 milliamperes.
Voltage Ranges: The maximum no load voltages corresponding to the four current ranges are the following: 500 MA — 270 volts, 100 MA — 270 volts, 25 MA — 55 volts, 5 MA — 25 volts. On both 500 MA and 100 MA range with the control set to zero, the output voltage is independent of the load.
Voltage Regulation: The unit operates from a 115 volts, 50-60 cycle line. For a line variation of plus or minus 10%, the output voltage shall not vary more than ±1½%.
Dimensions: 21" x 15" x 14". **Weight:** 89 lbs.

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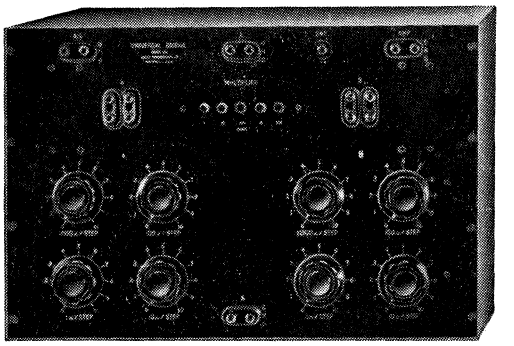
UNIVERSAL BRIDGE TYPE 1150

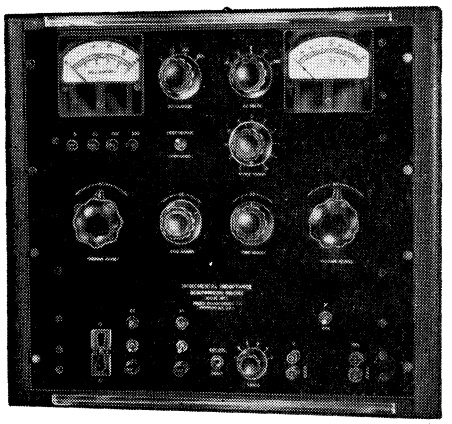


FEATURES

The Universal Bridge offers a variety of five possible bridge circuits. A wide range of capacitance, inductance, impedance, and phase angle measurement can be made throughout the frequency spectrum from 20 cycles to 20,000 cycles.
Decade resistors in the variable arms allow the unknown to be measured to four significant figures. Operation is simple and both terminals and controls are arranged for convenience and ease of measurements.

SPECIFICATIONS

Frequency Range: The bridge can be used at frequencies from 20 cycles to 20,000 cycles.
Accuracy: All resistors of the bridge arms are adjusted to 0.1%. The absolute accuracy of measurement will depend upon the accuracy of standards used.
Inductance Range: The bridge will measure inductance of coils from 0.1 mh to 1000 henries with an accuracy of 0.5% at 1000 cycles.
Capacitance Range: Condensers from .001 mf to 1 mf can be measured to within 0.5% at 1000 cycles. Condensers below .001 mf should be measured by the substitution method.
Mounting: The bridge supplied in walnut cabinet or on special order for standard rack mounting.
Dimensions: Rack 19"x8"x14" **Weight:** 32 lb.; Cabinet 21"x8"x16⅝" **Weight:** 43 lbs.



INCREMENTAL INDUCTANCE COMPARISON BRIDGE TYPE 1870

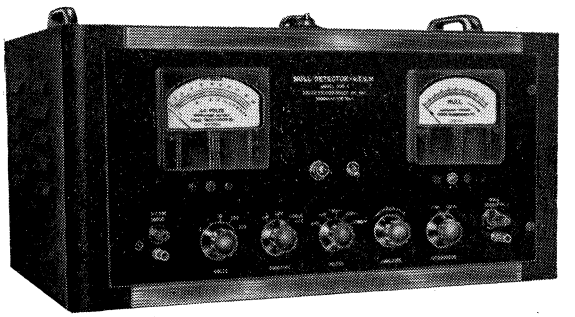
DESCRIPTION

The unit is completely self-contained, consisting of a metered 500 ma D.C. supply, a metered 135 volt, 60 cycle supply and a direct reading % deviation indicator. An external oscillator jack is provided so that test frequencies from 60 cycles to 10 kc may be used.

SPECIFICATIONS

Inductance Range: 25 mh to 100 h.
Deviation Range: ±20% with an accuracy of 1%. ±30% with an accuracy of 5%.
Frequency: 60 cycles to 10,000 cycles.
Voltage Applied to Unknown: Variable from 0 to 135 volts.
D.C. Current Range: 0 to 500 ma in four overlapping ranges, 0-5 ma, 0-25 ma, 0-100 ma, 0-500 ma.
Vacuum Tube Voltmeter: .01, .1, 10, and 100 volts full scale.
Power Supply: Instrument is entirely self-contained, operates on 100-125 volts, 50-60 cycles.
Dimensions: 19½" high x 22" wide x 15" deep. **Weight:** 150 lbs.

NULL DETECTOR AND VACUUM TUBE VOLTMETER TYPE 1210-A



USES

The Type 1210-A Null Detector and Vacuum Tube Voltmeter is primarily designed for bridge measurements. The Null Detector indicates the balance of the bridge, and the Vacuum Tube Voltmeter indicates the voltage across the unknown two terminal or four terminal network.

SPECIFICATIONS

NULL DETECTOR
Input Impedance: 1 megohm in parallel with 25 mmf.
Frequency Response: 2 db from 20 to 20,000 cycles.
Null Detector Sensitivity: At 1000 cycles, 100 microvolts will give a 15% meter deflection.
Selective Amplifier: 26 db second harmonic attenuation at 60,400 and 1000 cycles. Selectivity at any other frequency between 20 cycles and 20 kc. may be obtained by connecting Freed Model 1940 to the external filter jack.
VACUUM TUBE VOLTMETER
Voltage Range: .01 volts to 100 volts in four ranges — (0.1 — 1 — 10 — 100 volts at full scale.)
Accuracy: 2% of full scale on all four ranges.
Waveform Error: The instrument is a full wave average meter and is free of turnover effects. For small amounts of distortion the accuracy of the instrument is independent of the waveform.
Frequency Range: 20 cycles to 20,000 cycles (1 db.)
Input Impedance: Equivalent to 50 megohms resistance in parallel with a 25 mmf condenser.
Meter Scale: Logarithmic Voltage Scale calibrated from 1 to 10 plus a linear db scale calibrated from 0 to 20 db.
Power Supply: 105-125 volts AC. 50-60 cycles. **Dimensions:** 21" x 15" x 13". **Weight:** 37 lbs.

INTERSTAGE FILTER TYPE 1940

USES

This filter may be used with the Freed Type 1140-A Null Detector and Type 1210-A Null Detector V.T.V.M. or similar amplifiers. It can be set to any one of 7 fixed frequencies to reduce noise and harmonics when making bridge measurements.

DESCRIPTION

The filters are parallel resonant circuits, and are designed to be used in the plate circuit of the amplifier. D.C. current through the inductor is limited to 3 ma. Terminals are provided for connecting an external capacitor to tune to any frequency between 50 cps and 20 kc.

FEATURES

- Each of 7 tuned frequencies is quickly available.
- Any resonant frequency between 50 cps and 20 kc can be obtained with external capacitors.
- Sharp anti-resonant tuning.
- Can be used directly in plate circuit.

SPECIFICATIONS

Frequencies: 100 cps, 200 cps, 500 cps, 800 cps, 1200 cps, 2000 cps and 10 kc. adjusted to any accuracy of ±2%. Discrimination vs 2nd harmonic approximately 23 db.
Terminals: Shielded cord and plug for connection to null detector. Binding posts for connecting external capacitors.
Dimensions: 6" x 6" x 6". **Weight:** 7 lbs.

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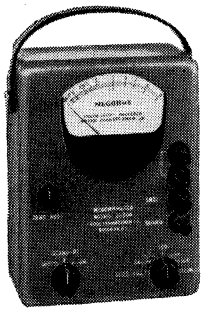
BATTERY OPERATED PORTABLE MEGOHMMETER TYPE 2030



USES

The Freed Type 2030 Megohmmeter is a battery operated instrument especially suited for measuring leakage of transformers, motors, cables, condensers and insulating materials wherever the power line is inaccessible or where battery operation is more desirable.

FEATURES

Resistance values are indicated on a 3" expanded scale meter protected against overload. Low resistance in series with component under test provides very short charging time for even the largest condensers. Calibration position provided to check accuracy of 500 volt test potential. The 500 volt D.C. test potential is obtained from a regulated transistor power supply.

SPECIFICATIONS

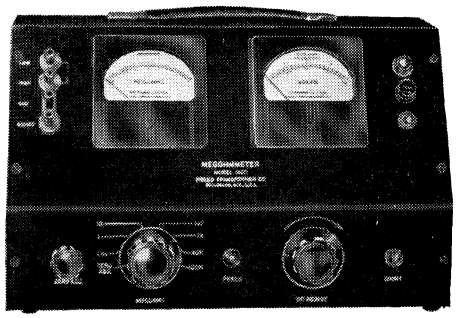
Range: 5 megohms to 5 million megohms, indications to 10 million megohms in 5 overlapping ranges.
Accuracy: Plus or minus 3% on resistance values up to 100,000 megohms: plus or minus 5% from 100,000 megohms to 5,000,000 megohms.
Voltages on Unknown: The voltage applied to the Unknown terminals is 500 volts D.C. and is independent (less than 1%) of the value of the Unknown.
Terminals: Four terminals are provided, two for connecting the Unknown, one guard and one ground.
Dimensions: 6" x 8" x 4". **Weight:** 8 lbs.

VARIABLE TEST VOLTAGE MEGOHMMETER TYPE 1620

The Freed Type 1620 Megohmmeter is a versatile insulation resistance measurement instrument with a continuously variable DC test potential from 50 to 1000 volts.
Components such as transformers, condensers, motors, printed circuits; cables and insulation material can be tested at their rated voltage and above, for safety factor.

- **Resistance** — 0.1 megohms to 4,000,000 megohms.
- **Voltage** — variable, 50 - 1000 volts.
- **Accurate** — plus or minus 5% on all ranges.
- **Simple** — for use by unskilled operators.
- **Safe** — high voltage, relay controlled.

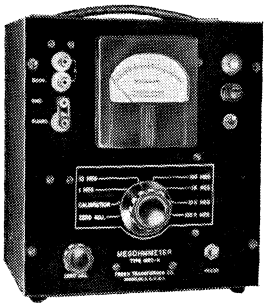
Power Supply: 105-125 volts AC — 50-60 cycles.
Dimensions: 15" x 9" x 7½". **Weight:** 24 lbs.



TYPE 1620-C MEGOHMMETER

All features same as type 1620 with additional circuitry for measuring capacitor leakage with test voltages from 50-1000 volts D.C.

MEGOHMMETER TYPE 1020-B



USES

A self-contained and A.C. operated instrument for laboratory or production testing of leakage resistance of insulation materials, condensers, cables, motors and transformer windings.

FEATURES

Resistance values indicated directly on a four-inch meter protected against over-load. Rapid and safe to use, test voltage removed from terminals, and capacitive component discharged to ground in all positions of multiplier switch. Maximum short circuit-current limited to 6 milliamperes for optimum safety of operating personnel. Low resistance in series with component under test provides very short charging time for even the very largest capacitors. Calibration position provided to check accuracy of 500 volts D.C. potential.

SPECIFICATIONS

Range: 1 megohm to 2,000,000 megohms in six overlapping ranges selected by a multiplier switch.
Accuracy: Plus or minus 3% on resistance values up to 100,000 megohms: plus or minus 5% from 100,000 to 2,000,000 megohms.
Voltages on Unknown: The voltage applied to the unknown terminals is 500 volts D.C. and is independent (less than 1%) of the value of the unknown.
Power Supply: 105-125 volts A.C. 50-60 cycles 30 watts.
Dimensions: 9½" x 10½" x 8". **Weight:** 18 lbs.

NULL DETECTOR TYPE 2050 (ALL TRANSISTOR)

The Freed Type 2050 Null Detector, when used in conjunction with other battery operated equipment, allows complete isolation from the power lines. This feature, plus battery operation, provide a lower noise level which makes it useful in all types of AC Bridge measurements. Readily portable and independent of power lines, this instrument is particularly suited for bridge measurements in any location.

FEATURES

- Complete isolation from power lines.
- Portable — lightweight.
- Economical operation.
- High sensitivity throughout battery life.
- Maintenance — free service.
- Simplified operations — no warm-up, no zero setting.
- Built-in harmonic filters.

SPECIFICATIONS

Sensitivity: (with 400 cycle or 1000 cycle filter)
A — 200μV for full-scale, 80μV for 30% deflection } in "Linear" position
B — 2000μV for full-scale, 100μV for 30% deflection } in "Null" position
Input Impedance: Approximately 1 Megohm (resistive) at 1000 cycles.
Frequency Range: 40 cycles to 20 kc ±1 db.
In "Direct" position: 20 cycles to 50kc ±5 db.
Filters: 400 cycles and 1000 cycles, greater than 22 db rejection of 2nd Harmonics.
Power Supply: 5.2 volts (4 mercury cells).
Battery Life: At least 1800 hours.
Size: 6 x 8 x 3½ inches. **Weight:** 3½ lbs. with batteries.

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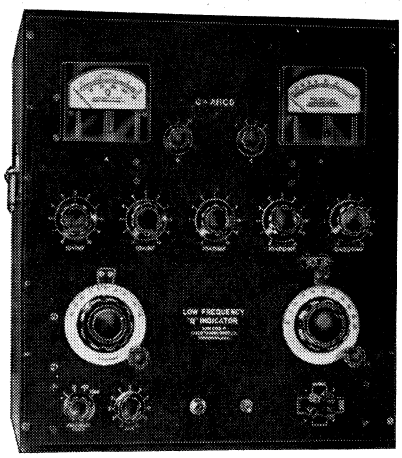
LOW FREQUENCY "Q" INDICATOR TYPE 1030-A



USES

Measures the "Q" factor of coils directly and the inductance of coils, distributed capacity, impedance and dielectric losses. The "Q" Indicator can be used to study the magnetic properties of iron, such as stability of iron cores in function of applied voltages, and, iron losses as a function of the frequency.

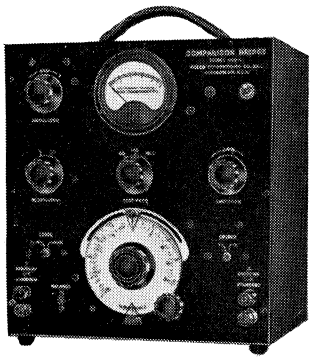
FEATURES

● Direct reading ● Unaffected by line voltage variations. ● Self contained — A.C. operated.

SPECIFICATIONS

Range of "Q" Measurements: The range of "Q" factors is from 0.1 to 1000 over the frequency range from 20 to 50,000 cycles with an accuracy of 5%; from 50,000 to 200,000 cycles the accuracy of "Q" measurements is limited by the residual capacity of the measuring circuit (for iron core components, measurements in this frequency range will approach 5%).
Oscillator Frequency Range: Continuously variable from 20 to 200,000 cycles in four ranges.
Power Supply: The instrument is entirely self-contained and operates on 105-125 volts, 50-60 cycles. Total power consumption 200 watts. **Dimensions:** 19½" x 14½" x 23". **Weight:** 120 lbs.

COMPARISON LIMIT BRIDGE TYPE 1010-A



USES

For laboratory and production testing of resistors, condensers and inductors. Instrument is completely self contained and A.C. operated.

DESCRIPTION

The instrument is composed of an oscillator, a bridge and a selective amplifier.

SPECIFICATIONS

Frequency: 50 or 60 cycles, 1000 cycles and 10,000 cycles. **Range:** Two comparison ranges, 5% and 20%.
Accuracy: ±0.1% in the 5% position. **Resistor Measurements:** 1 ohm to 20 Megohms.
Condenser Measurements: 10Mmfd. to 100 Mfd.
Inductor Measurements: 10 Microhenries to 1000 Henries.
Voltage applied to the Unknown: Two controls are provided to vary the voltage across the unknown. A special low impedance winding is used when measuring small impedances and the voltage across these may be varied from .1 to 1 volts. For higher values of impedance the voltage may be varied from .5 to 15 volts.
Power Supply: 105-125 volts; 50-60 cycles. **Dimensions:** 10½" x 12" x 12". **Net Weight:** 17 lbs.

A. C. DIFFERENTIAL VOLTMETER TYPE 1560

USES

Measures differences in voltage levels as low as 0.01% regardless of their phase relation. It is extremely useful when checking response and attenuation of filters, transformers, amplifiers and other applications where a small difference in two voltages is to be measured. Because of its excellent stability and high sensitivity the differential voltmeter may also be used to observe drift in amplifiers, meters and filters.

DESCRIPTION

This instrument consists of a balanced dual-channel AC Amplifier with separate rectifiers; a D.C. comparison circuit which indicates percent difference on a calibrated multiturn potentiometer; a chopper modulated D.C. Amplifier operating at 60 cps; a synchronous detector which is polarity-sensitive; and a 4" center-zero null meter.

SPECIFICATIONS

Percent Difference: −10% to +5% in .01% increments on multiturn potentiometer dial.
Input Voltage (each channel): .3 volt to 100 volts rms in 5 ranges.
Input Impedance: 470 K ohms shunted by approximately 20 mmf capacitance on 1 volt range; 400 K ohms shunted by 40 mmf.
Frequency Range: 20 to 20,000 cps (MODEL 1560); 20 to 200,000 cps (MODEL 1560E).
Calibration Linearity: ±.25% difference, 20 to 20kc; ±.5% difference, 20 to 200kc.

Power Supply: Electronically regulated; 115 volts, 60 cps input.
Dimensions: 21" x 15" x 10½". **Weight:** 37 lbs.

WIDE BAND AND CARRIER FREQUENCY DISTORTION METER TYPE 1410

USES

The Type 1410 Distortion Meter may be used in the laboratory or for production testing of Wide Band Amplifiers, Carrier Frequency, Telemetering and Ultra-Sonic equipment.

DESCRIPTION

The high sensitivity of the instrument permits measurements to be made on signals as low as 0.2 volts to an accuracy of 0.1%. Signals as high as 1000 volts may be applied to the input terminals directly. The frequency range of the instrument is 20 kc to 1 mc. in 10 overlapping ranges. Frequencies up to 3 mc. are passed without attenuation by the amplifier circuits, so that distortion measurements can be made on fundamental frequencies up to 1 mc.
An isolation transformer and line filter provided with the instrument prevent any feedback through the power line.

SPECIFICATIONS

Frequency Range: 20 kc to 1 mc.
Input Impedance: 500,000 ohms shunted by 70 mmfd. (plus capacity of input cable) in all ranges but the 0.1 volt range. The shunt capacity on this range is 800 mmfd.
Accuracy: Harmonic Distortion can be measured accurately to 0.1%.
Sensitivity: Distortion levels of 0.1% can be read accurately for a signal input as low as 0.2 volts. Maximum input signal is 1000 volts rms.
Elimination Characteristics: Eliminates fundamental completely while attenuating second harmonic approximately 3%. **Power Supply:** 105-125 volts, 50-60 cycles. **Dimensions:** 19¾" x 16¾" x 15¾". **Net Weight:** 60 pounds.

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(PAGES 804 — 835) IN THIS YEAR'S EDITION OF
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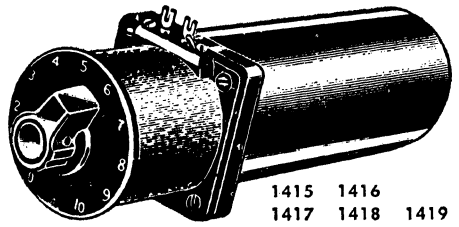
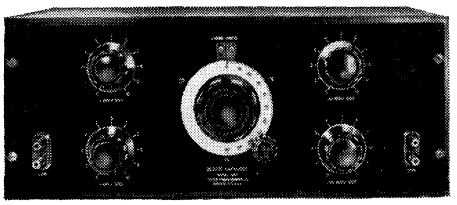
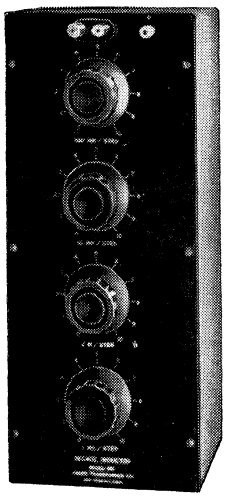
FREED TRANSFORMER COMPANY, INC.



1415 1416
1417 1418 1419



1350 Decade Capacitor



1250

DECADE CAPACITORS

The Freed series of Decade Capacitors covers a wide range of values and can be supplied as individual decades from 0.0001 mfd. per step to 1 mfd. per step or in various combinations of assembled decade boxes.

Single decade units can be assembled in different capacitor values for use in experimental and permanent equipment. The decade boxes are useful for laboratory work in bridge measurements and as components of filters and tuned circuits.

Polystyrene dielectric is used in the manufacture of the capacitor assemblies with the exception of the 1 mfd. per step unit which uses Mylar as a dielectric. All capacitors are non-inductively wound and heat treated for stability, low dielectric absorption and low losses.

Each decade is variable from 0 to 10 by use of 11 position selector switch. The losses in the switches and mountings are kept low by the use of special low loss, impregnated switch wafers. A positive detent mechanism allows the switch to be set accurately.

SPECIFICATIONS

Accuracy: Individual capacitors are adjusted to an accuracy of ±1% when measured at 1kc. The capacitance at the terminals, less the zero capacitance, is within ±1% of indicated dial setting. The zero capacitance of the decade boxes is supplied with each unit. Single decade units have a zero terminal capacity of approximately 8 mmfd. except Type 1419, which is compensated for true terminal capacity.

Dissipation Factor: The dissipation factor of the polystyrene units when measured at 1kc is less than 0.0002, the 1mfd. per step decade (Mylar) is less than 0.005.

Maximum Voltage: The maximum voltage that may be applied to these decades is 500 DC working volts.

Note: Individual capacitors can be supplied to better than ±1% Tolerance. Write for complete information.

Type	Step	Total Capacity	Size	Wgt.
1415	1. mfd.	10. mfd.	3" x 3" x 7"	2 lbs.
1416	0.1 mfd.	1. mfd.	3" x 3" x 7"	2 lbs.
1417	0.01 mfd.	0.1 mfd.	3" x 3" x 7"	2 lbs.
1418	0.001 mfd.	0.01 mfd.	3" x 3" x 7"	2 lbs.
1419	0.0001 mfd.	0.001 mfd.	3" x 3" x 7"	2 lbs.
1250*	0.001 mfd.	1.110 mfd.	13¾" x 6" x 4½"	8 lbs.
1350†	0.001 mfd.	11.111 mfd.	19" x 7¾" x 8"	20 lbs.
1351‡	0.0001 mfd.	11.1111 mfd.	19" x 10¾" x 8"	25 lbs.

*3 decade unit
†4 decade unit plus 1000 mfd. air variable
‡5 decade unit plus 100 mfd. air variable

DECADE INDUCTORS

DESCRIPTION

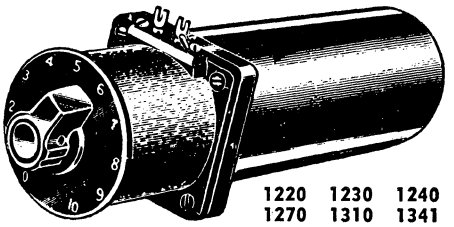
Each unit is an assembly of four Toroids wound on a stabilized Molybdenum permalloy dust core protected against moisture. Four coils (nominal inductance valves 1 2, 3, 4) are connected in series, the inductance is varied from 0-10 by use of an 11 position low loss switch. A positive detent mechanism allows the switch to be set accurately.

USES

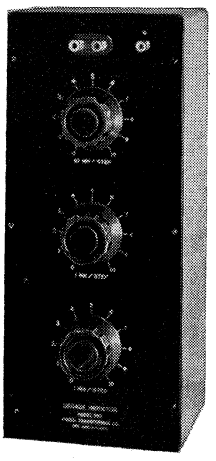
The Freed Toroidal Decade Inductors are available in single units from 1 Millihenry per step to 10 henries per step or in various combinations of assembled decade. They are especially useful in the design of filters and equalizers at audio and supersonic frequencies where the variable feature allows adjustments for optimum circuit performance.

SPECIAL FEATURES

- High stability of inductance valve.
- Small variation of inductance with frequency (high self resonant frequency).
- Small variation of inductance with AC and DC currents.
- High Q in the operating frequency range.
- Low temperature coefficient.
- True astatic construction.



1220 1230 1240
1270 1310 1341



1164 1280
1290 1310

MAXIMUM Q VALUES ABOVE 200

Type	Frequency Range cps.	Maximum Q*	Inductance Per Step	Total Inductance	Size	Wgt. Lbs.
1164†	30- 2,000	60 @ 300	.1 Hy	111. Hy	15" x 7" x 5½"	28
1220	500-20,000	230 @ 4kc	0.001 Hy	0.01 Hy	3" x 3" x 9"	4½
1230	500-20,000	280 @ 3kc	0.01 Hy	0.1 Hy	3" x 3" x 9"	4½
1240	500-20,000	260 @ 3kc	0.1 Hy	1. Hy	3" x 3" x 9"	4½
1270	500-20,000	190 @ 2kc	1. Hy	10. Hy	3" x 3" x 9"	4½
1280	500-20,000	280 @ 3kc	0.001 Hy	1.11 Hy	13¾" x 6⅛" x 5½"	16
1290	500-20,000	280 @ 3kc	0.001 Hy	11.11 Hy	15" x 7" x 5½"	20
1310	500-20,000	280 @ 3kc	0.01 Hy	11.1 Hy	13¾" x 6⅛" x 5½"	16
1341	100- 2,000	100 @ 1kc	10. Hy	100. Hy	3" x 3" x 9"	4½

ACCURACY OF TOROIDAL INDUCTANCE

	1 mh	10 mh	100 mh	1 h
Inductance per Step:				
Nominal Accuracy:	±2%	±1%	±0.5%	±0.25%

*Maximum Q depending on inductance value and AC voltage across the coil.

†Type 1164 Decade Inductance is wound on a special nickel alloy laminated core, nominal inductance ±1%.

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FREED TRANSFORMER COMPANY, INC.

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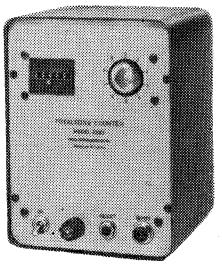
INDUSTRIAL ELECTRONIC COUNTERS TYPE 2020

Freed Type 2020 Electronic Counters are designed for accurate and reliable industrial counting and control applications. They feature comparatively simple circuits and premium components which assure low cost and maintenance free operation.
This series is divided into two basic models: a preset counter for the control of a production process, opening or closing an electrical circuit when the pre-determined count is reached. They are particularly suited to high speed coil winding operations or any event which requires a machine controlled at a preset total; A totalizer, for applications requiring high speed and a large total count capacity, such as the daily output of a power press, printing machine or any item that can be presented for counting.

SPECIFICATIONS

Preset Counters: Type 2020-M for inputs from mechanical contacts, this unit is supplied with a specially designed circuit which eliminates erratic and false counts due to contact bounce.
Type 2020-P for operation from photocell, a miniature light source and photocell is supplied with this unit.
Maximum Count: 4 digit — 0-9,999 counts.
Counting Rate: 0-30,000 counts per minute.
Preset: 1-9,999.
Reset: Manual.
Output Relay: DPDT, 5 amp. contacts.
Power Supply: 105-125 volts, 50-60 cycles.
Size: 12 x 8 x 8 inches.
Weight: 12 lbs.

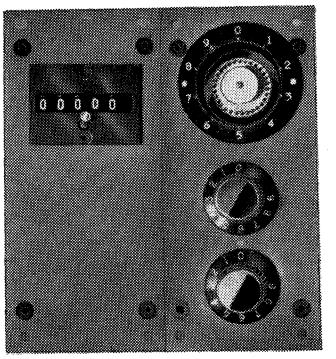
Note: For more complex operations and higher counting speeds see specifications on our type 3000 Series Counters.



TYPE 2022 ELECTRONIC COUNTER

SPECIFICATIONS

Totalizers: Type 2022-M for input from mechanical contacts. Type 2022-P for input from photocell (supplied with counter).
Maximum Count: 6 digits — 999,999.
Counting Rate: 0-6000 per minute.
Reset: Manual.
Power Supply: 105-125 volts, 50-60 cycles.
Size: 8 x 6 x 7 inches.
Weight: 8 lbs.

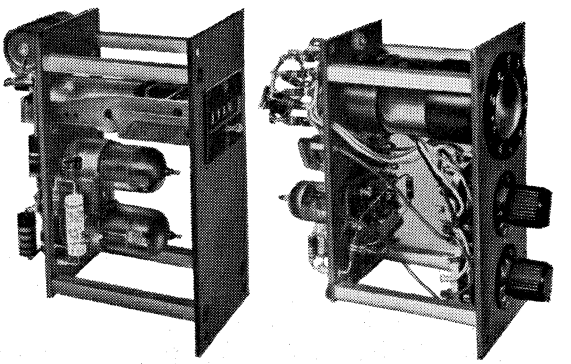


3000 SERIES ELECTRONIC COUNTERS

The 3000 series counters are constructed from modular subunits.
This versatile construction permits the selection of a counter with exactly the characteristics needed for virtually any counting or control application. The choice of several input circuits allow the use of practically any kind of a transducer or wave shape to actuate the counter. Any count capacity can be obtained by cascading individual unit decades. Several different recycling arrangements can be chosen as well as different pulse outputs and relay configurations. Batch counting can be included with any recycling arrangement.

SPECIFICATIONS

Maximum Count: Any.
Counting Rate: 0-100,000 counts per second.
Preset: Any number up to six consecutive presets.
Reset: Automatic or manual.
Power Supply: Operates from 105-125 cycle A.C. line.
Write for more comprehensive catalog listing the various "3000" series modular units.



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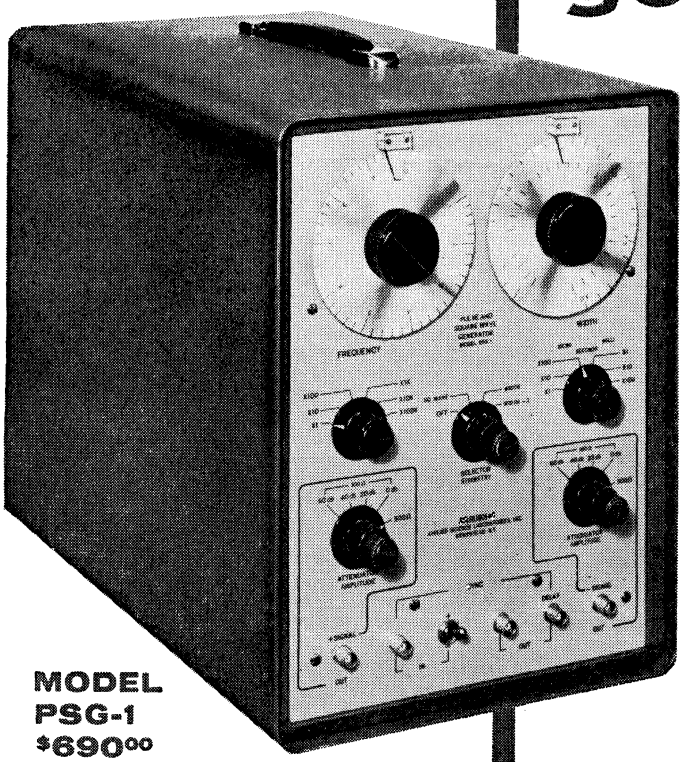
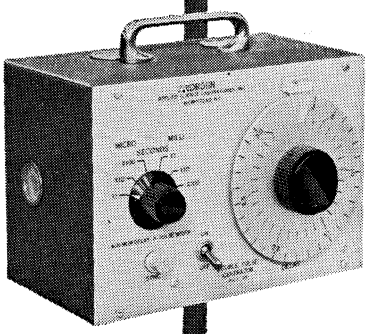
wide range pulse and square wave generator



MODEL
PSG-1
$690.00



MODEL
DG-1
$135.00

BROAD RANGE OF FREQUENCIES AND PULSE WIDTHS

- FREQ.: 1 CYCLE TO 1 Mc.
- PULSE WIDTH: .1 μSEC. TO .3 SECONDS
- Rise and Fall Time: .02 μsec. for 10 V, 100 Ohm Output
- Rise and Fall Time: .1 μsec. for 50 V, 500 Ohm Output
- Duty Cycle: Up to 90%
- Can Be Externally Synchronized
- Positive and Negative Outputs Are Simultaneously Available and Separately Attenuated
- Sync Pulse Out at Rise and Fall of Output Wave
- ± 2% Calibration Accuracy at Max. Dial Scale

DOUBLE PULSE ADAPTER

- Can be used with PSG-1 to provide a second pulse of same width and amplitude as the main pulse output, but delayed in time from main pulse by any interval up to the pulse period.
- Delayed pulse appears at same output terminals as the main pulse.

GASL

GENERAL APPLIED SCIENCE LABORATORIES, INC.

59 Hempstead Gardens Dr.
Hempstead, New York

Formerly Gruen Applied Science Laboratories, Inc.

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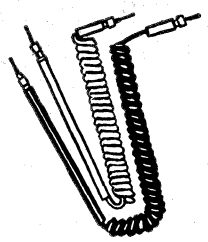
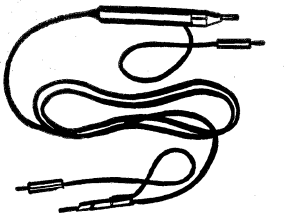


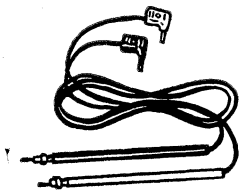
STRETCH LEADS

. . . Kink proof retractable 9″ coil extends to 6 feet. **G-C No. 9301**

G-C TEST LEADS
"BEST FOR THE TEST"



CRYSTAL PROBES . . . for VOM and VTVM. Completely shielded to eliminate antenna effect and hand capacity. Reads 200 Mc at 100% accuracy. **G-C No. 5611**



MASTER LINE TEST LEADS . . . Heavy duty solderless type with extra flexibility. **G-C No. 5050**

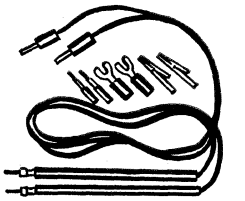
G-C KLIPZON TEST LEADS . . . Frees both hands and saves time. Jaws slip onto wires, lugs and terminals for firm contact. Available in heavy duty, high voltage leads for testing "hot stuff" up to 22,000 volts or shielded low-loss, low capacity leads.

Many other types to choose from for any testing need. Don't miss the G-C line in the new RADIO-ELECTRONICS MASTERS. All items available from stock through your local Electronic Distributor.

GENERAL CEMENT MFG. CO.

Division of Textron Inc.

LOS ANGELES • ROCKFORD, ILL.



UNIVERSAL TYPE WITH INTERCHANGEABLE TIPS . . . 50 inch leads, has 6″ unbreakable plastic handles on one end and interchangeable alligator clips, spade lugs and phone tips at the other end. **G-C No. 8463**

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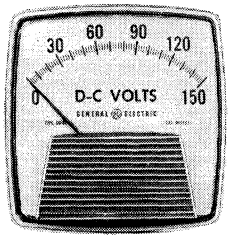
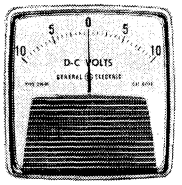
GENERAL ELECTRIC INSTRUMENTS



Type DO-91, 3½-inch size



Type DW-91, 2½-inch size

Panel Instruments

General Electric general-purpose panel instruments are particularly suitable for use in radio and communication equipment where accuracy and quality are required and space is at a premium. Featuring distinctive appearance, excellent readability, and reliable operation, the instruments are available in both 2½- and 3½-inch sizes and in a-c and d-c ratings. These instruments find wide usage where minimum frontal dimensions and minimum depth behind the panel are essential requirements. The accuracy of all these instruments is ±2 per cent of full-scale. Voltmeters, ammeters, milliammeters and microammeters are available in most required ranges.

Features

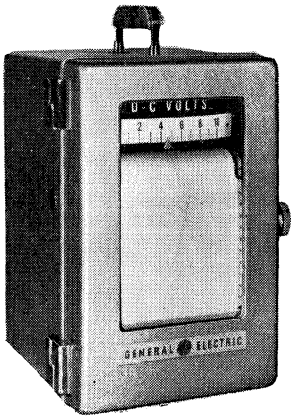
Built-in General Electric quality helps provide extra-long, trouble-free life with these outstanding features:

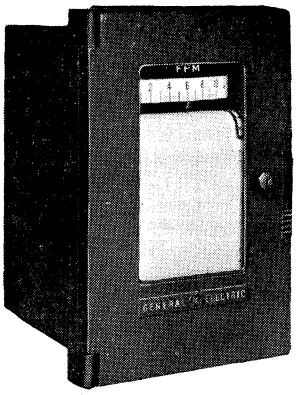
Shielded Mechanisms—Self-shielding of all d-c movements allows mounting on magnetic or nonmagnetic panels without special calibration-cluster mounting bezel-to-bezel without interaction—and the effects of stray magnetic fields are minimized.

Completely Sealed—Internal parts and movements are protected from dirt, dust, and water. Cases are sealed with neoprene gaskets in air-conditioned assembly areas.

Pivots and Jewels—Moving parts are supported on rugged steel pivots which rotate in low-friction, highly polished glass jewels.

Write for Bulletin GEA-66-78





General-purpose Strip-chart Recorders

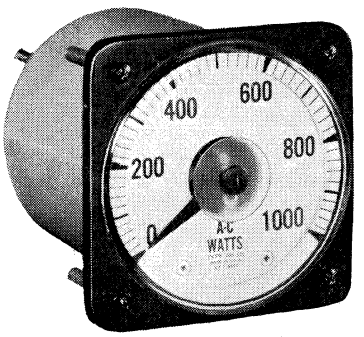
A line of general-purpose strip-chart recorders, designated Type CH are available in either portable or switchboard cases for a-c or d-c service. Among the exclusive features of these instruments is a writing mechanism featuring a throwaway inkwell. This innovation eliminates the common problems of spilled ink, cleaning, and refilling recorder inkwells. Ink for these recorders is supplied in a sealed, clear-plastic inkwell which, after use, is simply thrown away. Other features of these recorders for general industrial applications include accuracy of 1 per cent of full scale, 150-ft record rolls to make chart changing less frequent, an optional spring-clock chart drive which lasts for 60 days without rewinding, 0.7-second response time, weatherproof cases, and up to 28 different chart speeds from ¼ in. per hour to 2 in. per second.

Record roll used with these recorders has several interesting features. The time lines are printed in light-green ink to provide the maximum amount of contrast with the standard red recording ink. Six in. wide, these 150-ft charts give maximum readability and superior qualities for blueprinting.

These general-purpose strip-chart recorders are available as a-c voltmeters, ammeters, wattmeters, varmeters, and frequency meters; and as d-c ammeters, millivoltmeters, and voltmeters. Also available is a self-contained d-c amplifier for ranges as low as 0.1 millivolt, d-c.

Write for Bulletin GEC-1319

Long-scale Switchboard Instruments



Oblique front view of instrument showing the clearly visible, open scale

Combining advantages of a long-scale and shadowproof cover, these instruments are designed for general switchboard service where accuracy and maximum legibility are essential. Long-scale switchboard instruments are provided as voltmeters, ammeters, wattmeters, frequency meters, power factor meters, varmeters, synchroscopes, and temperature meters. Other applications include those where it is desirable to read small changes in the measured quantity—such as speed indication.

Features

Available in Types AB-18, 4¼ inches square, and AB-16, 8¾ inches square, their compact design affords maximum usage of available mounting space. Legible markings, bold tapered pointer, and scale lengths of 7.1 inches (AB-18) and 14.2 inches (AB-16) are all co-ordinated for maximum readability. The pointer tip is in the same plane as the scale markings, eliminating parallax errors.

Instruments are magnetically damped, allowing quick readings and insuring permanency of characteristics. All moving systems have a through shaft to insure mechanical stability. Self-contained resistors simplify wiring transformer-rated instruments. Equipped with bearings which provide maximum protection to both jewels and pivots under all normal and many adverse conditions. All instruments are thoroughly shielded. Cases are dust-tight and moisture-resistant, for semiflush mounting, and they are constructed of a steel shell, with Textolite* base and die-cast cover. Instruments can be readily disassembled for inspection or repair. Accuracy is ±1% of full scale value.

Write for Bulletin GEC-1507

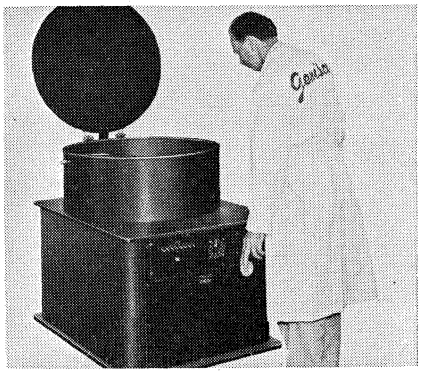
*Registered trade-mark of General Electric Co.

Complete information on all of these instruments is available from your nearest G-E Apparatus Sales Office, or by writing to Section 640-496, General Electric Company, Schenectady 5, N. Y.

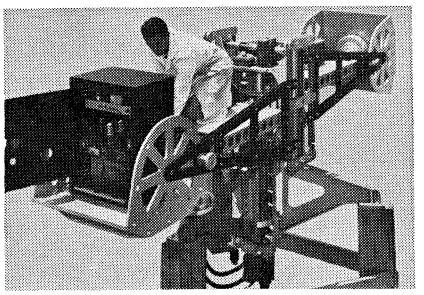
See YELLOW SECTION for Local Offices, Telephone, etc.

GENISCO TEST EQUIPMENT

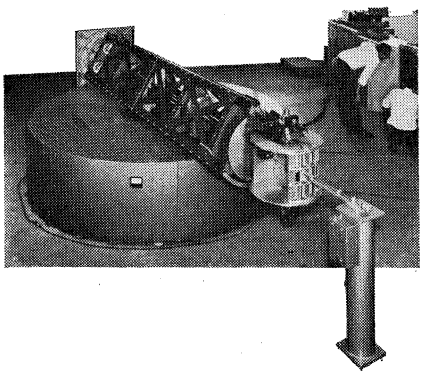
CENTRIFUGES



A903—A small, compact, inexpensive centrifuge for production acceleration testing. Exceptionally rugged construction, simplified operating procedures. 1 to 800 g's. 1000 g-pounds capacity. Constancy of rotation is within 0.5%, including wow and drift.

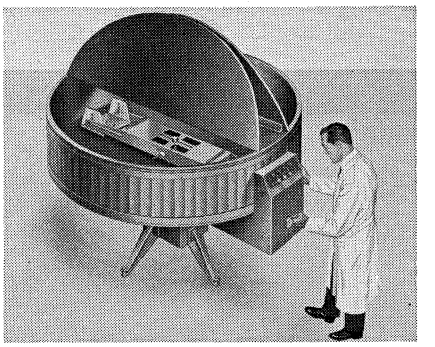


E185—Symmetrical boom design accommodates two test packages, 500 pounds each dead weight. 1 to 100 g's. Maximum centrifugal capacity 30,000 g-pounds each end of boom. Dynamic balancing is accomplished automatically.



G460—Measures accelerations as minute as 2 x 10^{-7} g. Precision end subjects 16" cube, weighing up to 50 pounds to g-forces from 0.25 g to 12 g's. Environmental end will test packages weighing up to 400 pounds, and measuring up to 36" x 36" x 36", to g-forces up to 25 g's but with a lesser degree of accuracy.

CUSTOM MACHINES—Genisco engineers have been responsible for many important innovations in the design of large centrifuges. Your inquiry concerning the design, fabrication and installation of large special-purpose machines is invited.



A1010, A1020, A1030

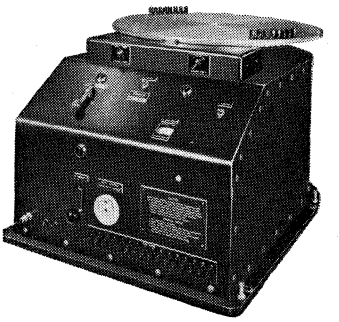
New, low cost, precision centrifuges feature a unique, high-torque, ball-disc integrator drive system. Constancy of rotation, including wow and long term drift, is better than 0.05% at any speed setting.

Building block design concept gives exceptional flexibility and permits easy modification as requirements change. Kits are available for modification by customer.

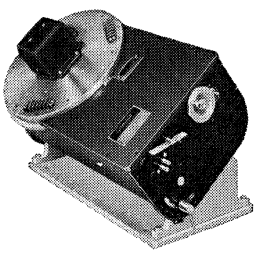
BRIEF PERFORMANCE SPECIFICATIONS

Model No.	Diameter	Test Object Weight	Capacity G-pounds	RPM Max.	G-Range Max.	Test Object Dimensions
A-1010	30" table	50 lbs. dead weight	2,500	800	.1 to 200 g's	
A-1020	60" arm	100 lbs. dead weight	10,000	600	.1 to 250 g's	12" cube
A-1030	96" arm	100 lbs. dead weight	10,000	400	.1 to 175 g's	18" cube

RATE-OF-TURN TABLES

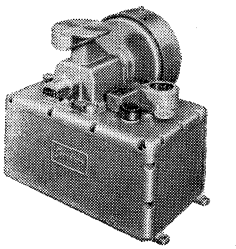


Model C181—An extremely precise machine for calibrating and evaluating rate gyroscopes, or for low g-force testing and calibrating purposes. Constancy of angular velocity is within 0.1%, including errors due to wow and drift, at any rate setting.



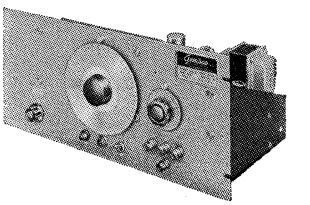
Models G347 and S347—Small, relatively inexpensive machines for rapid calibration and evaluation of rate gyroscopes. Constancy of angular velocity is within 1.5%, including error due to wow, drift, and flutter, at any rate setting.

ANGULAR OSCILLATING TABLE



Model B386—Extremely accurate device for evaluating damping and response characteristics of angular accelerometers and rate gyroscopes. Excellent for use as a torsional calibrator.

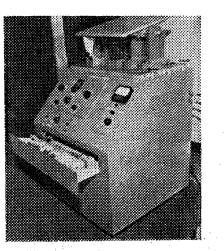
THREE PHASE OSCILLATOR



A wide-range, variable frequency, three-phase signal source. Coupled with power amplifiers, excellent as a power supply for variable speed control of synchronous or induction motors, testing over a range of frequencies, testing gyros, etc. Complete three-phase variable frequency power supplies up to 30 kw are available.

SINGLE AXIS FLIGHT SIMULATOR

For testing airborne components under simulated pitch, yaw and roll maneuvers.



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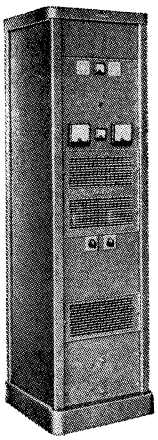
GENISCO-SAVAGE VIBRATION EQUIPMENT

AMPLIFIERS



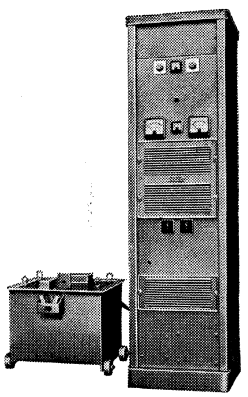
BM2—For driving small electrodynamic transducers. 250 watts continuous power over frequency range of 40 to 10,000 cps. Harmonic distortion is 1½% at 250 watts and 1,000 cps. Noise level is —66 db. Sensitivity 36 mV. R.M.S. into 600 ohm for full output. Gain 80 db.

DM2—For driving small electrodynamic transducers. 500 watts continuous power over frequency range of 50 to 15,000 cps. Harmonic distortion is 1.3% at 500 watts and 1,000 cps. Noise level is —58 db. Gain 82 db. Sensitivity 40 mV. R.M.S. into 600 ohm for full output.

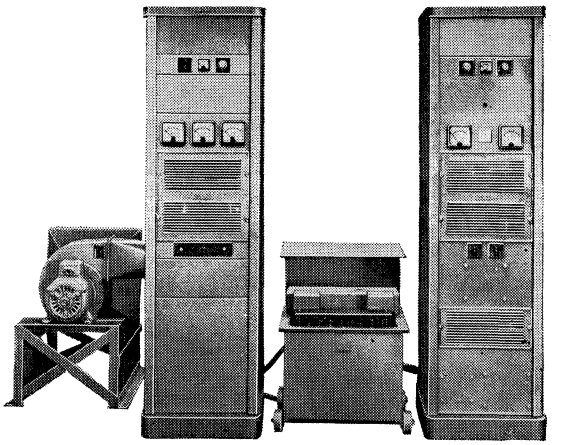
KM2—Variable frequency power supply for synchronous motors, electronic equipment, meter calibration, transformer testing, etc. 750 watts continuous power over frequency range of 55 to 20,000 cps. 1,000 watts intermittent power over range of 40 to 15,000 cps. Harmonic distortion 1% at 750 watts and 1,000 cps. Noise level —70 db. Gain 78 db. Sensitivity 100 mV. R.M.S. into 600 ohm for full 1,000 watt output.

KRF—High frequency unit particularly applicable to fatigue, high intensity accoustic noise testing and ultrasonic cleaning. 1,000 watts continuous power over frequency range of 5,000 to 100,000 cps. Harmonic distortion is negligible. Noise level is —70 db. Gain 61 db. Sensitivity 500 mV. R.M.S. into 600 ohm for full output.

KM2S—A higher power version of the Model KM2 will drive vibrator to meet demands of vibration and fatigue testing to MIL-E-5272A, MIL-E-005272B and MIL-E-5422D. Operates continuously at 1,000 watts over frequency range of 55 to 20,000 cps. Harmonic distortion 1% at full output and 1,000 cps. Noise level —70 db. Gain 78 db. Sensitivity 100 mV. R.M.S. into 600 ohm for full output.



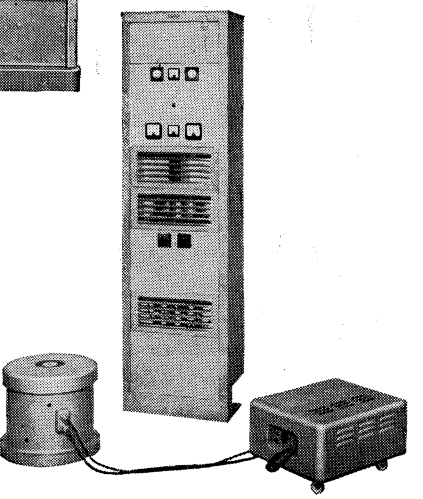
KLF—Low frequency power supply for vibration and fatigue testing to MIL-E-5272A, MIL-E-005272B and MIL-E-5422D. 1,000 watts continuous power over frequency range of 6 to 2,000 cps. Harmonic distortion is less than 2½% at 1,000 watts from 10 to 1,000 cps. Noise level is —70 db. Gain 81 db. Sensitivity 50 mV. R.M.S. into 600 ohm for full output.



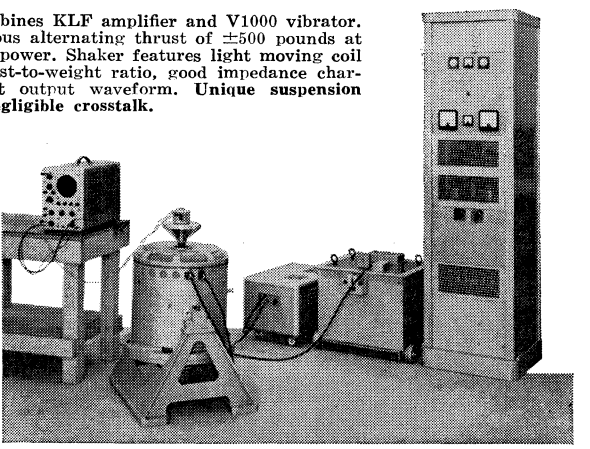
10K—For vibration and fatigue testing to MIL-E-5272A, MIL-E-005272B and MIL-E-5422D. 10,000 watts continuous power over frequency range of 40 to 10,000 cps. Harmonic distortion is 3% at 10,000 watts and 1000 cps. Noise level is —70 db. Sensitivity 160 mV. R.M.S. into 600 ohm for full output. Gain 88 db.

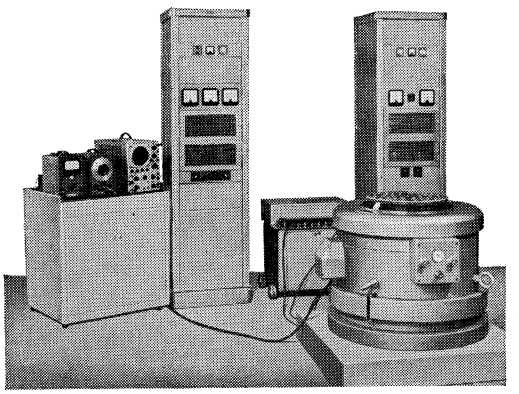
VIBRATION SYSTEM (MANUAL)

V999 System—Combines BM2 amplifier and V999 vibrator. Produces a continuous alternating thrust of ±250 pounds at 250 watts control power. Shaker features light moving coil assembly, high thrust-to-weight ratio, good impedance characteristics and excellent output waveform. **Unique suspension design results in negligible crosstalk.**



V1000 System—Combines KLF amplifier and V1000 vibrator. Produces a continuous alternating thrust of ±500 pounds at 1,000 watts control power. Shaker features light moving coil assembly, high thrust-to-weight ratio, good impedance characteristics, excellent output waveform. **Unique suspension design results in negligible crosstalk.**





V1001 System—Combines 10K amplifier and V1001 vibrator. Produces a continuous alternating thrust of ±3,000 pounds force at an average of 10,000 watts control power. Shaker features light moving coil assembly, high thrust-to-weight ratio, good impedance characteristics and excellent output waveform. **Unique suspension design results in negligible crosstalk and a very high table load handling capability.**

GENISCO INCORPORATED

2233 FEDERAL AVENUE

LOS ANGELES 64, CALIFORNIA

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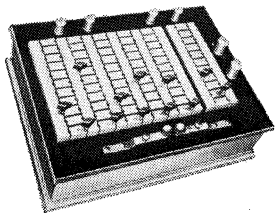
GRAY INSTRUMENTS FOR PRECISION MEASUREMENTS

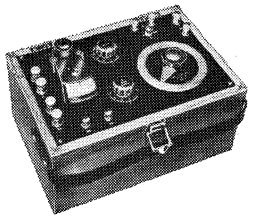
RESISTANCE MEASUREMENT ACCURACY ±0.01%



E-1000

ANTHONY PATTERN WHEATSTONE BRIDGE E-1000

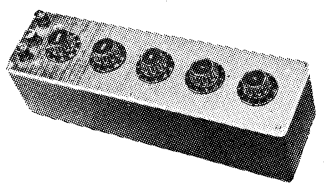
OTHER LABORATORY AND PORTABLE WHEATSTONE BRIDGES DOWN TO 0.1% ACCURACY



E-3272

KELVIN BRIDGES FOR LOW RESISTANCE DOWN TO 0.01 MICRO-OHM LABORATORY AND PORTABLE MODELS

RESISTANCE STANDARDS
RESISTANCE BOXES
SHUNTS



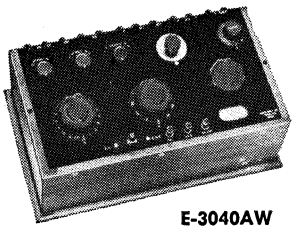
E-1044M

A.C. - D.C. RESISTANCE BOX, ACCURACY ±0.05% TO 20K CYCLES

POTENTIOMETRIC MEASUREMENT ACCURACY ±0.01%

LABORATORY STANDARD
3 VOLTAGE RANGES
0-1.81, 0-.181, 0-.0181

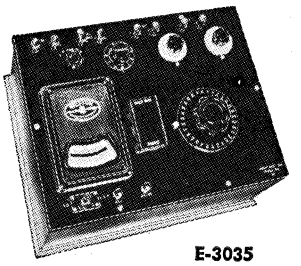
WHITE DOUBLE POTENTIOMETER
RANGE 0-11.11 MV
IN 1 MICRO-VOLT STEPS
E-3030



E-3040AW

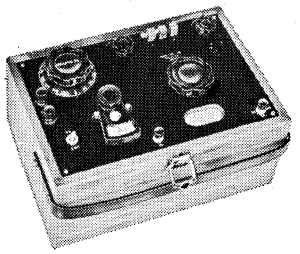
BROOKS DEFLECTION POTENTIOMETER FOR RAPID CHECKING OF D.C. AMMETERS AND VOLTMETERS.

SHUNT BOXES
VOLT BOXES

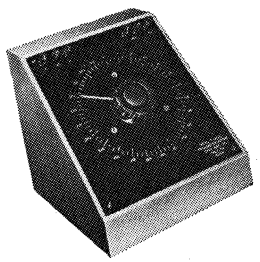


E-3035

PORTABLE POTENTIOMETERS READING M.V. OR TEMP. IN DEGREES C. OR F. FOR VARIOUS THERMOCOUPLES



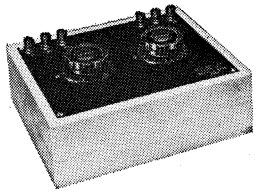
TRANSMITTER AND RESOLVER BRIDGES FOR TESTING SYNCHROS ACCURACY ±10 SEC. OF ARC



E-2582

SINGLE DIAL MODEL FOR RAPID PRODUCTION TESTING 3 VOLTAGE DIVIDER ARMS, (4, IN RESOLVER BRIDGE) EQUAL AND LINEAR TO .005%.

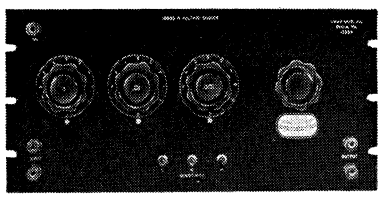
SUPPLIED IN 2½, 5, 10 & 15 DEGREE INTERVALS



E-2572

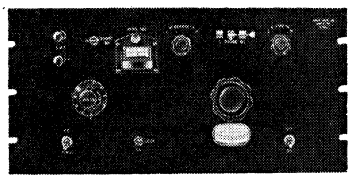
TWO DIAL MODEL EQUALLY ACCURATE, BUT NOT AS RAPID IN USE. UTILIZES DUMMY ARMS FIRST DIAL GIVES INTERVALS OF 60° ON TRANS. BR., OR 90° ON RESOLVER BR. SMALLER INTERVALS ON SECOND DIAL

VOLTAGE DIVIDERS LINEARITY 0.001%



E-2554

RACK MOUNTED MODELS
LABORATORY AND PORTABLE MODELS.
10,000 AND 100,000 OHMS RESISTANCE
MAINTAINS ACCURACY FROM D.C. TO 400 CYCLES A.C.



E-3083

RACK MOUNTED POTENTIOMETERS
RESISTANCE DECADES OR OTHER
INSTRUMENTS FOR SPECIAL APPLICATIONS.

GRAY INSTRUMENT COMPANY

200 EAST CHURCH LANE PHILADELPHIA 44, PA.

See YELLOW SECTION for Local Offices, Telephone, etc.

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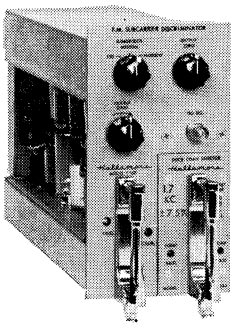
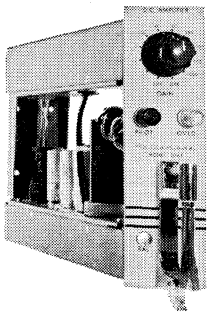
HALLAMORE "BUILDING-BLOCK" INSTRUMENTATION SERIES

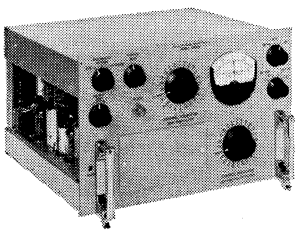
The need for economy, time and space savings, and elimination of operator error has brought about the development of the Hallamore building-block series of system components. Plug-in configuration permits simple adaptation to existing systems . . . extreme versatility in newly developed systems. Modification or repair in the field becomes a simple replacement operation, within the capabilities of relatively unskilled operators. Application of the most recent advances in the state-of-the-art provide high dependability and outstanding new levels of performance.



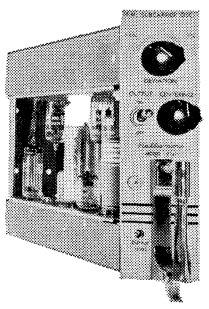
PHASE LOCK DISCRIMINATOR (HEC-0162A), a modular design, includes three discriminators and a metering assembly (HEC-0176). Module case (HEC-0145) is 8-3/4″ high, 19″ wide, 18-1/2″ deep. Each discriminator requires one channel selector (HEC-0168), available for all IRIG channels, I through E, and one regulated power supply (HEC-0144). Module accepts signals at levels of 10 millivolts to 20 volts and converts frequency intelligence to an analog output voltage, flat within 0.5 db over the IRIG specified bandwidths.



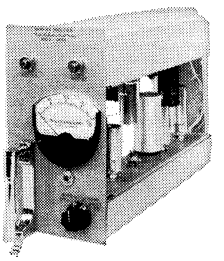
DC AMPLIFIER (HEC-0142A) is a low-drift, chopper stabilized amplifier, featuring wideband response. The front panel switch has 12 positions: off, on, and 10 accurate gain steps (from 1 - 1000) with overlapping Vernier potentiometer. It is suitable for signal conditioning in instrumentation systems, operational use in analog computer systems, or any application requiring amplification of a DC or AC signal up to 40 kc. Eight units fit module case (HEC-0145) for mounting on a 19″ standard relay rack.



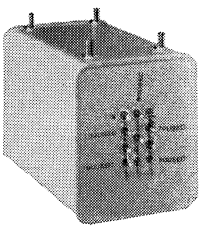
BAND-SWITCHED PHASE-LOCK DISCRIMINATOR (HEC-0169A), a modular design, houses all input filters, output filters, switching circuitry, and tape speed compensation networks, in addition to the basic discriminator, in a panel space of 7-3/4″ by 12″. It covers all IRIG channels, and a single control provides complete switching to each channel. Its flexibility affords outstanding advantages in missile checkout, quick-look analysis of recorded data, and laboratory development work.



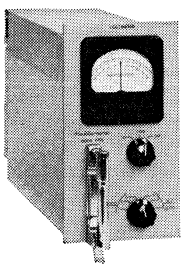
FM SUBCARRIER OSCILLATOR (HEC-0161) accepts analog voltages nominally 0 to ±2.5V and provides an output frequency modulated by the incoming signal. The nominal center frequency for a given unit is selected by means of a plug-in oscillator channel selector (HEC-0164), available for all IRIG channels, I through E. As many as six units may be mounted in a standard (HEC-0145) module case together with a summing amplifier (HEC-0166).



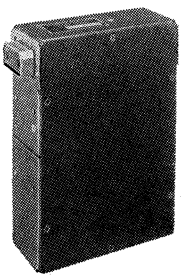
SUMMING AMPLIFIER (HEC-0166B) accepts up to 18 subcarrier oscillator outputs for recording a composite signal on a single magnetic tape channel. Each unit includes a timing oscillator capable of generating timing signals on 50 kc or 100 kc for tape speed compensation. The summing amplifier is normally powered by power supply (HEC-0143A).



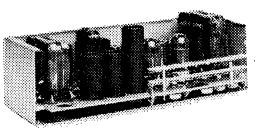
SUBCARRIER DELAY UNIT (HEC-0197) provides the requisite time delay for the composite set of subcarrier channels (I through E) when using the Hallamore reference discriminator (HEC-0170) to generate compensation signals. The delay unit measures 3-3/8″ by 3-15/16″ by 4-1/4″ and is normally mounted behind the patch panel.



METER ASSEMBLY (HEC-0176) is intended for common metering of the outputs and test points of three (HEC-0162) discriminators. A meter switch is provided for selecting 10 volt and 100 volt scale positions. A switch is provided for selecting the desired discriminator output or test point.



POWER SUPPLY (HEC-0143A) provides the requisite power for Hallamore instrumentation series components in all cases where the common supply (HEC-0144) cannot be economically utilized and/or where it is desired to maintain dc isolation between circuits. The individual supply provides all filament power, +250vdc, −250 vdc, and a bias voltage of −480 vdc.



REGULATED POWER SUPPLY (HEC-0144) is mounted internal to module case (HEC-0145) and is capable of supplying any combination of the Hallamore "building-block" series components, including up to eight DC amplifiers or six FM subcarrier oscillators. This supply provides all filament power, +250 vdc, −250 vdc and a bias voltage of −480 vdc. Regulation is 0.1%, ripple 10 millivolts or less.

HALLAMORE ELECTRONICS CO., 8352 Brookhurst Ave., Anaheim, California/a Division of The Siegler Corporation TWX: AH9079

ad 105

HALLAMORE

See YELLOW SECTION for Local Offices, Telephone, etc.

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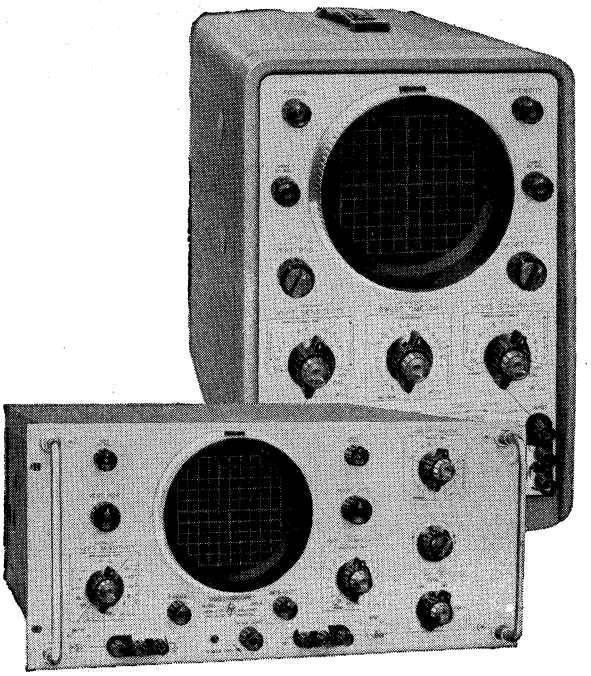
hp offers complete coverage in



hp 150A/AR – DC to 10 MC

Models 150A/AR are intended as the most broadly useful, convenient high quality 10 MC scopes offered. A variety of plug-ins (see below) provide dual trace or differential input, or high amplification eliminating pre-amplifiers on input from most transducers.

Automatic Trigger

Sweep Range 0.02 μsec/cm to 15 sec/cm; 24 sweeps 0.1 μsec/cm to 5 sec/cm, 3% accuracy. Internal, line voltage or external triggering, pos. or neg. slopes, sensitivity 0.5 v (external). Has sweep amplifier, vernier; sensitivity 200 mv/cm to 15 v/cm. Vertical amplifier dc to 10 MC, optimum transient response and rise time less than 0.035 μsec. Calibrating voltages, 0.2 mv to 100 v peak, accuracy 3%. Approx. 1 KC square wave rise and decay time 1.0 μsec. $1,100.00 (cabinet), $1,200.00 (rack mount).

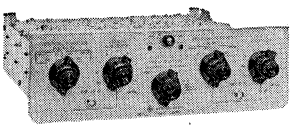
hp 130B/BR – DC to 300 KC

Termed the finest low frequency oscilloscope ever offered, *-hp-* 130B/BR combine big 'scope performance and positive dependability with 1 mv sensitivity and the convenience of direct reading, "universal" automatic trigger, no preamplification from most transducers and simple controls.

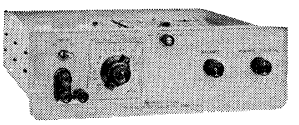
Similar X and Y amplifiers

Models 130B/BR have similar horizontal and vertical amplifiers with sensitivity 1 mv/cm to 125 v/cm. Input circuits are balanced on the 6 most sensitive ranges; single ended input dc or ac coupled. 21 sweep times may be directly set, instrument sweeps 1 μsec/cm to 12.5 sec/cm, triggering is internally, by line power, or externally by 0.5 v or greater. Includes x 5 magnifier for all internal sweeps increasing fastest sweep time to 0.2 μsec/cm. *-hp-* 130B (cabinet) or 130BR (rack) $650.00.

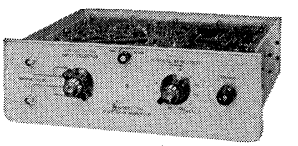
New amplifiers and accessories



-hp- **152B Dual Trace Differential Amplifier.** New plug-in amplifier providing differential input and dual traces electronically switched between A and B channels at either 100 KC or on alternate sweeps. Sensitivity range 0.05 v/cm to 50 v/cm, input attenuator with 9 calibrated ranges in 1-2-5-10 sequence and vernier. $250.00.



-hp- **153A Very High Gain Amplifier.** New plug-in permitting *-hp-* 150A to be used for many direct measurements from transducer without *preamplification.* Pass band dc to 500 KC, sensitivity 1 mv/cm to 125 v/cm, balanced input on all ranges. 15 calibrated ranges in 1 - 2 - 5 - 10 sequence, 1 mv/cm to 50 v/cm; plus vernier. $125.00.



-hp- **151A High Gain Amplifier.** For either 150A or 150AR, high gain unit with 5.0 mv/cm sensitivity, frequency response dc to 10 MC. 12 calibrated ranges on 1 - 2 - 5 - 10 sequence. 1 megohm input impedance with 27 μμf shunt. Pass band rise time 0.035 μsec. Has 2 BNC terminals. $200.00.

Data subject to change without notice. Prices f. o. b. factory.

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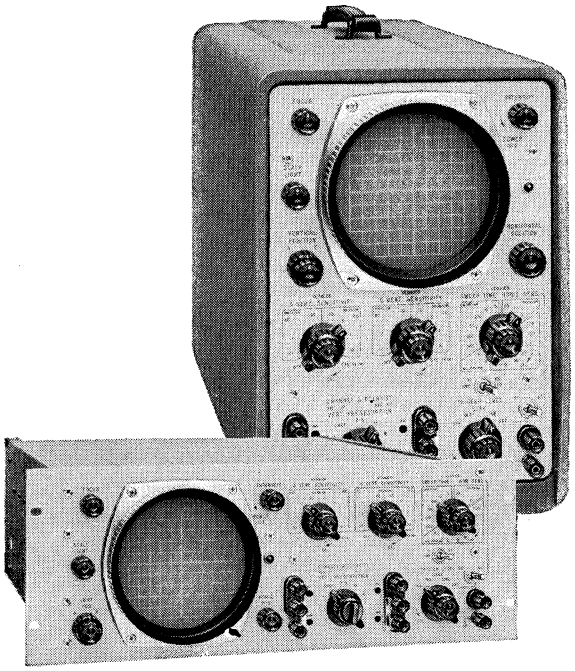
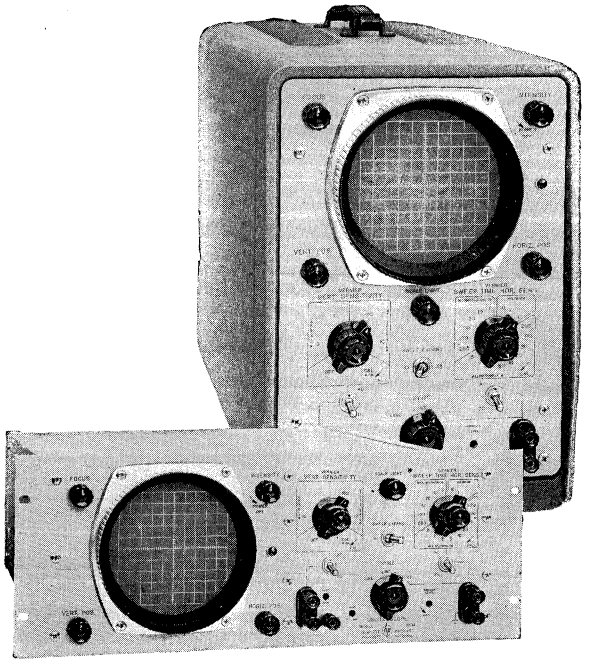
quality oscilloscopes—DC to 10 MC!





NEW! hp 122A/AR—Dual Trace

Model 122A/AR is a dual trace, 200 KC oscilloscope providing two separate traces for simultaneous study; single trace available when desired. Twin vertical amplifiers, alternate and chopped presentation, differential input, automatic syncing and x 5 sweep expansion. Ideal for direct comparison of filter, amplifier, output/input or with vibration testing apparatus.

Sweeps 5 μsec/cm to 200 msec/cm

15 calibrated sweeps; vernier extends slow sweep to 0.5 sec/cm, expander extends fast sweep to 1 μsec/cm. Automatic trigger; manual override sets trigger between +10 and —10 v. Vertical amplifiers dc to 200 KC (dc coupled) or 2 cps to 200 KC (ac coupled). Sensitivity 10 mv/cm to 100 v/cm. Horizontal amplifier same bandwidth as vertical, sensitivity 0.1 v/cm to 100 v/cm. *-hp-* 122A (cabinet) or 122AR (rack mount), $625.00.

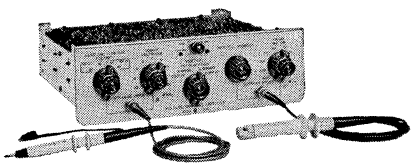
hp 120A/AR—DC to 200 KC

Ideal for industrial or production line work as well as daily lab jobs, Models 120A/AR are outstanding in both value and "big 'scope" performance features. This all-new instrument covers DC to 200 KC, has the *-hp-* universal trigger circuit which optimizes signals automatically; also offers automatic synchronization on any internal or external voltage including line power.

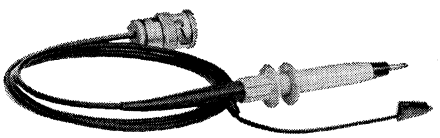
Sweeps 1 μsec/cm to 0.5 sec/cm

Features include 15 calibrated sweeps in 1-2-5 sequence, sweep speeds range 5 μsec/cm to 0.5 sec/cm, "times-5" sweep expansion on all ranges, high sensitivity calibrated vertical amplifiers. All power supplies are regulated for steady, drift-free traces. Automatic trigger and base line can be cut out for bright, clear photography trace. Extra compact Model 120AR is only 7" high. Utmost dependability, rugged construction. *-hp-* 120A (cabinet) or 120AR (rack) $435.00.

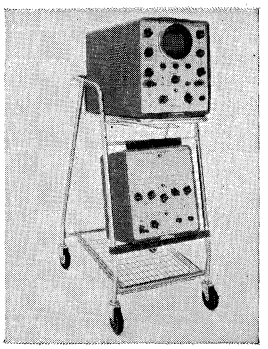
increase convenience of your 150A/AR



-hp- 154A Voltage/Current Dual Channel Amplifier. New plug-in for 150A permits simultaneous measurement and observation of ac voltage and current. Electronic channel switching by alternate sweeps or by 100 KC chopper. Unique current probe clamps *around* wire under test, does not load circuit. Price on request.



-hp- AC-21C 50:1 Voltage Divider Probe. A 50:1 divider with high 9 megohm input impedance and low 2.5 μμf input capacitance. Convenient "pen" size for maximum handling ease. Probe has durable, attractive nylon barrel, alligator clip contactor. $25.00.



-hp- 115A Oscilloscope Testmobile. For 150 series oscilloscopes but fits others. 4" rubber tired wheels, heavy chrome tube construction, tilts 'scope to 30° in 7½° increments, folds for storage, shipping. $80.00. *-hp-* 116A Storage Unit fastens to *-hp-* 115A, holds 150A plug-ins or *-hp-* 117A Accessory Drawers. *-hp-* 116A, $22.50. *-hp-* 117A, $10.00.

See page 905 for hp Sales and Service Representatives in

Albuquerque, New Mexico; Asbury Park, N. J.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Bridgeport, Conn.; Camp Hill, Penna.; Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; Denver, Colo.; Detroit, Mich.; Englewood, N. J.; Fort Myers, Fla.; High Point, N. C.; Houston, Texas; Huntsville, Ala.; Indianapolis, Ind.; Kansas City, Mo.; Las Cruces, New Mexico; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Penna.; Phoenix, Ariz.; Pittsburgh, Penna.; Portland, Ore.; Poughkeepsie, N. Y.; Rochester, N. Y.; Sacramento, Calif.; Salt Lake City, Utah; San Diego, Calif.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; St. Paul, Minn.; Syracuse N. Y.; Toronto, Ontario; Tucson, Ariz.; Vancouver, British Columbia; Vestal, N. Y.; Washington, D. C.; Winnipeg, Manitoba

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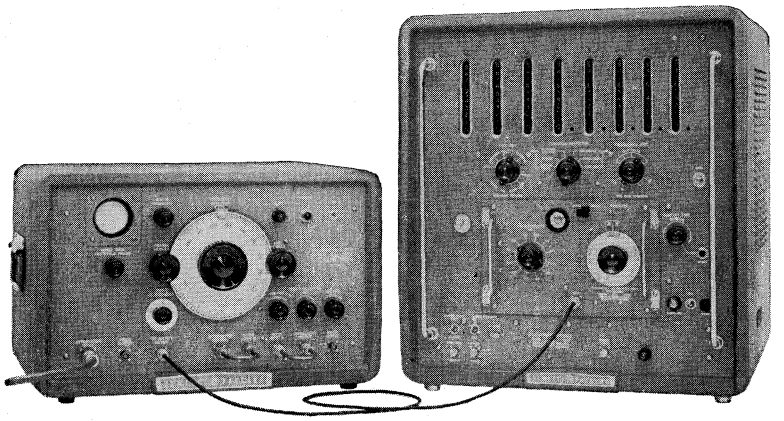
540A/540B Transfer Oscillator



Measure frequency to 12.4 KMC quickly, easily, with electronic counter accuracy. Avoid guesswork, end "trial and error," eliminate expensive setups. Measure on pulsed, AM, FM, CW and noisy circuits.

Just two -hp- instruments—Model 540B Transfer Oscillator and a 524 series electronic counter, (with plug-ins) are all the equipment you need to measure unknown frequencies up to 12.4 KMC swiftly and accurately.

This simple, two instrument setup is particularly useful for quick CW and AM frequency measurement, FM center frequency and deviation checks, and frequency of high-noise signals. Frequencies of pulsed signals can be measured using an external oscilloscope. Overall accuracy is better than 10 times that of the best microwave wavemeters; and on clean CW signals, is about 1/1,000,000.

Simple operation

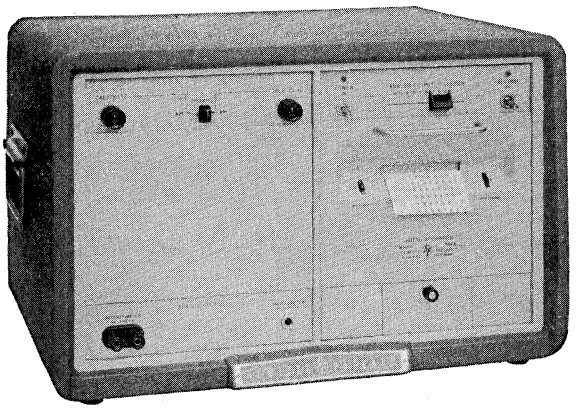
When approximate frequency is known, the 540B is tuned until a harmonic beats with the unknown. The multiplying factor is noted, and the 540B frequency measured on the 524. The 524 reading, times the multiplying factor, is the unknown.

Brief Specifications, 540B

Oscillator Freq. Range: 100 to 220 MC
Harmonic Freq. Range: Up to 12.4 KMC
Stability: Better than 0.002%/minute
Output: 2 volts into 50 ohms
Amplifier Gain: 40 db max, 1 v output
Oscilloscope: 100 cps to 200 KC; vert. sens. 5 mv rms/inch
Price: $750.00△.

Model 540A, similar to 540B, but requires an external mixer above 5 KMC. $615.00△.

560A/561A/B Digital Recorder



Continuous digital record for counters
Direct reading, simple hookup
Five 11-digit lines/second
Analog output for recorder
Accuracy identical to counter used

No intermediate equipment is needed between *-hp-* 560A and an *-hp-* counter equipped with digital recorder kit. In direct hookup, completely self-contained *-hp-* 560A provides a complete record of all types of test data, plus, through an analog output, a convenient graphic record of very small data variations.

The analog output is a voltage or current proportional to the number represented by any 3 consecutive digits of recorded data. The 560A permits expanded strip chart recording and the chart cannot be driven off scale since range variation for the 3-digit scale is 0 to 999. Wider variation merely causes a repetition of the 0 to 999 sequence. Print capacity is five, 11-digit lines/second; secondary or coding data may be entered simultaneously with primary data.

-hp- 561A Digital Recorder offers 10-line coded decimal entry with separate connection for each position of each wheel so that the instrument may be operated from relays, stepping switches and beam switching tubes.

-hp- 561B Digital Recorder similar to *-hp-* 561A, for use with *-hp-* 405A Digital Voltmeter and *-hp-* frequency counters with single-line presentation.

Brief Specifications

Accuracy: Identical to counter used
Printing Rate: 5 lines/sec maximum
Digit Capacity: Up to 11 per line
Driving Source: 560A—Parallel entry staircase voltages
561A/B—Ten-line decimal code
Analog Output (560A): Proportional to any 3 consecutive digits; max. amplitude 1 ma or 100 mv
Print Command Signal: 10 μsec minimum, pos. or neg., 15 v pulse
Price: *-hp-* 560A $1,265.00△ (with six comparators).
-hp- 561A $975.00△.
-hp- 561B price on request.

△ Rack mount instrument $15.00 less.

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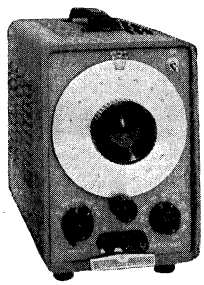
Oscillators—0.008 to 10,000,000 cps

Hewlett-Packard now offers 12 high quality, fast and accurate oscillators, each an exceptional value and each engineered to do a specific job best. Each incorporates the famous RC resistance capacity circuit pioneered by *-hp-*. This circuit makes possible instruments that are highly stable, wide range, compact and portable; instruments that are extremely simple to operate and require no tedious re-setting or adjustment during operation.

Instrument	Primary Uses	Frequency Range	Output	Price
-hp- 200AB	Audio tests	20 cps to 40 KC	1 watt/24.5 v	$150.00
-hp- 200CD	Subsonic through supersonic audio and ultrasonic tests	5 cps to 600 KC	160 mw or 10 v/600 ohms; 20 v open circuit	170.00
-hp- 200J	Interpolation, frequency measurements	6 cps to 6 KC	160 mw/10 v	300.00
-hp- 200T	Telemetry, carrier current tests	250 cps to 100 KC	160 mw or 10 v/600 ohms; 20 v open circuit	450.00
-hp- 201C	High quality audio tests	20 cps to 20 KC	3 w or 42:5 v/600 ohms	225.00
-hp- 202A	Low frequency measurements	0.008 to 1200 cps	28 mw or 30 v p-p/4000 ohms	525.00△
-hp- 202C	Servo equipment tests, measurements	1 cps to 100 KC	160 mw or 10 v/600 ohms	300.00
-hp- 205AG	High power audio tests, gain measurements	20 cps to 20 KC	5 watts	500.00△
-hp- 206A	High quality, high accuracy audio tests	20 cps to 20 KC	+ 15 dbm	750.00△
-hp- 207A	Audio sweep generation	20 cps to 20 KC	160 mw or 10 v/600 ohms	275.00
-hp- 233A	Carrier oscillator—current tests	50 cps to 500 KC	3 w/600 ohms	500.00
-hp- 650A	Wide range video tests	10 cps to 10 MC	15 mw/3 v	490.00△

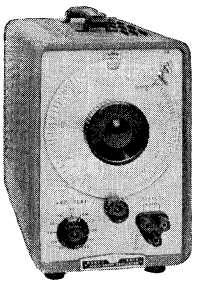
△ Rack mounted instruments $15.00 less.

200 Series Audio Oscillators

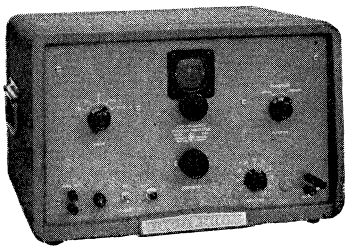


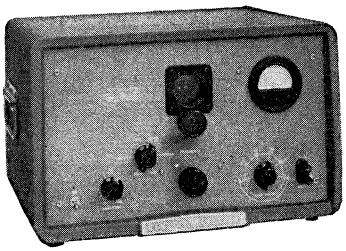
For audio and ultrasonic measurements, *-hp-* offers popular Models 200AB and 200CD. Both have highest stability and accurate tuning circuits. Low impedance operating levels plus superior insulation guarantee long years of trouble-free dependability. Operation is simple; just three controls; no zero setting necessary. *-hp-* 200AB, 20 cps to 40 KC, $150.00. *-hp-* 200CD, 5 cps to 600 KC, $170.00.

207A Sweep Oscillator



This new audio oscillator provides continuous single-sweep frequency coverage from 20 cps to 20 KC. No band switching is needed; dial accuracy is 4%, and the instrument also provides a flexible 10 v/600 ohm output usable balanced or with one side grounded. Frequency response is ±1.0 db full range, distortion and hum are less than 1%. *-hp- 207A may be swept by hand, motor driven, tuned remotely or coupled to a recorder. -hp-* 207A, $275.00.





202A Function Generator

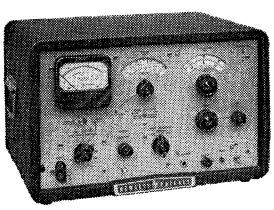
Compact, multi-purpose source of transient-free test voltages from 0.008 cps to 1,200 cps. Continuously variable through 5 bands; offers exceptional stability (within 1%) and distortion less than 1% to 100 cps. Sine, square or triangular waves may be selected by a front panel switch; the 30 volt output peak-to-peak is constant for all wave forms and over full frequency range. *-hp-* 202A, $525.00△.

650A Test Oscillator

Covering 10 cps to 10 MC, *-hp-* 650A is a highly stable, wide band instrument for audio, supersonic, video and rf measurements. Output is flat within 1 db full range; voltage range is 0.00003 to 3 v. In addition to 600 ohm impedance, voltage divider provides a 6 ohm impedance. Distortion less than 1% to 100 KC; stability ±2% to 100 KC. $490.00△.

Distortion, Wave Form Analyzers—20 cps to 20 KC

NEW! 302A Wave Analyzer



New, completely transistorized, this advanced instrument provides direct, accurate wave component measurement without troublesome calibration or stabilization. Measurement range:20 cps to 50 KC. The instrument is hum free, requires little power, needs no warm-up, has very sharp acceptance circuits plus an AFC. May be battery operated (18 to 28 volts). Simple operation, rugged, trouble-free. $1,475.00.△

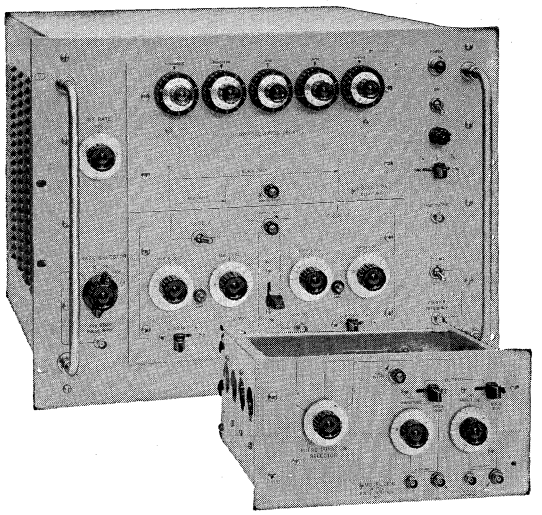
Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 302A	Wave form analysis	20 cps to 50 KC	Direct reading, no calibration needed	$1,475.00△
-hp- 330B	Measures total audio distortion	20 cps to 20 KC	Includes input amplifier, VTVM	410.00△
-hp- 330C	For FM broadcast measurements	20 cps to 20 KC	Special VU meter to meet F.C.C. requirements	440.00△
-hp- 330D	For AM, FM broadcast measurements	20 cps to 20 KC	AM detector and VU meter to meet F.C.C. requirements	500.00△

△ Rack mounted instruments $15.00 less.

See page 905 for Sales and Service Representatives in

Albuquerque, New Mexico; Asbury Park, N. J.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Bridgeport, Conn.; Camp Hill, Penna.; Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; Denver, Colo.; Detroit, Mich.; Englewood, N. J.; Fort Myers, Fla.; High Point, N. C.; Houston, Texas; Huntsville, Ala.; Indianapolis, Ind.; Kansas City, Mo.; Las Cruces, New Mexico; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Penna.; Phoenix, Ariz.; Pittsburgh, Penna.; Portland, Ore.; Poughkeepsie, N. Y.; Rochester, N Y.; Sacramento, Calif.; Salt Lake City, Utah; San Diego, Calif.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; St. Paul, Minn.; Syracuse, N. Y.; Toronto, Ontario; Tucson, Ariz.; Vancouver, British Columbia; Vestal, N. Y.; Washington, D. C.; Winnipeg, Manitoba

NEW! hp 218AR Digital Delay Generator



Independently adjustable time intervals or pulse delays
±0.1 μsec time interval accuracy
Crystal oscillator time base
Regulated power supplies

Model 218AR Digital Delay Generator is a totally new instrument applicable to many types of timing measurements including calibrating the range determining circuits of radar receivers, etc. The generator is built to rigid standards and is suitable for military use. It provides two precision time intervals or pulse delays, either of which are independently adjustable from 1 to 10,000 microseconds in 1 microsecond steps. These time intervals are accurate to within 0.1 microsecond ±0.001% of the selected value, and may be initiated from an internal multivibrator, 10 cps to 10 KC, or from an external rate generator, 0 cps to 10 KC. Total jitter does not exceed 0.02 microseconds in either case. The instrument also provides a 50 volt synchronizing output pulse at the beginning or end of a time interval, and a 1 microsecond timing comb output at the front panel.

hp 219A Dual Trigger Unit

This plug-in drawer for *-hp-* 218AR supplies trigger pulses of positive polarity, 50 volts, 0.1 μsec rise time from a 50 ohm source. Pulse A occurs at T_0 or T_1 as selected by a switch; Pulse B is triggered at T_2. *-hp-* 219A, $100.00.

hp 219B Dual Pulse Unit

This plug-in drawer for *-hp-* 218AR produces two high-power pulses which are continuously adjustable in width, 0.2 to 5 μsec and in amplitude from 0 to 50 volts, positive or negative polarity. The leading edge of these pulses can be set to occur at the beginning or end of the selected time interval. Both pulses are brought out to separate front panel jacks but may be switched to a common jack with no change in level or output impedance. *-hp-* 219B, $450.00.

hp 219C Digital Pulse Duration Unit

This plug-in drawer for *-hp-* 218AR produces a high power output pulse whose delay and duration are digitally controlled. The pulse is available in both polarities simultaneously, and is continually adjustable in amplitude up to 18 volts from a 90 ohm source. It may also be obtained from a directly coupled 500 ohm source with an amplitude of 100 volts. *-hp-* 219C, $350.00.

No count ambiguity

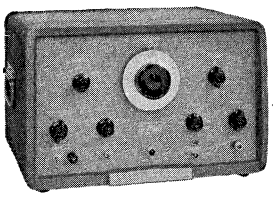
A unique feature of the new *-hp-* 218AR is its time base, a pulsed crystal controlled oscillator. The oscillator starts at T_0 and stops at the last output pulse. This eliminates the "plus-or-minus-1-count" ambiguity of many counter circuits in such application.

Model 218AR is a completely self-contained instrument, requiring only one or more *-hp-* 219 series plug-ins to perform a broad variety of time and delay generation measurements. Simplicity and flexibility are increased by the large variety of output signals provided by the plug-in units. The instrument is particularly compact and well-designed; etched circuits and the use of plug-ins materially increase circuit accessibility.

The instrument's power supplies are fully regulated to avoid effects of line voltage variations. It is available as *-hp-* 218AR, rack mount. $2,000.00.

hp Square Wave and Pulse Generators

hp 212A Pulse Generator



Provides continuously variable, high power "fast pulses" of superior wave form. Combines broad general usefulness with 0.02 μsec rise and decay time to meet requirements of radar, TV and nuclear work. Pulse length variable 0.07 to 10 μsec; minimum overshoot; 50 watt peak power (50 v to 50 ohms load). Low impedance means accurate pulses can be delivered at a distance from the instrument. Repetition rate variable 50 to 5,000 pps; controlled internally or externally. Synchronizing pulse available in advance of, or following output pulse. $585.00 (cabinet), $570.00 (rack mount).

hp 211A Square Wave Generator

Versatile, wide range instrument for testing oscilloscopes, networks, video and audio amplifier performance, modulating signal generators and measuring time constants. Offers simple control of electronic switches; is also convenient for indicating phase shift, frequency response, transient effects. Two separate outputs (a) 7 volt 75 ohm circuit for TV work; (b) 55 volt 600 ohm output for high level work. Both have full amplitude variation. Instrument operates free-running or externally synchronized with positive going pulse or sine wave of 5 volts minimum amplitude. $300.00.

HEWLETT-PACKARD COMPANY • PALO ALTO, CALIFORNIA, U. S. A.
4801R Page Mill Road • Cable "HEWPACK" • DAvenport 5-4451
World's largest manufacturer of electronic test instruments

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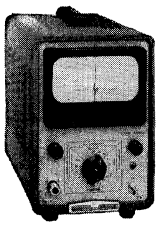
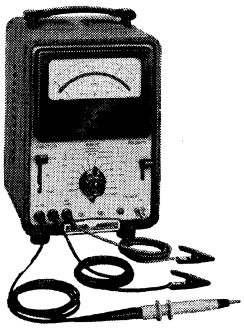
hp Vacuum Tube Voltmeters—10 to 700,000,000 cps

NEW! hp 425A Microvolt-Ammeter



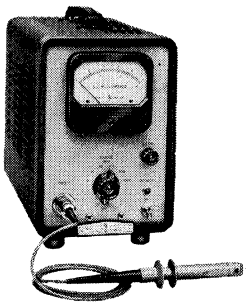
New, high sensitivity, high stability microvolt meter reading end scale voltages of 10 μv to 1 v in 11 ranges. Also reads currents of 10 $\mu\mu$a to 3 ma in 18 step, 1-3-10 sequence. Accuracy $\pm$ 3% on all ranges. Drift less than 2 μv referred to input terminals. Input impedance 1 megohm $\pm$ 3% on all ranges. Instrument can also be used as a 100 db amplifier providing up to 1 v output from signals as small as 10 μv. Amplifier ac rejection is at least 3 db at 0.2 cps and 60 db at 60 cps. $500.00 (cabinet), $505.00 (rack).

NEW! hp 412A Precision Volt-Ohm-Ammeter



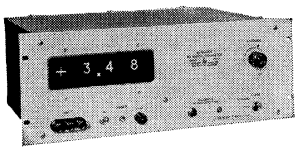
A true, precision, multi-purpose instrument at last! Measures dc voltage 1 mv to 1,000 v with 1% accuracy. Measures currents 1 μa to 1 amp with $\pm$ 2% accuracy, full scale (13 ranges). As ohmmeter, measures 0.02 ohms to 5,000 megohms. Extremely low noise, drift. Recorder output provides 1 v or 1 ma. $350.00 (cabinet), $355.00 (rack).

NEW! hp 428A Clip-On DC Milliammeter



Radical approach to current measurements means no breaking of leads, no dc connections, no soldering, no circuit loading. "Current transformer" probe clamps *around* wire under test, measures by sampling magnetic field around the wire. Readily measures dc current in presence of strong ac. Covers 0.3 ma to 1 amp in 6 steps, accuracy $\pm$ 3%, probe inductance less than 0.5 μh. $475.00 (cabinet), $480.00 (rack).

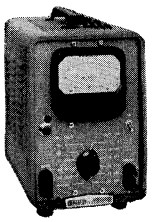
NEW! hp 405AR Automatic DC Digital Voltmeter



Literally "touch-and-read" measuring speed. Automatic range, polarity selection, covers 100 mv to 1,000 v. New novel circuitry provides a stability of readings virtually eliminating jitter in the last digit. Floating input, analog-to-digital conversion, digital recorder output and front panel "hold" for readings. *Just 7" high!* $825.00.

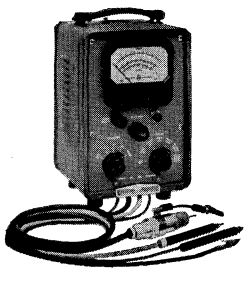
Instrument	Primary Uses	Frequency Range	Voltage or Current Range	Input Impedance	Price
-hp- 400D	Wide range ac measurements High sensitivity	10 cps to 4 MC	0.001 to 300 v 12 ranges	10 megohms 15 $\mu\mu$f shunt	$225.00
-hp- 400H	High accuracy wide range ac measurements	10 cps to 4 MC	0.001 to 300 v 12 ranges	10 megohms 15 $\mu\mu$f shunt	325.00
-hp- 400L	Log voltages, linear db measurements	10 cps to 4 MC	0.3 mv to 300 v 12 ranges	10 megohms 15 $\mu\mu$f shunt	325.00
-hp- 405AR	Direct, automatic voltage measurement. Recorder output, automatic polarity	Dc	100 mv to 1,000 v	11 megohms to dc	825.00
-hp- 410B	Audio, rf, VHF measurements; dc voltages; resistances	dc; ac—20 cps to 700 MC	1.0 to 300 v 7 ranges	dc—122 megohms; ac—10 megohms/ 1.5 $\mu\mu$f	245.00
-hp- 412A	Precision voltage, current resistance measurements	Dc	1 mv to 1,000 v 1 μa to 1 amp	0.02 ohms to 5,000 megohms, variable	350.00
-hp- 425A	Read μv, $\mu\mu$a; 100 db amplifier; medical, biological, physical, chemical	dc voltages as 100 db amplifier	10 μv to 1 v 11 ranges	1 megohm $\pm$ 3%	500.00
-hp- 428A	Clip-on milliammeter eliminates direct connection, circuit loading	Dc	0.3 ma to 1 amp, 6 steps, $\pm$3% accuracy	——	475.00

hp 400D Vacuum Tube Voltmeter



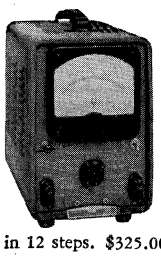
Best -*hp*- voltmeter ever built! Covers all frequencies 10 cps to 4 MC. Extremely sensitive, wide range, accurate within 2% to 1 MC, measures 0.1 mv to 300 v. Direct reading in dbm. 10 megohm input impedance insures negligible loading on circuits under test. $225.00 (cabinet), $230.00 (rack).

hp 410B Vacuum Tube Voltmeter



All-purpose test instrument, range 20 cps to 700 MC. Also serves as dc VTVM with over 100 megohms impedance, or ohmmeter for measurements 0.2 ohms to 500 megohms. Input capacity 1.5 $\mu\mu$f, 10 megohms input impedance. $245.00 (cabinet), $265.00 (rack).

hp 400L Logarithmic Voltmeter



New -*hp*- 400L, 10 cps to 4 MC, features a 5" true log voltage scale plus a 12 db linear decibel scale. The log voltage scale plus long scale length provides a voltmeter of maximum readability and an accuracy which is a *constant percentage of the reading*. Accuracy is $\pm$ 2% of reading or $\pm$ 1% of full scale, whichever is more accurate, to 500 KC; $\pm$ 5% full frequency range. Voltage range 0.3 mv to 300 v in 12 steps. $325.00 (cabinet), $330.00 (rack).

hp 400H Vacuum Tube Voltmeter

Need extreme accuracy of 1%? -*hp*- 400H covers 10 cps to 4 MC, has 5" meter with mirror scale, measures voltages 0.1 mv to 300 v. 10 megohm resistance minimizes circuit loading, amplifier with 56 db feedback insures lasting stability. $325.00 (cabinet), $330.00 (rack).

hp accessories increase usefulness of your voltmeters

Instrument	Features	Price
-hp- 452A Capacitive Voltage Divider	For all -hp- ac VTVM. 25 cps to 20 MC. Division 1000:1	$125.00
-hp- 452-95A Adapter	Connects -hp- 452A to -hp- 410B VTVM probe	10.00
-hp- 453A Capacitive Voltage Divider	For -hp- 410B VTVM only. Division 100:1	30.00
-hp- 454A Capacitive Voltage Divider	For -hp- 400D and 400H only. Division 100:1	30.00
-hp- 455A Probe Coaxial "T" Connector	For -hp- 410B VTVM. Measures voltages between conductor and sheath of 50 ohm transmission line	40.00
-hp- 458A Probe Coaxial "N" Connectors	For -hp- 410B VTVM. Measures volts at open end of 50 ohm transmission line	30.00
-hp- 459A DC Resistive Voltage Multiplier	For -hp- 410B VTVM. For measuring high dc voltages safely. Multiplies 1:100	30.00
-hp- 470A to F Shunt Resistors	For -hp- 400 series VTVM. For measurement of current	470A - 20.00 470B/F - 15.00

See page 905 for hp Sales and Service Representatives in

Albuquerque, New Mexico; Asbury Park, N. J.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Bridgeport, Conn.; Camp Hill, Penna.; Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; Denver, Colo.; Detroit, Mich.; Englewood, N. J.; Fort Myers, Fla.; High Point, N. C.; Houston, Texas; Huntsville, Ala.; Indianapolis, Ind.; Kansas City, Mo.; Las Cruces, New Mexico; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Penna.; Phoenix, Ariz.; Pittsburgh, Penna.; Portland, Ore.; Poughkeepsie, N. Y.; Rochester, N. Y.; Sacramento, Calif.; Salt Lake City, Utah; San Diego, Calif.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; St. Paul, Minn.; Syracuse, N. Y.; Toronto, Ontario; Tucson, Ariz.; Vancouver, British Columbia; Vestal, N. Y.; Washington, D. C.; Winnipeg, Manitoba.

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HICKOK Meters

For Accuracy and Dependability

MODEL 19 AC-DC ASTATIC MILLIAMMETERS, AMMETERS, VOLTMETERS, WATTMETERS, WATTLESS COMPONENT INDICATORS

Accuracy within ½ of 1% on AC or DC.

Astatic Electrodynamometer movements. Not affected by external magnetic fields. Scale length: 5½ inches. Wattmeter scales are uniform, others uniformly squared. Mirror scales.

Model 19 portable instruments designed for precision AC or DC measurements. They are of astatic dynamometer type with a greater accuracy than most other portable AC and DC instruments. Owing to the astatic design the indications are the same on either AC or DC.

Dimensions: 4" x 6¼" x 7⅛". Weight 4½ lbs. Case material: Molded phenolic.

Model 19

ULTRA SENSITIVE TYPES

New, taut-band frictionless movement suspensions are also available with sensitivities as low as 2 microamperes full scale.

MODEL 13 AC DYNAMOMETER INSTRUMENT

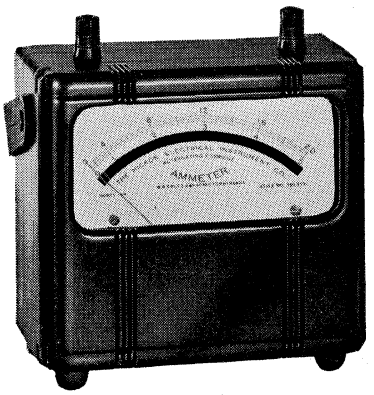
Accuracy within ½ of 1%.

Shielded from effect of External Magnetic fields. Ammeters, Milliammeters, Voltmeters, Wattmeters — single phase. Mirror scales, Knife Edge Pointers. Scale length: 5½ inches.

These instruments are correct on AC of any frequency up to 125 cycles. Built for use on higher frequencies. Deviations from the sinusoidal wave form met in ordinary testing have no noticeable effect on the calibration of these instruments. Voltmeters and wattmeters are self-contained up to 750 volts, designed to perform continuous service.

Also furnished as Model 13M Iron Vane Type for special applications.

Dimensions: 4" x 6¼" x 7⅛". Weight: 3½ lbs. Case material: Phenolic.



Model 13

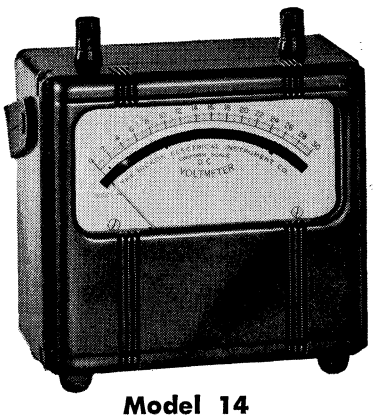
MODEL 14 DC AMMETERS, MILLIAMMETERS, MICROAMMETERS, VOLTMETERS, MILLIVOLTMETERS, VOLT-AMMETERS, THERMO-COUPLE METERS

Accuracy within ½ of 1%.

D'Arsonval movements. Shielded from effect of external magnetic fields. Uniform scales provided in DC meter with anti-parallax mirrors. Scale length: 5½ inches.

Voltmeters in this model have a resistance of approximately 1000 ohms per volt, the exact resistance being marked on data card furnished with the instruments. Model 14 millivoltmeters are supplied with leads for connection to external shunts. Ammeters are self-contained up to 150 amperes, having negligible temperature coefficient built-in shunts. The drop across the ammeters is 50 millivolts. Model 14 microammeters are of the high torque, have excellent damping, and other rugged characteristics not usually found in high sensitivity instruments.

Dimensions: 7⅛" x 6¼" x 3¼". Weight: 6½ lbs. Case material: Polished phenolic. Excellent magnetic damping.



Model 14

Your inquiry is invited. Kindly list details of your requirements.

THE HICKOK ELECTRICAL INSTRUMENT CO. • 10500 Dupont Avenue, Cleveland 8, Ohio

HICKOK . . . Electrical Indicating Instruments

Order from Local Electronic Parts Distributor or Write for List.

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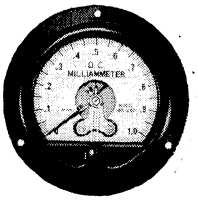
HICKOK Meters

For Accuracy and Dependability

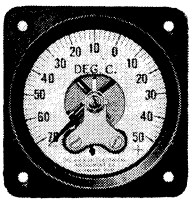
3½" ROUND-250 DEGREE METER

All DC meters can be supplied with accuracy either 1% or 2% of full scale deflection. The AC meters, which use copper-oxide rectifier-type movements, have accuracy within 5% of full scale deflection under all conditions. These instruments are as accurate as panel mounting instruments of equal size and have the advantage of two and one-half times longer scale. They are damped in accordance with American Standards Association Specifications, and their response time is also in accordance with these specifications. Allows readings to be taken quickly and more accurately.



2½" 250 DEGREE AIRCRAFT METER

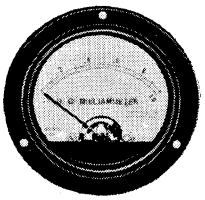
This instrument is mounted in a regulation aircraft case per Army-Navy specification, including the shielding and dimensional requirements. Has scale approximately 4⅜" long. Quick readability makes them desirable as flight instruments. Aircraft-type dial is available. Mechanism specially designed for aircraft service and will meet vibration-resistant requirements, etc.



RUGGEDIZED PANEL METERS

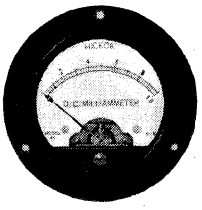
2½", 3½" or 4½"

The high Hickok standard of quality is now available in a ruggedized DC or rectifier type AC meter. This instrument provides the practical answer to requirements for shock proof meters with dependable accuracy. This highly efficient shock mount design permits pointer and scale divisions to be easily read when meter is under vibration. Exceptionally thick flint hard glass withstands pressure and shock tests designated by military specifications. Designed for flush mounting. Luminous dials can be supplied. Furnished in sealed case.



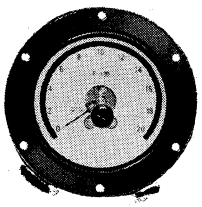
3½" ROUND FLUSH MOUNTINGS

Accurate within 1½%. Large opening symmetrically designed admits a maximum of light to the dial. Thick flange eliminates danger of breakage and improves appearance. Metal dials with white background are supplied in all standard ranges. Special dial designs are supplied on quantity orders, at no extra charge. Internal illumination can be furnished.

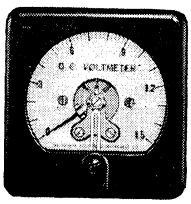


4½" 250-DEGREE RUGGEDIZED METER

DC Model: 48-250R. AC Model: 49-250R (Rectifier type). Accuracy: 2% as standard and available to 1%. For flush mounting. These long scale 250-degree arc angle instruments are now available as shock proof ruggedized and sealed. Permits a scale length approx. 2½ times as long as conventional instruments in the same size case. Use of these meters offers possibility of considerable saving to panel space. Available in 3½" and 4½" sizes.

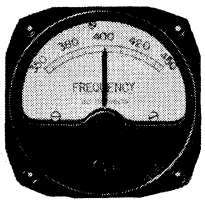


3½" SQUARE 250 DEGREE METER SAME AS THE ROUND 250 DEGREE METER



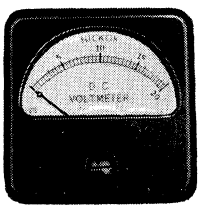
All DC meters can be supplied with accuracy either 1% or 2% of full scale deflection. The AC meters, which use copper-oxide rectifier-type movements, have accuracy within 5% of full scale deflection under all conditions. These instruments are as accurate as panel mounting instruments of equal size and have the advantage of two and one-half times longer scale. They are damped in accordance with American Standards Association Specifications, and their response time is also in accordance with these specifications. Allows readings to be taken quickly and more accurately.

DIRECT READING FREQUENCY METER, AIRCRAFT TYPE



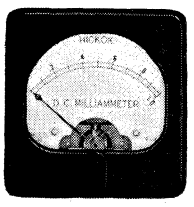
These Hickok improved self-contained frequency meters can be mounted in aircraft type cases of the large AN size. These are the smallest size frequency meters. This type of case is often convenient where space is a limiting factor. Suitable for aircraft use. Movement is shockproof. Case is dust and waterproof in accordance with Army-Navy aircraft instrument specifications. Radium or fluorescent dials and pointers available.

2½" MINIATURE SQUARE PANEL MOUNTING



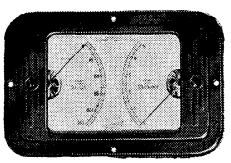
Flush mounting, phenolic case, wide flange only; and metal cases, wide and narrow flanges. Accurate within 1½%. These miniature panel mounting instruments are of the standardized 2½" size, but have extra long scale lengths by reason of the wide angle of deflection and longer scale radius. Five types of cases are available. Lance type pointers regularly supplied, however, small spade pointers can be furnished.

3½" SQUARE FLUSH MOUNTINGS



Accurate within 1½%. Large opening, symmetrically designed, admit maximum light to the dial. Thick flange eliminates danger of breakage and improves appearance. Require less panel space than round flush instruments. Metal dials with white background are supplied in all standard ranges. Special dial designs supplied on quantity orders at no extra charge. Internal illumination obtainable by means of bulb inserted in a socket through the instrument base.

SPACE SAVING DOUBLE-MOVEMENT METER



Model 76DC, Model 77 AC, Accuracy 1½%. 4" x 6" flush mounting phenolic case. Black finish standard. DC scale length is 2⅝". AC scale length 2¼". This unusually functional meter features a double movement to permit maximum size dial in a unique space saving arrangement that facilitates reading of two separate indications with minimum effort.

Your inquiry is invited. Kindly list details of your requirements.

THE HICKOK ELECTRICAL INSTRUMENT CO. 10500 Dupont Avenue, Cleveland 8, Ohio

HICKOK . . . Electrical Indicating Instruments

Order from Local Electronic Parts Distributor or Write for List.

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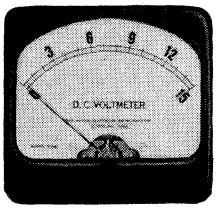
HICKOK Meters

For Accuracy and Dependability

4" RECTANGULAR PANEL

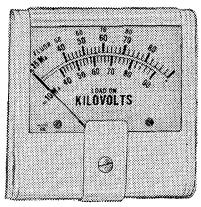
Accuracy within 1½%. Molded phenolic cases — for flush or surface mounting. Dull Black finish standard. Other phenolic colors available. DC Scale length 3¾" — longest which can be attained in an instrument of this size. AC Scale length 3.2", 85 degrees deflection. Can be furnished with or without illuminated dials. Available also in 2½", 3½", and 5", for flush mounting.

Volt-ammeters, volt-milliammeters, etc., having built-in push-button switches available.



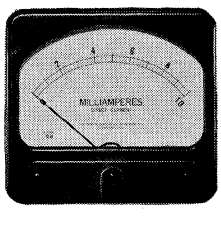
3½" RECTANGULAR SEMI-FLUSH

The new lucite-window model with a scale length of 3¼". Designed as attractive, modernistic replacements for conventional 3½" round or square flange instruments, and can be used in any space large enough to accommodate the standard 3½" meter. This instrument is furnished shielded or unshielded and available in most AC and D.C. ranges. Furnished in clear front with frosted effect border as shown. Also available in 5".



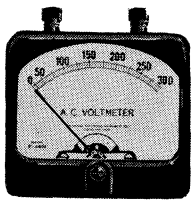
4⅝" RECTANGULAR PANEL METER

Model 68 DC, Model 69 AC, Accuracy 1½%. Developed specifically to meet requirements for a 4⅝" instrument that permits maximum length of scale, new efficiency small movement, and choice of two mounting stud locations to permit maximum versatility in semi-flush panel mount applications. Also available as an illuminated type with a new illumination technique that permits bulb replacement from front panel without necessitating removal of instrument from panel.



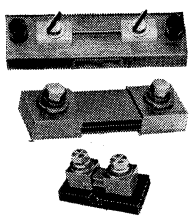
4" "P" SERIES PORTABLE INSTRUMENTS

Scale lengths — AC Models P49, P49M — 3.25". DC Model P48 — 3.7". Accurate within 1½%. Dimensions: 4" x 3¾" x 2-3/16". Not shielded. These meters are manufactured in many ranges of voltmeters, millivoltmeters, ammeters, milliammeters, microammeters, volt-ammeters, and wattmeters for use on both alternating and direct currents. A high quality solid leather carrying case can be supplied at extra charge.



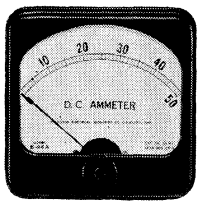
SHUNTS

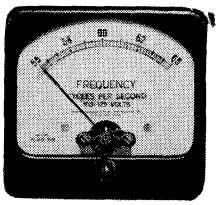
Hickok Portable Precision Shunts are of sufficient size to keep the temperature rise within the limits of N. E. M. A. standards. Shunts are accurately adjusted for 50 millivolt drop at full current value. The shunt resistance material has negligible thermo-electric effect against copper and negligible temperature coefficient within the limits of operation of the shunt. Will operate at rated capacity continuously without impairment of accuracy. Leads supplied with all shunts when ordered with ammeters.



5" RECTANGULAR

Large dial area. Accurate within 1½%. Molded bakelite cases — furnished shielded or unshielded. Dull black finish standard, other colors available. Flush mounting. DC scale length 5". AC scale length 4.25". Illuminated dials available. This instrument is a companion to other Hickok rectangular models but has proportionately larger dials, and is ideally suitable for use in electronic-testing equipment where multiple scale arcs are needed.



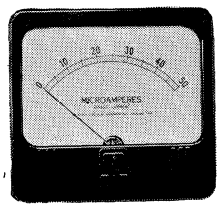


4" RECTANGULAR FREQUENCY METER

Frequency meters are self-contained with dimensions of 3¾" x 4" x 2⅝". No external reactor is used. The instruments can be supplied shielded from the effect of external magnetic fields. Available in 25, 50, 60, 400 or 800 cycle center scale.

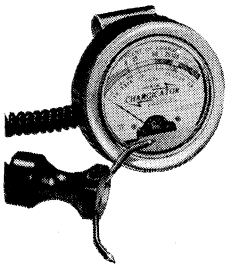
7" SQUARE PANEL METER

Model 74 DC, Model 75 AC, Accuracy 1½%. Semi-flush phenolic case. Black finish furnished as standard. Available shielded or unshielded. DC Scale length is 5¼". AC Scale length is 4½". The large dial area of this meter makes it ideal for use in multi-scale arrangements for electronic testing equipment or panel board uses.



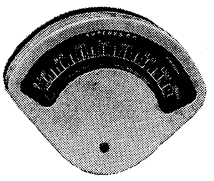
CHARGICATOR

The newest instrument designed to improve battery servicing. This instrument measures the state of charge in a lead-acid storage battery, instantly and accurately. It's handier, cleaner, and quicker than a hydrometer and avoids acid damage to clothing. The chargicator also provides a complete test of all other factors affecting the life or condition of a battery. 4½" portable shown. Also available in 2½" and 3½" round panel mount for continuous connection.



FAN TYPE METER

D'Arsonval movement. Accuracy 1%. Scale length: 7 inches. Dimensions: 8-19/32" x 6-11/16" x 2-1/16". This instrument is available in any combination of DC ranges. It has a window in the top of the case so that a light can be mounted above it for external illumination. This window is optional. It can be supplied with mirror scales and knife-edge pointers. The movements are especially designed for use in places where vibrations are encountered.



CURRENT TRANSFORMERS

Hickok midget current transformers "Donut" design—for use with inserted primaries. SERIES 1 is primarily intended for use with ammeters, and conforms to N. E. M. A. standards ½X as to ratio only. SERIES 2 conform to N. E. M. A. standards ½X as to ratio and phase angle, and are intended for use with wattmeters, also may be used with both wattmeters and ammeters. Secondary leads are five feet long with soldering lugs made to fit ¼" dia. stud.

Your inquiry is invited. Kindly list details of your requirements.

THE HICKOK ELECTRICAL INSTRUMENT CO. • 10500 Dupont Avenue, Cleveland 8, Ohio

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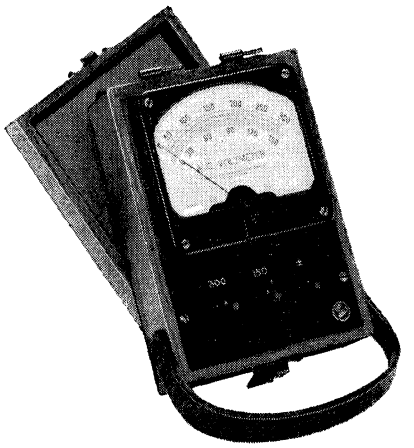
HICKOK Meters

For Accuracy and Dependability



POCKET PORTABLE

MODEL 480 and 481—Accuracy within 1%. Unshielded. DC Model 480: Scale length 3.7". Voltmeters, millivoltmeters, ammeters, milliammeters, microammeters, and volt-ammeters. AC Model 481. Scale length 3.25". Ammeters, milliammeters, voltmeters, wattmeters — single phase. Mirror scales, knife edge pointers.

Oak Case furnished with slip hinges permits the cover to be removed. The resistor compartment is separate from the meter movement and beneath the panel on which the binding posts are mounted. These instruments are specifically designed for smallness and accuracy. They will easily slip into the pocket and their high accuracy enables them to be used in many testing and inspecting applications. Found especially handy for field service work and are extensively used by the U. S. Signal Corps. Built with full open faces, enabling the use of multiple scales, which are easily readable and unusually long. The movements are especially designed for portable use in these models, and are of the very highest quality.

Dimensions: 6¾" x 4¾" x 2¾". Weight: 3 lbs.

MODEL 440—Accuracy either 1% or ½ of 1%. Scale length 4¾". Panel and the 5" meter cover are phenolic. Has a built-in lead compartment with leads supplied.

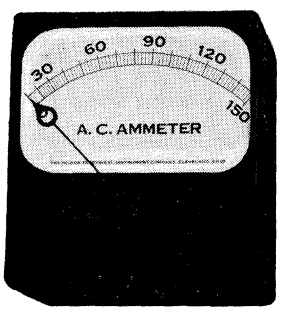
The instrument comes in an oak case with strong, flexible carrying handle. Case is furnished with slip hinge cover, permitting the cover to be removed for easier use. This type of case is especially handy for field service work and is extensively used. All types have mirror scales, knife edge pointers and full open faces. The latter feature enables the use of multiple scales, which are easily readable and unusually long. The movements are especially designed for portable use in these models, and are of the very highest quality. This particular instrument has three DC voltage ranges; 30, 150, and 1500. Two millivolt ranges: 75 and 150. Three milliampere ranges; 30, 60, and 300. These instruments, however, are available in any combination of DC ranges. Dimensions: 8½" x 7¼" x 3½". Weight: 4 lbs.

Also available in the AC Type, Model 441, with a scale length of 4¼".

SWITCHBOARD TYPE

MODEL S12 DC. D'Arsonval Movements. Model S-11 AC, Electrodynamometers. Model S-11M AC, Magnetic Vane Movements. Scale length of 5⅛". Shielded from External Magnetic Fields. Ideally suited for heavy industrial applications. Movements are of the large switchboard type. The AC Ammeter at left is furnished either self contained or with an external switchboard mounting current transformer. Cases can be supplied impervious to magnetic dust, dirt and moisture found in heavy industries. Can withstand severe vibration, shocks and extreme of temperature though still maintain the guaranteed accuracy of 1%. Available in surface type or flush type cases. Pressed steel cases, black enamel finish.

Dimensions: 5⅜"W., 5⅞"H., 4¼"D. plus 1¼" mounting studs.



Hickok is one of the foremost pioneers and manufacturers of electrical indicating instruments. Here shown are a few of the more popular types furnished. However, any practical range and type can be supplied. Your inquiry is invited. Kindly list details of your requirements. Prices are available on request.

ULTRA SENSITIVE TYPES

New taut-band frictionless movement suspensions are also available with sensitivities as low as 2 microamperes full scale.

Your inquiry is invited. Kindly list details of your requirements.

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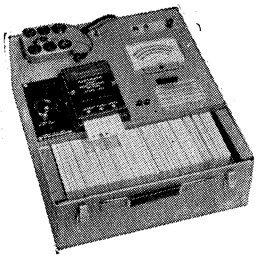
RD INSTRUMENTS

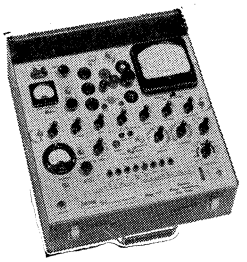
FOR RESEARCH AND DEVELOPMENT

TUBE TESTERS



AUTOMATIC—CARDMATIC

MODEL 1230—Card programmed to automatically set-up predetermined voltages and conditions for each tube under test. Self-calibrating and accurate within 1 to 3% of best known standards for transconductance and plate current measurements. Reject levels set in accordance with military specs. Also permits special purpose tube tests to meet specific circuit requirements. Portable style with cover.



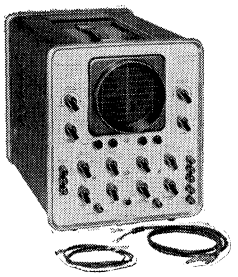
FIELD SERVICE STANDARD

MODEL 1575—Meets Western Electric specifications as a Mutual Conductance tester. 0-60,000 micromhos in 7 ranges. Two separate meters for line and grid bias voltage indications. Has 4 signal voltages. Features new, voltage regulator tube test. Built-in roll chart. Portable style with cover.

RESEARCH LABORATORY MODEL (Not Illustrated)

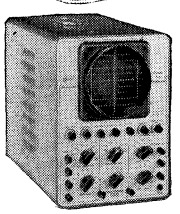
MODEL 1700—For tube tests under handbook conditions. All voltages and currents are variable and metered (9 meters). 0-60,000 micromhos in 8 ranges. Electronically regulated and metered power supplies.

OSCILLOSCOPES



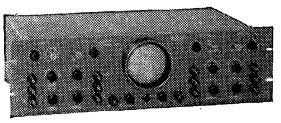
WIDE RANGE—VERSATILE

MODEL 1810 — 5" flat face, post accelerated CRT and illuminated, calibrated screen. 4 mc band vertical amplifier. 10 millivolts peak-to-peak per cm sensitivity. Triggered or recurrent sweeps—variable from 2 cps to 30 kc. Built-in, direct reading, regulated square wave voltage calibrator. AC or DC vertical amplifier inputs.



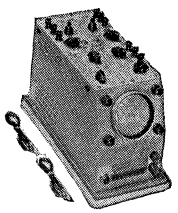
INDUSTRIAL'S 5" PORTABLE

MODEL 685—Features identical amplifiers DC to 750 kc—1 cps to 750 kc. 0.5 microseconds rise time. Sensitivity—20 millivolts RMS vertical (30 horizontal). Recurrent or triggered sweep. Covers 1 cps to 10 kc in 5 calibrated decade ranges with vernier control of 10 to 1. External sync for triggering and synchronizing the built-in sweep generator.



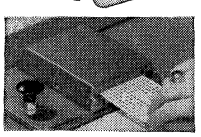
3" RACK MOUNT

MODEL 387R—Identical horizontal and vertical amplifiers. Triggered or recurrent sweeps from 1 cps to 100 kc. Slow sweeps (10 seconds or more) with external capacitors. 10 millivolts RMS per inch vertical sensitivity (14 horizontal).



3" PORTABLE

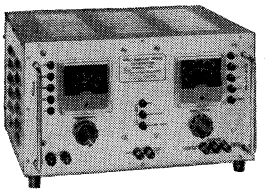
MODEL 385 CSM—Rugged lightweight designed for field service. Features unitized circuit modules. DC amplifiers (horizontal and vertical) with frequency coverage to 4 mc at .075 RMS volts per inch. 2 MC bandwidth has roll-off per IRE standard. Telescopic light shield and shock mounted carrying case.



CARD PROGRAMMED SWITCH

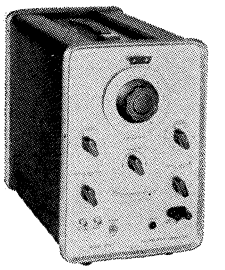
Cardmatic automatic or manual multiple switch provides up to 10-trillion variables. Self-cleaning, wiping type contacts rated .00025 ohms nominal (contact-to-pin), current rating is 10 amperes. Prox. 7" x 7½" x 4½" D.

GENERATORS



SINE WAVE—SQUARE WAVE

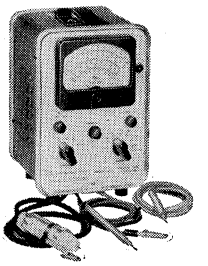
MODEL 710—Both sine and square wave outputs in one generator with wide frequency range (20 cps to 1 megacycle in 5 ranges). Sine wave total harmonic distortion below 1%. Hum level better than 90 db down. Square wave rise time less than 0.1 microsecond. Portable—easily adapted to rack mount.



SQUARE WAVE

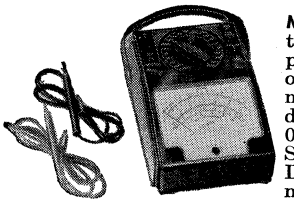
MODEL 1715—Wide frequency range of 1 cps to 1 megacycle, continuous in 6 decade bands with constantly variable frequency available throughout the entire range. Rise time is 0.02 microseconds. Consistent output level is independent of frequency setting. Electronic regulation of power supply. Includes symmetry control and provision for external synchronization.

VACUUM TUBE VOLTMETERS



HIGH FREQUENCY MODEL

MODEL 1600—Accurately indicates AC voltages from .05 to 300 volts in frequencies from 20 cps to 700 mc (up to 3000 mc are possible). Includes special thermionic diode probe. Excellent plus or minus DC volts, readability from .05 to 1000 volts. 7-range ohmmeter with practical readability from 0.2 ohm to 1000 megohms. Power supply built-in. Has 1% meter.



SMALL SIZE VOM

MODEL 456 — Has full-wave bridge type rectifier circuit. Features a patented automatic (button-reset) overload protection system to hold meter and associated circuits from damage due to accidental overload. 0-1200 AC or DC volts in 6 ranges. Sensitivity—20,000 ohms per volt DC (1000 AC). Resistance—0 to 100 megohms. 5 db ranges (−18 to +57).

HICKOK-DAWE INSTRUMENTS

True RMS-VTVM—300 microvolts to 300 volts, 5 cps to 500 kc.

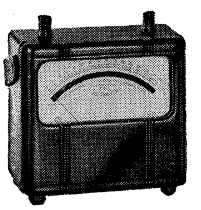
Stroboscopes—3 models with wide ranges.

Sound Level Indicators—Portable and laboratory types.

Balancing Machine—For rotating parts (4 oz. to 10 lbs.).

HICKOK METERS

Accurate DC and AC Portables



Ammeters, milliammeters, microammeters, voltmeters, millivoltmeters, volt-ammeters, thermometers. Shielded. Accuracy within ½ of 1% —available to 2/10 of 1%.

PANEL METERS

A complete panel meter line is available in numerous types, styles and ranges to meet every specification. The many special movements developed by HICKOK are: Electrodynamometers, self-contained frequency meters, galvanometers, true logarithmic deflections, ruggedized, long scale subminiatures, and taut-band suspensions with sensitivities to as low as 2 microamperes.

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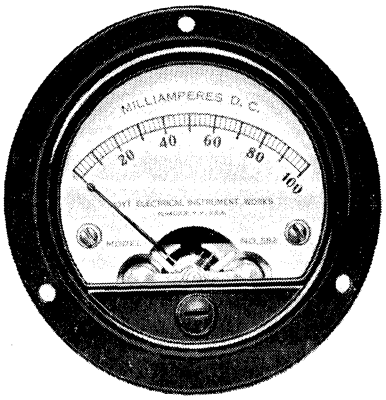
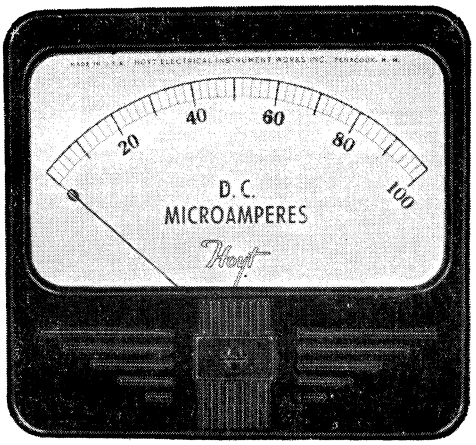
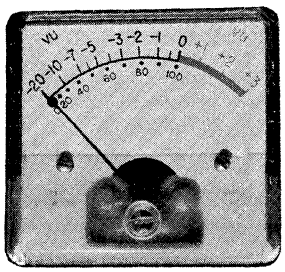
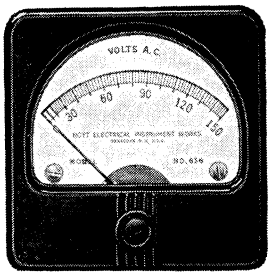
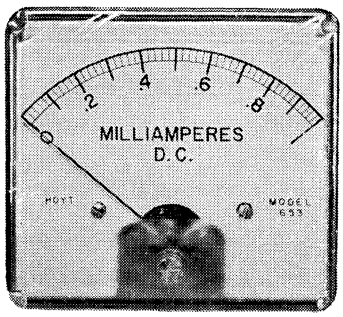


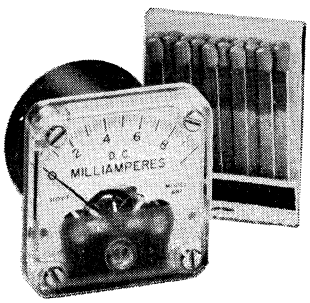
Hoyt
PANEL METERS











Specify HOYT Panel Meters every time for original equipment component or replacement applications. Be sure of the highest accuracy, dependability, and readability—*plus economy*—with HOYT precision AC and DC electrical instruments. Moving coil, rectifier, and repulsion types, available in a wide variety of sizes, ranges, cases, and colors; many with mirror scales . . . the *complete* Line of Panel Meters. Also, custom designed to meet the most exacting specifications for a quality instrument.

For detailed descriptions, engineering data, and prices please refer to HOYT catalog pages in The Radio-Electronic MASTER.

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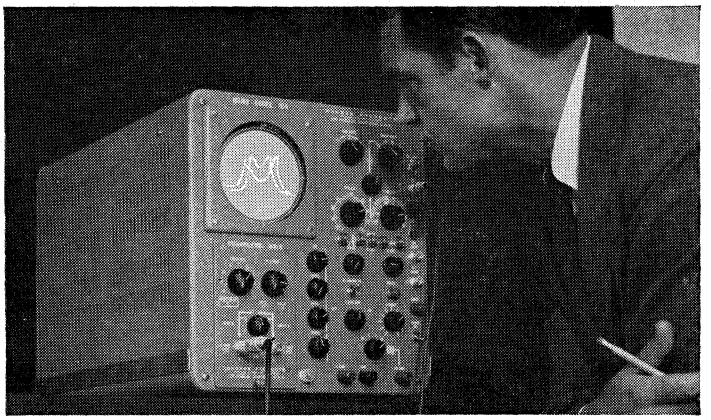

MEMO-SCOPE®

Storage Oscilloscope

"a transient recorder with a memory"

FEATURES: 5-inch diameter MEMOTRON® direct view storage tube, both conventional and storage performance, high-writing speed, excellent frequency response and optional plug-in type preamplifiers.

APPLICATIONS: Trouble shooting in data reduction equipment, switch and relay contact study; and shock, stress, strain and vibration analysis.

SWEEP SPEED FOR STORAGE: 10 microseconds to 10 seconds per division (0.33").

FREQUENCY RESPONSE: DC to 250 KC down 3 db.

SENSITIVITY: 10 millivolts to 50 volts per division or with optional high sensitivity preamplifier 1 millivolt to 50 volts per division.

For a demonstration or further information write **Hughes Products, MEMO-SCOPE Oscilloscope,** International Airport Station, Los Angeles 45, California

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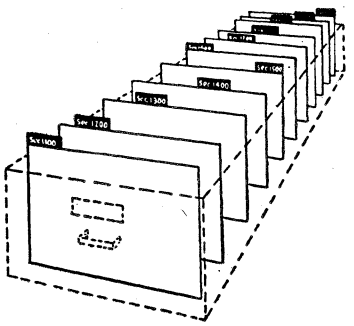

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$3.50 for set of 54 imprinted folders

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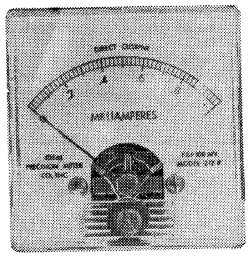
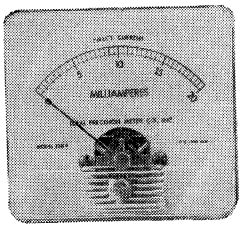
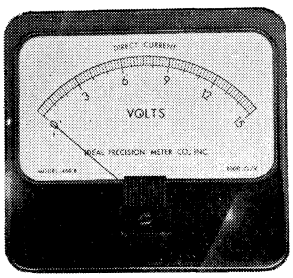
Are designed for lifetime service and assure dependable performance even under the most unfavorable operating conditions. Latest Engineering Methods and production allow us to maintain absolute Quality Control and ship orders promptly. IDEAL PRECISION METER maintains a modern laboratory staffed with competent technical personnel. Submit your requirements and prices will be quoted promptly.



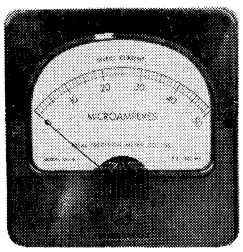
Model 212 P
MOLDED CLEAR
PLASTIC
2⅛ INCH
ACCURACY:
2% of full scale



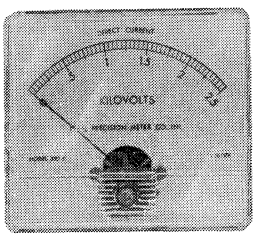
Model 250 P
MOLDED CLEAR
PLASTIC
2½ INCH
ACCURACY:
2% of full scale



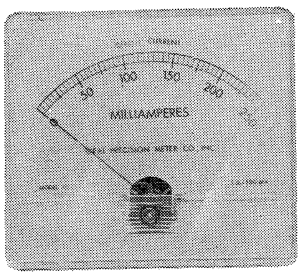
Model 460 B
MOLDED BAKELITE
4½ INCH
ACCURACY:
2% of full scale



Model 350 B
MOLDED BAKELITE
3 INCH
ACCURACY:
2% of full scale

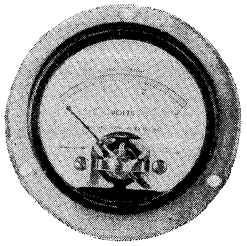


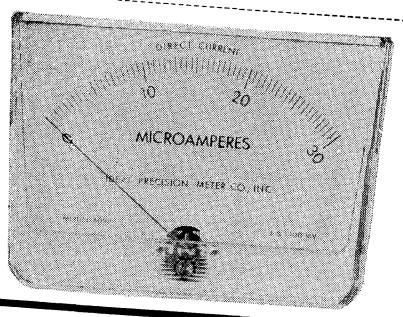
Model 350 P
MOLDED CLEAR
PLASTIC
3½ INCH
ACCURACY:
2% of full scale



Model 460 P
MOLDED CLEAR
PLASTIC
4½ INCH
ACCURACY:
2% of full scale

New . . .
Model 250 PR
MOLDED CLEAR PLASTIC
2½ INCH Round
ACCURACY:
2% of full scale





New . . .
Model 600 PI
MOLDED CLEAR PLASTIC
Imperial 6 INCH
ACCURACY:
2% of full scale

D.C. VOLTMETER

RANGE		APPROX. RESIST.
0-1.5	V.D.C.	
0-3	V.D.C.	
0-5	V.D.C.	
0-8	V.D.C.	
0-10	V.D.C.	1000
0-15	V.D.C.	
0-25	V.D.C.	ohms
0-30	V.D.C.	
0-50	V.D.C.	per
0-75	V.D.C.	
0-100	V.D.C.	volt
0-150	V.D.C.	
0-200	V.D.C.	
0-250	V.D.C.	
0-300	V.D.C.	
0-500	V.D.C.	
0-1000	V.D.C.	

D.C. MILLIAMMETER

RANGE		APPROX. RESIST.
0-1	ma D.C.	100 ohms
0-2	ma D.C.	50 ohms
0-3	ma D.C.	35 ohms
0-5	ma D.C.	20 ohms
0-10	ma D.C.	5 ohms
0-15	ma D.C.	3.5 ohms
0-25	ma D.C.	2.0 ohms
0-50	ma D.C.	2.0 ohms
0-100	ma D.C.	1.0 ohms
0-150	ma D.C.	.66 ohms
0-200	ma D.C.	.5 ohms
0-250	ma D.C.	.4 ohms
0-300	ma D.C.	.33 ohms
0-500	ma D.C.	.20 ohms
0-800	ma D.C.	.125 ohms
0-900	ma D.C.	.10 ohms
0-1000	ma D.C.	.05 ohms

D.C. MICROAMMETER

0-40	3000 ohms
0-50	2000 ohms
0-100	1000 ohms
0-200	500 ohms
0-400	250 ohms
0-500	200 ohms
0-800	100 ohms

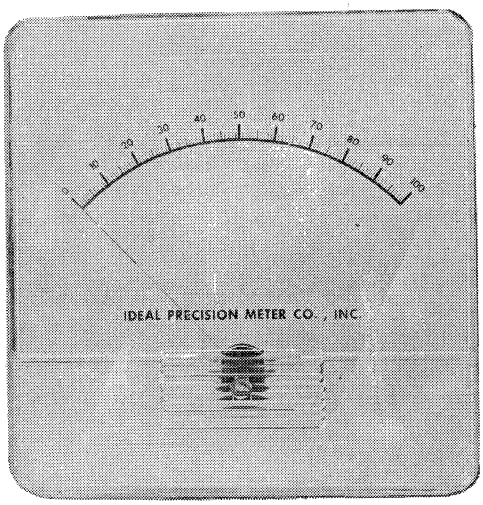
D.C. AMMETER

0-1	A.D.C.	.050 ohms
0-3	A.D.C.	.0166 ohms
0-5	A.D.C.	.010 ohms
0-10	A.D.C.	.005 ohms
0-15	A.D.C.	.0033 ohms
0-25	A.D.C.	.002 ohms
0-50	A.D.C.	.001 ohms

WRITE FOR INFORMATION ON ANY RANGES NOT LISTED ABOVE

Model 725 P
MOLDED CLEAR
PLASTIC
7 INCH
ACCURACY:
2% of full scale

Typical IDEAL PRECISION METER scale plates shown.



See YELLOW SECTION for Local Offices, Telephones, etc.

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I-L-S Advanced INSTRUMENTATION

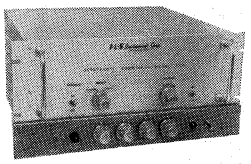
PROVEN DESIGN STANDARDS

CUSTOM ENGINEERED SPECIALS

ELECTRONIC TACHOMETERS and FREQUENCY COUNTERS

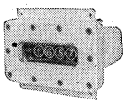
IN-LINE "NIXIE" NUMERICAL INDICATORS

1316



Model 1300 Series: 10 models are available with a wide combination of facilities to meet laboratory and industrial applications. Models are available for remote indication, explosion-proof installation, self-contained and dual readout requirements.

• Time bases with fixed selectable times of 0.1, 0.5 and 1.0 seconds; 5 and 10 second extension; fixed special time bases and preset variable time bases, single and multiple channel • Crystal and tuning fork standards • Count-down time base • Input: sine waves, 5 to 150,000 cps; pulses, 0 to 150,000 cps • Accuracy ± 1 count • Display Time: adjustable from 0.1 to 10 seconds • Sensitivity: 50 MV RMS (5 MV optional) • Input Impedance: 1 megohm • Electronically regulated power supply • Modular construction • Automatic or manual reset.

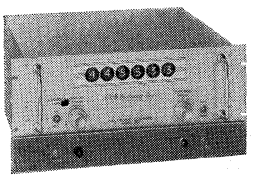


Standard or Explosion-proof housing.

INDUSTRIAL DECADE COUNTER *For Precise Digital Indication*

Model 1610 (4-digit): Model 1615 (5-digit); These popular, low cost industrial electronic counters feature versatility and ease of use for general industrial applications of RPM or frequency counting, totalizing and time interval measurement.

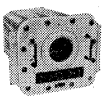
• Counts 1 to 120,000 events per second • Accuracy: ± 1 count, ± accuracy of timing signal • Input: 0.2 volt RMS to 200 volts RMS • Input Impedance: 1.0 megohm (0.5 megohm at phototube jack) • Input sensitivity control provided • The self-test feature permits counting of the time base signal • Optional features include DC input amplifier, facilities for printer, special gate times and staircase output voltage • Available in portable cabinet illustrated, or for panel rack mounting.



1317

CUSTOM INSTRUMENTS

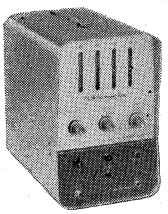
Model 5050: Explosion-proof oscilloscope illustrated, was designed for flow transducer calibration in hazardous areas. This model is a typical example of a custom designed unit tailored to meet specific customer requirements. If you require special apparatus, we invite your inquiry. Kindly outline your specifications and requirements.



5050

ELECTRONIC COUNTER SYSTEMS

I-L-S can provide complete systems assistance in the design and manufacture of digital control equipment for automation, speed and flow control. Transducers, integrators, multipliers and automatic range switching instrumentation are available for your next application.



1610

PRE-SET COUNTER *For Automatic Control*

Model 4150: Designed for high speed counting and control in automatic operations. Panel switch permits use as totalizing counter at rates up to 5000 per second or as preset counter with rates to 1000 per second. Optional batch counter (5-digit register shown) totalizes batches at rates up to 600 per minute. Various magnetic and photo-electric pickups can be furnished. Useable as preset time interval generator in 1/60 second increments for accurate timing of welders, processes, etc. Available in single or multiple channel presets. Attractive custom cabinet illustrated, or industrial housing.

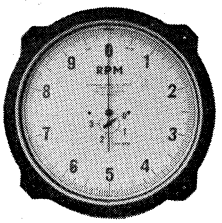
4150

ELECTRONIC *Glow-Transfer* MILLISECOND TIMER

Model C99F2: Designed to fill today's need for precise, reliable and convenient measurement of elapsed time. Available in 3 mounting styles: Console cabinet shown; flush panel mounted cabinet; explosion-proof housing. Complete timer is self-contained. Needs no external source of frequency control. Time base is 1000 cycle precision tuning fork. Count is displayed opposite numbers around periphery of glow transfer type decimal counting tubes. Timer can be controlled manually or by external means. Range: 99.999 seconds in .001 second increments. Accuracy: ± .001 second or .008%.

ELECTRIC TACHOMETER INDICATOR

Model 635: 6-inch dial. **Model 335:** 3-inch dial. A precision, sensitive type electric magnetic-drag tachometer indicator assembly. Aircraft type movement provides great accuracy over wide temperature and speed range and within limits suitable to most lab requirements. The large pointer makes 3½ revolutions for full scale deflection (a total scale length of 66 inches). Suitable generators are available . . . see "Pick-ups" below.



635

TACHOMETER PICK-UPS

All I-L-S tachometer pick-ups are designed to meet the rugged requirements of industrial service. The following are the most popular models.

2060

Model 2000AG: UL Class 1, Group D explosion-proof impulse generator with tandem facility for auxiliary generator to provide pointer indication or analog signaling concurrent with digital information. **Model 2020:** Identical mechanism to Model 2000AG except foot-mounted for non-hazardous installations. Auxiliary generator mounting pad meets AND20005 spec.

Model 2060: Rugged compact unit for UL Class 1, Group D service where space is limited and signal requirements are for digital information only. **Model 2050:** Identical mechanism to Model 2060 except foot-mounted for non-hazardous installations. Standard frequencies are 60 to 120 impulses per revolution. Special frequencies available.

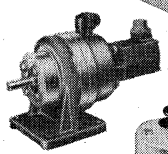
Model 2010: Explosion-proof drive and housing for AN5544-3 and AN5531-1 3-phase tachometer generators. Recommended for use with I-L-S 635 or 335 tach indicators.

Model 2030: Foot mounted drive assemble for AN5544-3 tach generator. Various other types of generators may be adapted to the AND20005 mounting pad. Heavy duty ball bearing drive assembly.

Model 2040: Explosion-proof, pad mount to standard AND20005 engine tach drive pad. Standard 60 or 120 cycles per rev. Special frequencies available.

Model 2043: Precision dual-pad impulse generator for "sandwich" mount between tachometer generator and engine AND20005 mounting pad on reciprocating or turbine engines. Frequencies 60 or 120 cycles. Special frequencies available.

Model 2CM9AAC: AN5544-3 tach generator available with 2 or 4 poles for powering I-L-S Model 335 or 635 tach indicator. Pad mounts to AND20005 mounting.



2020

VARIABLE TRANSFORMERS *Explosion-Proof*

Model 6240: Designed for panel mounting in hazardous areas where power line voltage control is required. Compact, lightweight, cast aluminum. Three sizes available for transformers, potentiometers, rheostats, switches, etc.

6240

EXPLOSION-PROOF HOUSINGS

A wide variety of explosion-proof housings in numerous styles designed for Class 1, Group D service is available.

I-L-S INSTRUMENT DIVISION
The Meriam Instrument Co.

Technical bulletins on all products are available at your request.

4525 West 160th Street, Cleveland 35, Ohio

See YELLOW SECTION for Local Offices, Telephone, etc.

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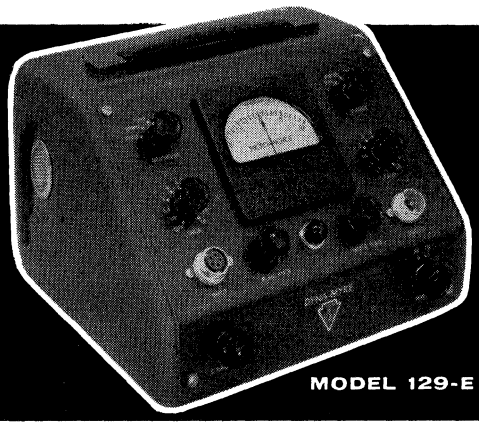
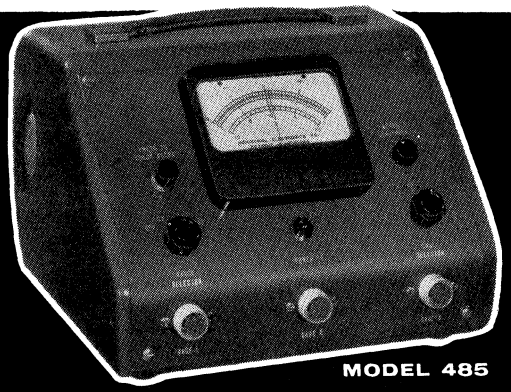
INDUSTRIAL ELECTRONICS "Dyna-Mykes"

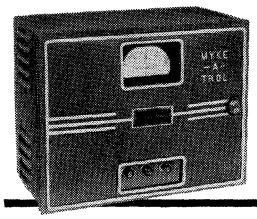
High-Speed, Precision, DYNAMIC MEASUREMENT



MODEL 129-E



MODEL 485

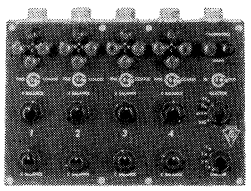


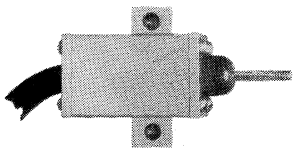
MYKE-A-TROL
MODEL 137

Similar to Dyna-Myke with internal relays adjustable in increments to 10 micro-inches to .1 inch for measurement and control.

BALANCE BOX
MODEL 204

Provides facilities for balancing one to four channels of strain gage or differential transformer transducers, and permits use of two differential transformers to provide zero suppression or servo application.



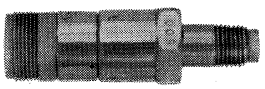


GAGE HEAD
MODEL 194

Linear displacement range of ± .100 inches and gaging contact pressure low as 0.1 ounce for .010 inches.

PRESSURE PICKUP MODEL 125-M

Utilizes differential transformers, and are built to customer specifications. Ranges are 0-100 psi to 0-10,000 psi.



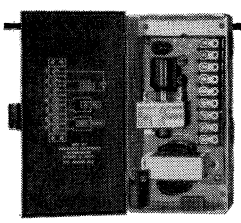


PHOTO CONTROL
MODEL 407

Rugged, inexpensive. Contains 30 amp. mercury control relay. Other types available on special order.

A Complete System for Linear Variable Differential Transformers and Strain Gages

MODEL 129-E provides five ranges of measurement from ± 10 micro-inches to ± .100 inches on integral 4½ inch square meter. Output may be connected to a recording device, or to an oscilloscope for observing dynamic phenomena at frequencies to 1,000 cps. This unit will deliver ± 6 ma. through an external load of 1,500 ohms for full scale meter deflection. Maximum output current is ± 35 ma. into 25 ohms.

MODEL 485 provides three ranges from ± .010 to ± .0004 inches on integral 4½ inch square meter. Other ranges may be supplied on special order. One to five inputs with individual gage factor adjustments and internal switch are available. Zero suppression with a range of ± .001 is provided to facilitate gage setting.

INDUSTRIAL ELECTRONICS, INC.

"Custom Builders of Electronic Equipment Since 1943"

8060 WHEELER ST. • DETROIT 10, MICHIGAN

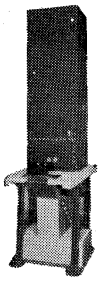
See YELLOW SECTION for Local Offices, Telephone, etc.

Industrial Instruments

Electrical Test Equipment

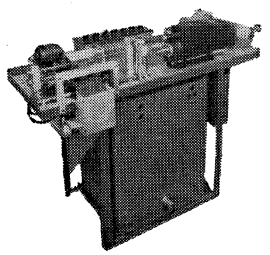
89 COMMERCE ROAD, CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

This listing of electronic measuring and control equipment represents over 15 years' experience in designing and producing instrumentation to be used by unskilled personnel in the factory, while at the same time realizing laboratory accuracies. Equipment produced and manufactured by Industrial Instruments is widely specified and used by all leading electrical and electronic manufacturers and laboratories. Each piece of equipment has been designed to provide that exacting accuracy demanded by the most critical buyers. Many of these instruments incorporate features not found in competitive offerings costing more.



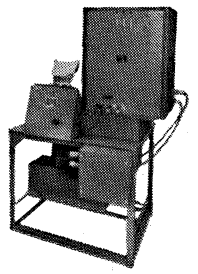
The Model AB-1 Auto Bridge is used for general purpose testing of electronic components and subassemblies. The measurement is made at 1 KC. Components can be sorted into four or eight groups.

	Range	Accuracy	Production Rate	Price
Capacity	100 uuf to 15 uf lower at reduced accuracy	±0.3%	4 group 3600 per hr. 8 group 1800 per hr.	AB-1 $6,950.00
Resistance	10 ohms to 5 megohms, higher at reduced accuracy	±0.3%	"	
Impedance	10 ohms to 5 megohms, higher at reduced accuracy	±0.3%	"	



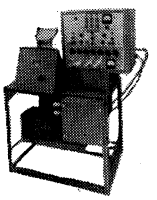
The Model AB-2 electronic controller will indicate if a component presented to it is above or below a preset impedance. Frequency of measurement is 1 KC.

	Range	Accuracy	Measurement Rate	Price
Capacity	100 uuf to 15 uf lower at reduced accuracy	±0.3%	8000 per hour	AB-2 $680.00
Resistance	10 ohms to 5 megohms, higher at reduced accuracy	±0.3%	"	
Impedance	10 ohms to 5 megohms, higher at reduced accuracy	±0.3%	"	



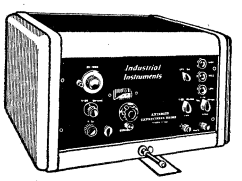
The Model AB-3 Auto Bridge is a "go, no-go" testing device and provides for sorting components into three tolerance groupings. The frequency of measurement is 1 KC.

	Range	Accuracy	Production Rate	Price
Capacity	100 uuf to 15 uf lower at reduced accuracy	±0.3%	Depending on type of feed 7500 electrical tests per hour. Many components can be fed with an overall rate of 5000 per hour.	AB-3 $6,950.00
Resistance	10 ohms to 5 megohms, higher at reduced accuracy	±0.3%		
Impedance	10 ohms to 5 megohms, higher at reduced accuracy	±0.3%		



The Model AB-4 Auto Bridge is for precision sorting of resistors into three tolerance groupings. Since the bridge measurement is made at DC, the unit is useful for measuring all types of resistors.

	Range	Accuracy	Production Rate	Price
Resistance	10 ohms to 10 megohms, higher at reduced accuracy	±0.1%	Depends on type of feed. Approximately 5000 per hour.	AB-4 $7,200.00



The Model AB-5 is a high-speed, 1 megacycle automatic capacitance limit bridge for testing capacitors for outgoing and incoming inspection on a go/no-go basis.

	Range	Accuracy	Production Rate	Price
Capacitance	0—1000 mmf	±½%—0-500 mmf ± 1%—to 1000 mmf	Manually fed 2000 pieces per hr.	$3,250.00

The Type PG High Capacity Portable Voltage Breakdown Tester is used for testing of materials and components. Manual control of output voltage is provided. Available in outputs of 3, 5, 10, 20, and 30 KV at 3 KVA. Price on request.

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Industrial Instruments

Electrical Test Equipment

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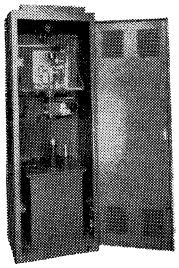
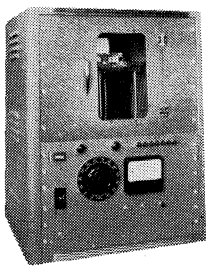


The Type PA Variable High Voltage AC Breakdown Testers are designed to meet the requirements of ASTM Specification D-149, and Federal Specification LP-406, Method 4031, as well as for general purpose breakdown testing. Motor driven control of output voltage is provided with any desired rate of rise of secondary voltage available. A wide variety of testing jigs can be supplied.

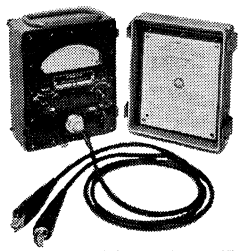
		Price	
PA-5-152	15,000 V. rms. 2KVA	PA-5-152	$1,600.00
PA-5-155	15,000 V. rms. 5KVA	PA-5-155	1,950.00
PA-5-252	25,000 V. rms. 2KVA	PA-5-252	1,650.00
PA-5-255	25,000 V. rms. 5KVA	PA-5-255	2,020.00
PA-5-502	50,000 V. rms. 2KVA	PA-5-502	1,675.00
PA-5-505	50,000 V. rms. 5KVA	PA-5-505	2,050.00
PA-50-1005	100,000 V. rms. 5KVA	PA-50-1005	4,500.00



The Model ART Series Arc Resistance Tester is supplied in conformance with ASTM Specification D-495-56T, and also conforms with Federal Specification LP-406, Method 4011.2. The equipment is employed for the measurement of insulating materials ability to withstand high-voltage, low-current arcs.

DESCRIPTION . . . The Model ART-1 has the following steps: 10/8, 10/4, 10/2, 10, 20, 30, and 40. The 10/8 means that a 10 ma arc is applied for ⅛ of a 2 second cycle in one ¼ second period. The 10/4 means that a 10 ma arc is applied for ¼ of a 2 second cycle in two ¼ second periods, etc. The 10, 20, 30 and 40 ma arcs are sustained for 60 seconds. The stepping is automatic at one-minute intervals. On manual operation all steps are available for any time duration.

Price	
ART-1	$1,440.00
ART-2	3,750.00

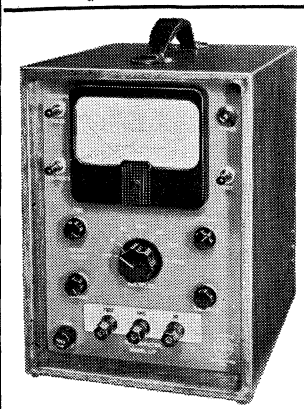


The Type LRO Resistance Ohmmeters are useful for the measurement of resistance of sensitive relay contacts, fuses, bus-bars and connections, rail joints, pipe or conduit, switch contacts, transformer windings, motor windings, bonding, grounding and similar applications. The current through the unknown resistance never exceeds 110 ma.

FEATURES . . .

Extreme accuracy for the most critical measurements. • Entirely self-contained, including 1½ V flashlight battery. • Ranges: .1 ohm, 1 ohm and 10 ohms. 100 meter scale divisions. • One scale division on .1 ohm range is .001 ohm. • Accuracy of ± 1½% or better on LRO-1 and ±1% on LRO. These accuracies are based on full scale values. • Maximum current through piece under test =0.11 amp.

Price	
LRO	$325.00
LRO-1	141.75



The Type L Megohmmeters are used for both laboratory and high speed production testing of motor and transformer winding insulation, cable insulation, high value resistors, capacitor insulation, and for the measurement of surface and volume leakage of insulating materials. These instruments meet the requirements for testing insulation resistance in accordance with ASTM D-257, and Federal Specification LP-406b, Method 4041.

Model	TEST Voltage	RANGE Low	RANGE High	POWER Consumption	WEIGHT Net	WEIGHT Shipping	Size
L-2A	200 fixed	1 meg.	100,000 meg.	40 Watts	12	15	15"x8"x10"
L-4A	200 and 500 fixed	1 meg. 2.5 meg.	100,000 meg. 250,000 meg.	52 Watts	14	17	"
L-6B	100 to 600*	1 meg.	100,000 meg.	82 Watts	15	18	"
L-7	100 to 600*	1 meg.	$5x10^{13}$ ohms	75 Watts	20	24	8"x10½"x11½"

*Continuously variable, built-in voltmeter for accurate setting.

Price	
L2A	$175.00
L4A	240.00
L6B	310.00
L7	383.00

The Type RN Wheatstone Bridges are used for the measurement of all types of resistance devices and circuits where high accuracy is required. Models are available for performing Murray-Varley Loop Tests.

Model	Total Resistance of Decade	Ratio Dial Settings	Circuits	Dimensions
RN-1	9X(1+10+100+1000)	.001, .01, .1, 1, 10, 100, 1000	.....	9"x8"x6½"
RN-2	9X(1+10+100+1000)	.001, .01, .1, 1, 10, 1000, M10, M100, M1000	Murray & Varley	9"x8"x6½"
RN-3	10X(1+10+100)+9(1000)	1/1000, 1/100, 1/10, 1/9, 1/4, 1/1, 10/1, 100/1, M10, M100, M1000	Murray & Varley	9½"x8"x6½"

Price	
RN-1	$168.00
RN-2	184.00
RN-3	215.25

Other electrical test equipment manufactured by Industrial Instruments is listed in The Radio-Electronic Master. See Pages G-322 and 323 for detailed listings of Wheatstone Bridges; Resistance Decades; Capacitance Decades; Voltage Breakdown Testers; Megohmmeters; Low Resistance Megohmmeters. Send for Catalog 21 covering the complete line of measuring and control equipment produced by Industrial Instruments.

See YELLOW SECTION for Local Offices, Telephones, etc.

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PRECISION ELECTRONIC EQUIPMENT

PHASE METER

A PRECISION PHASE MEASURING INSTRUMENT

PHAZOR

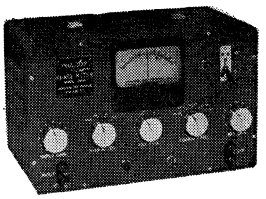
NULL METER

A PHASE SENSITIVE NULL DETECTOR

The operation of these instruments is based upon a newly developed multiplying device. When S and R represent the input and reference signals the meter deflection is equal to

$$\frac{1}{T}\int_0^T S \cdot R \, dt$$

MODEL 200A



$349.50

APPLICATIONS: Measures phase shift in transformers, amplifiers, etc. • Readings not affected by noise and harmonics • Measures in-phase or quadrature voltage components • .01 degree can be measured employing special techniques.

SPECIFICATIONS

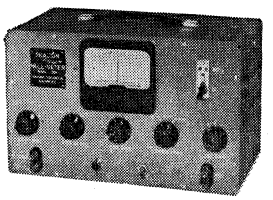
ACCURACY..... ±2 degrees
FREQUENCY.....20 CPS to 20 KC

APPLICATIONS: A sensitive null meter for use in conjunction with bridge circuits • Simplified and precise zeroing of synchro devices • Nulling wherever null voltages may be complicated by noise and harmonics.

SPECIFICATIONS

SENSITIVITY..6 millivolts off-scale defl.
SELECTIVITY..40 DB down on all noise and harmonics
FREQUENCY....30 CPS—10 KC

MODEL 100A

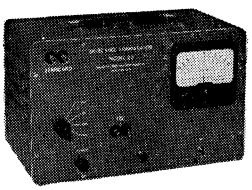


$259.00

IMPEDANCE COMPARATORS

PRECISE, RELIABLE AND RAPID COMPARISON OF COMPONENTS

MODEL 60



$179.00

The circuit consists of a bridge, two arms of which are precision resistors matched to .01%. The two remaining arms are the standard and the component under test. Any voltage resulting from bridge unbalance is amplified and fed to a phase discriminator. The percentage deviation is read directly in both sign and magnitude on a meter.

FEATURES: High Accuracy • Overall Voltage Regulation • High Stability • Rapid Response

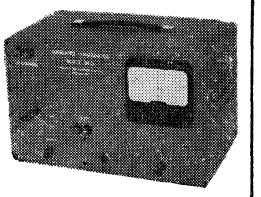
SPECIFICATIONS

FREQUENCY.....60 CPS
FULL SCALE RANGES .... ±1%, 5%, 10%, 20%
IMPEDANCE LIMITS:
Resistance..... 5 ohms to 5 megohms
Capacitance..... 500 mmfd. to 500 mfd.
Inductance.....15 milihy to 10,000 hy

SPECIFICATIONS

FREQUENCY.....Either 1 KC or 10 KC
FULL SCALE RANGES .. ±5%, 10%, 20%
IMPEDANCE LIMITS:
Resistance..... 5 ohms to 5 megohms
Capacitance..... 50 mmfd. to 10 mfd.
Inductance.....100 microhy to 100 hy

MODEL 1010



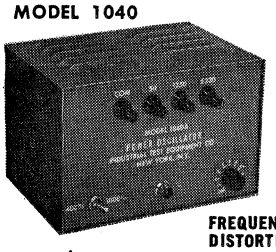
$299.00

OTHER MODELS AVAILABLE

MODEL 1000 — 1000 CPS — ±1%, 5%, 10% — $365.00

PRECISION POWER OSCILLATORS

MODEL 1040



$119.00

DESCRIPTION: These oscillators employ precision wire wound resistors and mica condensers in the frequency determining networks. The use of liberal inverse feedback plus low temperature coefficient elements have produced a highly stable oscillator. Three impedance taps are provided on the output transformer with the highest tap point capable of delivering 120 volts. The output voltage at each tap point is continuously variable.

APPLICATIONS: Driving Motors, Synchros etc. • Power Source for Impedance Bridges • Test Tone Generator for Distortion Measurements

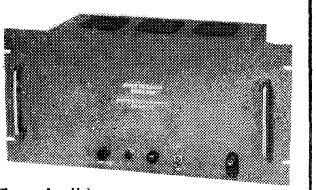
SPECIFICATIONS

FREQUENCY.....400 or 1000 CPS (Other Freq. Avail.)
DISTORTION..... Less Than 1%
OUTPUT POWER..... Three watts

SPECIFICATIONS

DISTORTION ..... Less Than 1%
FREQUENCY.....400 CPS (Other Freq. Avail.)
OUTPUT POWER .....15 Watts

MODEL 1500



$299.00

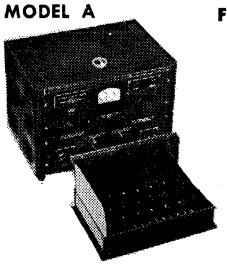
OTHER MODELS AVAILABLE

MODEL 1040A — 8 WATTS — $199.00

MODEL 150 — 160VA — $495.00

AUTOMATIC HI-POT TESTER

MODEL A



$2400.00

FAST, ACCURATE, DIELECTRIC TESTING FOR MULTI-CONDUCTOR DEVICES

DESCRIPTION: The function of this instrument is to apply a known voltage between the various conductors under test for a specific period of time and to indicate breakdowns when and where they occur. High sensitivity to breakdown is provided by a specially designed relay in series with the high voltage.

SPECIFICATIONS

TEST VOLTAGE.....0-2000 Volts RMS
TEST TIME.....2-120 seconds
NUMBER OF TEST TERMINALS....11

FREQUENCY STANDARD

A SELF-CONTAINED FORK STABILIZED FREQUENCY SOURCE

MODEL 1400

$275.00

• Accurate • Stable • Low Distortion • Variable output voltage • Compact

SPECIFICATIONS

ACCURACY.....Available to .005%
DISTORTION.....Less Than 1%
FREQUENCY.....400 CPS or 1000 CPS (Other Freq. Avail.)
Dimension.....6x9x6 inches
Power Supply.....115 volts, 60 CPS

OTHER MODELS AVAILABLE

MODEL 600 LOW FREQUENCY STANDARD — **DESCRIPTION:** Utilizes scaling circuits to provide tuning fork accuracies at frequencies below the range of precision tuning forks.

MULTIPLIER

MODEL 4R2

A TRUE FOUR QUADRANT MULTIPLIER HAVING A WIDE FREQUENCY RESPONSE

The Multiplier is furnished in a container approximately 1⅜"x1⅜"x4" with a standard octal plug.

SPECIFICATIONS

FREQUENCY RANGE....D.C. to 500 KC
WEIGHT.....Approximately 5 oz.

$99.50

PHASE SHIFTER

MODELS PS 60 and PS 400

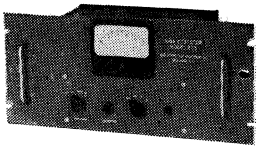
For measurement and comparison of phase angles or as a secondary phase standard.

$350.00

RANGE..... 0-360° (continuously variable)
ACCURACY.....± 1 degree (Higher accuracies available)
FREQUENCY.....60 CPS for PS 60
400 CPS for PS 400
(other frequencies available)

NULL DETECTOR

MODEL 60B **$649.00**



A sensitive battery operated null detector ideal for shering bridges or other applications where complete isolation from power lines is desirable.

• Long Battery Life • High Harmonic Rejection • Shielded against external fields

SENSITIVITY: 1 microvolt for 1% deflection

INDUSTRIAL TEST EQUIPMENT CO. ITECO

INDUSTRIAL TEST EQUIPMENT CO. • 55 EAST 11th ST., NEW YORK 3, N. Y.

See YELLOW SECTION for Local Offices, Telephone, etc.

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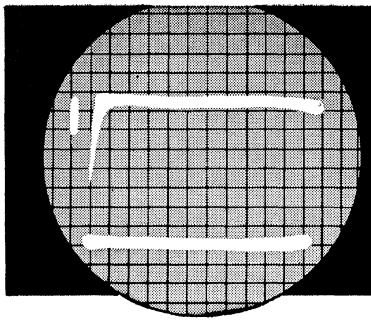


PRECISION TEST EQUIPMENT

JERROLD

FOR ACCURATE QUANTITATIVE MEASUREMENTS... USING SWEEP FREQUENCY GENERATOR TECHNIQUES...

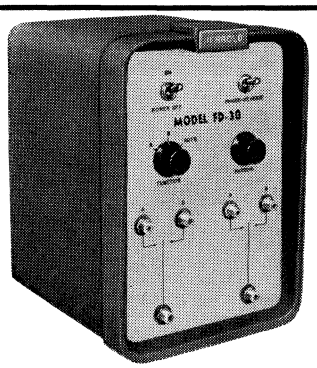
The instrument features provisions for external markers, employing "birdie bypass" circuitry, and a plug-in R.F. detector that can be used in remote applications.

$1260.00

NEW

WIDE BAND SWEEP FREQUENCY GENERATOR — MODEL 900-A

SWEEP WIDTHS—AS WIDE AS 400 MC . . . FROM 0.5 MC to 1200 MC. The JERROLD Model 900-A, Wide Band Sweep Frequency Generator is an instrument of unusual versatility. In two ranges—0.5 MC to 400 MC and 275 MC to 1200 MC—the instrument supplies sweep signal with center at any frequency from 500 KC to 1000 MC and with sweep widths as broad as 400 MC and as narrow as 100 KC. The RF output—carefully monitored by matched, crystal diodes feeding a two stage, push-pull AGC amplifier—is flat within ±0.5 db at full sweep width up to 800 mcs. and ±1.5 db from 800 mcs. to 1200 mcs. When using sweep widths as narrow as 20 mcs. flatness at any center frequency is approximately ±0.15 db. The output voltage is 0.5 volts RMS across a 50 ohm load at the upper range and 0.25 volts at the lower range.



A HIGH SPEED COAXIAL SWITCH — MODEL FD-30

For the simultaneous display of two channels or voltages on an oscilloscope.

Frequency range of coaxial circuit is from DC to 250 MC with a VSWR of less than 1.1 at 50 or 75 ohms impedance. Switch contacts "Mercury-Wetted" with an adjustable switch rate of 30, 15 or 10 cps.

$250.00

Wide Band Sweep Generators—Models 601 and 602

Portable, wide band instruments designed for the test and alignment of LF, IF, and RF circuitry. The Generators feature an electronic, saturable reactor sweep circuit with a maximum sweep deviation of approximately 5 to 1. RF output on all ranges is fundamental.

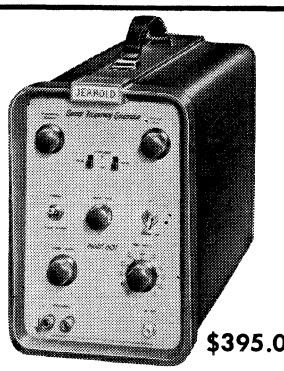
MODEL 601

12 MC to 225 MC in eleven overlapping ranges. RF output of 1.0 volt RMS. Output flat ±½ db over widest sweep width and as flat as 1/5 db at sweep widths of 40 mc or lower.

MODEL 602

4 MC to 112 MC in eleven overlapping ranges. RF output of 2.5 volts RMS. Output flat within ±½ db.

Other Generators available on special order to cover any portion of the frequency range from 15 KC to 225 MC.



$395.00

VARIABLE, LABORATORY ATTENUATORS — MODELS AV-50 and AV-75

$150.00

Variable, switch-type attenuators from DC to 500 MC. The attenuators feature: 0 to 62.5 db attenuation, in 0.5 db steps; low insertion loss of ¼ db at 250 MC, and ½ db at 500 MC; VSWR of less than 1.15 at 250 MC, and less than 1.4 at 500 MC; newly developed rotary, coaxial switches that utilize a floating rotor with dual wiping, self aligning contacts mounted in a "Tel-F" dielectric; completely shielded switch sections; and rugged, compact design. Model AV-50 is 50 ohms with BNC connectors, and Model AV-75 is 75 ohms with Jerrold "F" Series connectors.

ALSO AVAILABLE FOR ACCURATE QUANTITATIVE MEASUREMENTS

MODEL 707 — PRECISION SWEEP GENERATOR

Available with plug-in oscillator heads for any frequency range from 4 MC to 250 MC. Flatness ±5/100 db, power output +20 dbm.

MODEL CM-6 & CM-10 — CRYSTAL MARKERS

Available with 6 or 10 crystal frequencies of your choice. Harmonics, side band or "birdie bypass" markers.

MODEL VC-12 — VOLTAGE COMPARATOR

For use with any sweep generator for accurate quantitative measurements of Voltage, Power, dbm, and relative db differential.

MODEL SPR-100 — OSCILLOSCOPE PREAMPLIFIER

A complete sweep generator accessory featuring a built-in detector that is flat to 250 MC, a preamp. gain of 40 db, and provision for marker insertion employing "birdie bypass" circuitry.

JERROLD ELECTRONICS CORPORATION

Industrial Products Division
Dept. TED 27, The Jerrold Building
Philadelphia 32, Pa.

Electronics (Canada) Ltd., Toronto, Canada — Export Representative, Rocke International, New York, New York

Prices and Data Subject to Change Without Notice

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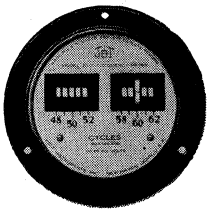
Instruments J-B-T® Testers

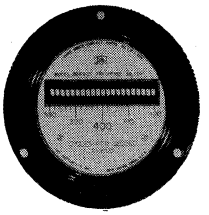
J-B-T INSTRUMENTS, INC., NEW HAVEN 8, CONN.

VIBRATING REED FREQUENCY METERS

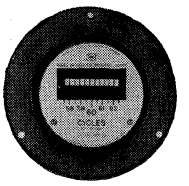
12 to 1000 cy.
•
2 to 50 Reeds
•
Molded or Metal Cases
•
Sealed, if required
•
1½" to 6"
•
Panel Mounting or Portable



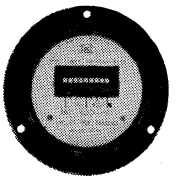
MODEL 30-F
Dual Range, Double Window
Operating at 60 cy.



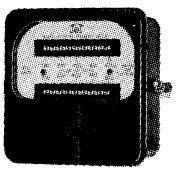
MODEL 36-FX-21
21-Reed Meter in 3½" Case



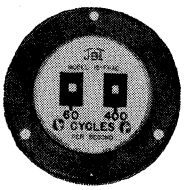
MODEL 34-FHXX
9-Reeds in 3½" Sealed Case



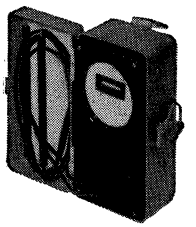
MODEL 33-FX
9-Reed Meter in 3½" Case



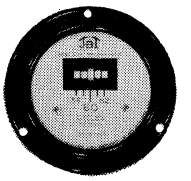
MODEL 41-FX-42
300—500 cycles and
380—420 cycles, 4" Case



MODEL 15-FHAC
2-Reeds in 1½" Sealed Case



MODEL 33-FP-9M
Portable, Metal Case
TS-328 A/U (400 cy. type)
shown



MODEL 21-FX
5-Reed Meter in 2½" Case
Operating at 60 cy.

The vibrating reed frequency meters illustrated are widely used where constant or known frequency is important to efficient operation of equipment. The features include:

• **Permanently Accurate**—These instruments remain within ±0.3% at reference temperature unless otherwise stated. This accuracy is not affected by poor wave form, external magnetic disturbances, or voltage fluctuations.

• **Size and Type for Every Service** — They are made in a wide variety of portable and panel case styles, reed groupings, and frequency ranges from 12 to 1000 cycles and above. Standard voltage is 100—130 unless specified. Three sizes of sealed instruments and various combinations of elapsed time and frequency meters are described on the next page.

• **Rugged Construction** — This simplified patented design has no moving parts to wear out or get out of calibration. Ideal for field and mobile communications.

• **Suitability for Electronic Circuits**—Because of relatively low power consumption and reeds with high Q, and sharp immediate response, J-B-T meters have wide acceptance in the electronics field.

MODEL	RANGE CYCLES	NO. OF REEDS	CY. BET. REEDS	TYPE OF CASE	SEALED	ACCURACY AT 77°F	STANDARD VOLTAGE	OHMS PER VOLT	WATTS	DIMENSIONS SEE TABLE
15-FHAC	60 & 400	2	—	1½" Metal	Yes*	±0.5%	8-10§	240	0.04	Line 1
15-FH-54	390-410	5	5	1½" Metal	Yes*	±0.3%	100-130	57	2.5	Line 1
15-FH-56	58-62	5	1	1½" Metal	Yes*	±0.3%	100-130	570	0.25	Line 1
15-FH-400	380-420	5	10	1½" Metal	Yes*	±0.3%	100-130	57	2.5	Line 1
21-FHXX	58-62	5	1	2½" Metal	Yes**	±0.3%	100-130	925	0.15	Line 3
23-FHXX	380-420	5	10	2½" Metal	Yes**	±0.3%	100-130	110	1.25	Line 3
23-FX	380-420	5	10	2½" Plastic	—	±0.3%	100-130	110	1.25	Line 2
21-FX	58-62	5	1	2½" Plastic	—	±0.3%	100-130	925	0.15	Line 2
21-FX	116-124	5	2	2½" Plastic	—	±0.3%	100-130	300	0.4	Line 2
23-FX	390-410	5	5	2½" Plastic	—	±0.3%	100-130	110	1.25	Line 2
30-F	48-52 & 58-62	10	1	3¼" Metal	—	±0.3%	100-130	110	1.0	Line 4
30-FHXX	48-52 & 58-62	10	1	3½" Metal	Yes***	±0.3%	100-130	110	1.0	Line 8
30-FX	48-52 & 58-62	10	1	3½" Plastic	—	±0.3%	100-130	110	1.0	Line 5
30-FX-18	46-64	18	1	3½" Plastic	—	±0.3%	100-130	340	0.35	Line 5
31-F	58-62	5	1	3¼" Metal	—	±0.3%	100-130	110	1.0	Line 4
31-FHXX	58-62	5	1	3½" Metal	Yes***	±0.3%	100-130	110	1.0	Line 8
31-FX	58-62	5	1	3½" Plastic	—	±0.3%	100-130	110	1.0	Line 5
33-F	380-420	9	5	3¼" Metal	—	±0.3%	100-130	90	1.5	Line 4
33-FHXX	380-420	9	5	3½" Metal	Yes***	±0.3%	100-130	90	1.5	Line 8
33-FP-9L	380-420	9	5	Plastic †† Portable	—	±0.3%	100-130	90	1.5	Ref. to Cat.
34-FP-9L	56-64	9	1	Plastic †† Portable	—	±0.3%	100-130	110	1.0	Ref. to Cat.
33-FP-9M	380-420	9	5	Aluminum ‡ Portable	—	±0.3%	100-130	90	1.5	SK-63-10
34-FP-9M	56-64	9	1	Aluminum ‡ Portable	—	±0.3%	100-130	110	1.0	SK-63-10
33-FX	380-420	9	5	3½" Plastic	—	±0.3%	100-130	90	1.5	Line 5
34-F	56-64	9	1	3¼" Metal	—	±0.3%	100-130	110	1.0	Line 4
34-FHXX	56-64	9	1	3½" Metal	Yes***	±0.3%	100-130	110	1.0	Line 8
34-FHXX-11	55-65	11	1	3½" Metal	Yes***	±0.3%	100-130	110	1.0	Line 8
34-FHXX-Z-11	57.5-62.5	11	½	3½" Metal	Yes***	±0.2%	100-130	110	1.0	Line 8
34-FX	56-64	9	1	3½" Plastic	—	±0.3%	100-130	110	1.0	Line 5
34-F-Z	58-62	9	½	3¼" Metal	—	±0.2%	100-130	110	1.0	Line 4
34-FX-Z	58-62	9	½	3½" Plastic	—	±0.3%	100-130	110	1.0	Line 5
36-FX-21	380-420	21	2	3½" Plastic	—	±0.3%	28	18	1.6	Line 5
36-FX-21-115	380-420	21	2	3½" Plastic	—	±0.3%	100-130	52	2.4	Line 5
41-FX-42	380-420	21	2	4¾ x 4¾	—	±0.3%	200	28	7.7	MD-38-11
	300-500	21	10	Plastic	—	±0.3%	30, 115,	16, 28	1.8, 4.5	MD-38-11
41-FX-50	355-475	25	5	4¾ x 4¾	—	±0.3%	200	28	7.7	SK-79
	480-600	25	5	Plastic	—	±0.3%	30, 115	16, 28	1.8, 4.5	SK-79
61-FX	5 Sets of 5 Reeds — Harmonic Frequencies — for Telephone Circuits — 6⅞ x 7⅛ x 3⅛ panel mounting									MD-37
61-FX-D	5 Sets of 5 Reeds — Decimonic Frequencies — for Telephone Circuits — 6⅞ x 7⅛ x 3⅛ panel mounting									MD-37

* Uses detachable 2$^{3}/_{32}$" diam. flange FL-4 to cover glass-to-metal seal.
** Uses detachable 2$^{11}/_{16}$" diam. flange FL-8 to cover glass-to-metal seal.
*** Uses detachable 3½" diam. flange FL-7 to cover glass-to-metal seal.

§ In cathode follower circuit.
‡ Uses test leads, 3' long.
†† Uses test leads, 4' long.

For standard J-B-T products and dealer net prices, see authorized electronic parts distributors, and for further technical information, see current Radio-Electronic Master or request J-B-T catalog 558-B.

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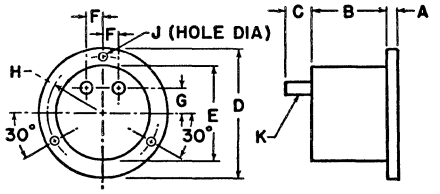
Instruments J-B-T® Testers

J-B-T INSTRUMENTS, INC., NEW HAVEN 8, CONN.

FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES

	MODEL	MIL-M-6A* MOUNTING	A	B	C	D	E	F	G	H	J	K	TERMINAL DESCRIPTION
Line 1	15-FH Series	—	1/8	1 9/16	3/8	2 3/32	1 1/2	3/8	3/8	0.875	0.125		Solder, 1/16" dia. hole
Line 2	21-FX & 23-FX Series	MR 24, MR 25	13/64	1 3/8	23/32	2 11/16	2 5/32	7/16	9/16	1.220	0.116		10-32 NF-2 studs
Line 3	21-FHXX, 23-FHXX	MR 26	3/32	1 27/32	11/16	2 11/16	2 1/8	1/2	1/2	1.220	0.125		Solder, 3/32 hole
Line 4	30-F to 34-F Series	—	7/64	2 3/32	23/32	3 1/4	2 9/16	7/16	7/8	1.453	0.150		10-32 NF-2 studs
Line 5	30-FX to 36-FX Series	MR 34, MR 35	19/64	2	23/32	3 1/2	2 11/16	7/16	7/8	1.580	0.150		10-32 NF-2 studs
Line 6	31-FE Series	—	7/64	3 7/8	23/32	3 1/4	2 9/16	7/16	7/8	1.453	0.150		10-32 NF-2 studs
Line 7	31-FEX-1 Series	MR 34, MR 35	7/64	3 7/8	23/32	3 1/2	2 9/16	7/16	7/8	1.453	0.150		10-32 NF-2 studs
Line 8	30-FHXX to 34-FHXX Series	MR 36	3/32	2 1/4	5/8	3 1/2	2 11/16	1/2	3/4	1.580	0.150		Solder, 3/32 hole

* Also JAN-1-6 and ASA C39.1-1951 Mounting



RUGGEDIZED METERS

Models with "RUG" — Sealed vibrating reed frequency meters and sealed elapsed time meters can be supplied, on special order, to the intent of MIL-M-10304A which covers ruggedization of other kinds of meters. This feature usually is specified only for extra severe shock and vibration.

3½" AND 2½" SEALED TYPES

3½" FHXX Meters sealed, glass-to-metal construction with solder terminals, meet or exceed the sealing and electrical requirements of JAN-I-6 and MIL-M-6A including the 3000 volt breakdown, and use the front mounting dimensions specified. Each one is tested in water under vacuum simulating 57,000 feet altitude for one minute. These meters supersede the former FHX sealed meters. A neoprene gasket is included for mounting between the case and the panel.

The new 2½" sealed meters Model 21-FHXX (60 cycles) and Model 23-FHXX (400 cycles) have the dimensions shown in line 3 of the table above. While not regularly stocked, the meters are in volume production.

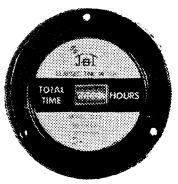
1½" SEALED TYPES

Model 15-FHAC, illustrated on preceding page, contains two reeds for low-voltage cathode-follower circuit and meets intent of Military Specifications on sealed meters. This model is widely used on audio-oscillators to standardize output.

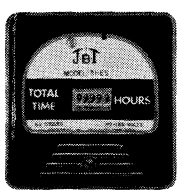
Model 15-FH Series (not illustrated) — These use the same case as the 15-FHAC, sealed, but offer five reeds in Models 15-FH-54, 15-FH-56, and 15-FH-400, with electrical characteristics and dimensions as shown in the tables.

ELAPSED (OR RUNNING) TIME METERS

60 Cycles — 0-9,999.9 Hours



J-B-T engineers recommend AC elapsed time meters for superior accuracy, especially where voltage or ambient temperatures vary widely. These self-starting synchronous instruments record operating time of AC electrical and electronic equipment by registering in 1/10th hour steps to 9,999.9 hours, then automatically re-set. Tenths are shown in red numerals, units in black. Case is black molded matching FX 3½" round frequency meters, and fully encloses all parts. Applications include tube life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc. The Model 31-EX for 60 cycles, 110-125 volts, is the most widely used. Model 31-EX-200 for 60 cycles, 230 volts, is available but not regularly stocked.



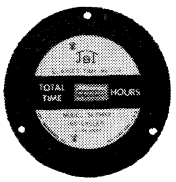
The black molded square case 3" x 3" is the major difference between the Model 31-ES illustrated here and the 31-EX shown above. Four molded-in studs on standard 2¼" distances between centers provide mounting from rear of panel; meter barrel is 2¾" diameter. For complete details see Print SK-84. Variations including 99,999 hours, 230 volts, matte finish, 50 cycles, or readings in minutes are quoted on request.

60 Cycles — Tenths of Minutes

For short-run applications or reading at closer intervals than model 31-EX, the Model 31-EXM is available in 0-9,999.9 Minutes, 60 cycles, 110-125 volts. Tenths of minutes are in red, minutes in black numerals; uses 31-EX case.

3½" Sealed — 60 Cycles

Where rugged requirements make a completely sealed elapsed time meter desirable, the Model 31-EHXX with glass-to-metal construction, flat glass front, neoprene mounting gasket, heavy-duty terminals and 3½" diameter separable flange often is specified. The meter registers in 1/10th hr. steps to 9,999.9 hours, then automatically re-sets. It is normally supplied for 60 cycles, 110-125 volts. Tenths are in red, units in black. Overall dimensions and appearance match the FHXX series of sealed frequency meters, per line 8 of Table of Dimensions. Maximum voltage between terminals and case is 1000 volts R. M. S. Every instrument is checked in vacuum chamber. Use print SK-85 for mounting.

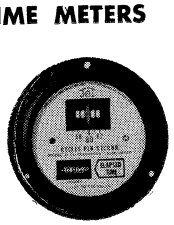


2½" Sealed — 60 Cycles

Ask for print SK-68 on the 21-EHXX, which is a 2½" sealed meter and meets the mounting dimensions of Type MR 26 of MIL-M-6A. The counter is the same size as the 31-EHXX, and other characteristics are similar. Glass-to-metal seal makes the instrument completely tamper proof. Standard characteristics are 60 cycles, 110-125 volts, 0-9,999.9 hours, with automatic re-set. Inquiries on quantity orders of 400-cycle 2½" sealed elapsed time meters also are invited.

FREQUENCY — TIME METERS

One meter does the work of two in the combination reed type frequency-elapsed time meter.



Model 31-FE (illustrated), pioneered by J-B-T, saves panel space and cost, and encourages scheduled maintenance. 3¼" flange metal case, with dimensions per line 6 of above Table, 5 reeds, 58-62 cycles, 100-130 volts, 0-9,999.9 hours is standard. 3½" flange metal case, 5 reeds, 31-FEX-1 per line 7, is supplied on custom order; 7, 9 and 11 reeds, or 50 cycle range, also are available.

OTHER REED PRODUCTS

Based upon 18 years of manufacturing experience in vibrating reed meters, J-B-T now produces and invites inquiries upon:

1. **TACHOMETERS** — Reading rpm by resonance alone—without any electrical circuitry or complicated mechanical connections — these instruments are held or mounted against the housing of turbines, electric shavers, vacuum cleaners, sewing machines, etc. Request Bulletin MT-458.

2. **RELAYS** — Reed-relays for selective frequency calling, or single-reed types for response to a single transmitted signal, such as 100 to 500 cycles, are made in plug-in cans. One type, a unique J-B-T construction with patent pending, eliminates vibrating contacts and substitutes a mechanism with exceptional efficiency which often eliminates need for further amplification. The device also can be added as a frequency-limit control on an indicating reed meter.

3. **OSCILLATOR CONTROLS**—Plug-in reed-type oscillator controls to match transmitted frequencies to those picked up by vibrating reed relays can be supplied, for example, to operate in mobile or other comunications equipment.

3½" Sealed — 400 Cycles

Meeting the long-felt need for a stable 400-cycle elapsed time meter compact enough to fit in a 3½" flange case, with all parts enclosed, is the 400-cycle Model 33-EHXX, normally supplied for 0-9,999.9 hours, 110-125 volts. Sealed construction, glass-to-metal with separable flange, neoprene mounting gasket, heavy-duty solder terminals and flat glass front cause external appearance to match the FHXX series and 60-cycle Model 31-EHXX. A slightly larger case is used per drawing SK-61.

MORE J-B-T PRODUCTS

Besides the reed tachometer, reed relays and oscillator controls described above, J-B-T also manufactures:

- **Vibrating Reed Frequency Meters** — several portable cases, also 4" and 6" panel types for telephone or aircraft applications.
- **Temperature Indicators** of the thermocouple pyrometer and resistance thermometer types.
- **Appliance Temperature Testers** for checking oven temperatures, iron testing, refrigeration servicing, etc.
- **Indicating Laboratory Galvanometers.**
- **Accessories,** such as thermocouples, resistance bulbs, protection tubes, switch mounting plates and switch knobs.

Please request Catalog 558-B which describes most of these products.

For standard J-B-T products and dealer net prices, see authorized electronic parts distributors, and for further technical information, see current Radio-Electronic Master or request J-B-T catalog 558-B.

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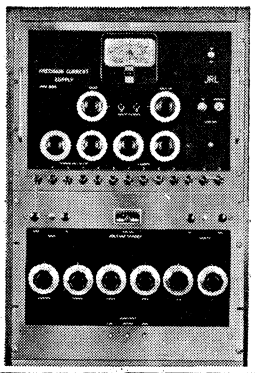
"Firsts in Accuracy"

PRECISE
STABLE
DEPENDABLE

RESISTORS
NETWORKS
INSTRUMENTS



PRECISION VOLTAGE CURRENT POTENTIOMETER PVC-504

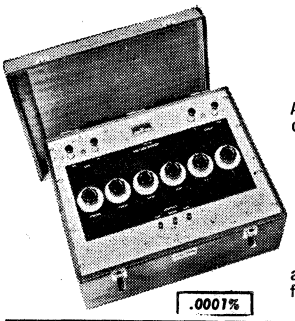
A primary standard potentiometer which measures or generates voltage or current. Includes a Voltage Reference SCO-106, and Voltage Divider VDR-106 (see below) also usable separately.

APPLICATIONS:
Primary voltage and current measurements. Primary voltage and current standard. Computer calibration and test. Calibration of precision instruments, power supplies, gyros, transducers, accelerometers.

FLEXIBLE:
Measures and generates; voltage or current. Components usable separately or together.

ACCURATE:
.0015% for voltage .003% for current.

SPECIFICATIONS: Ranges: 1 and 4 volts (extendable by external resistance or ratio box); 1, 4, 10 and 40 milliamperes. Max. load resistance for current generation $= \frac{40}{I}$ (ohms), for voltage generation = 25 E (ohms).



PRIMARY STANDARD VOLTAGE DIVIDER VDR-106

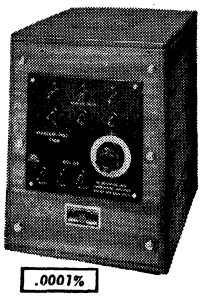
A primary standard dc voltage divider of uncommon accuracy, embodying a completely shielded, six-decade Kelvin-Varley circuit, fully switched (no potentiometer interpolation) to eliminate wear on accuracy-determining components. Permits adjustment of output voltage to any fraction of input voltage from 0.000000 to 1.000000.

APPLICATIONS:
Basic measurement of voltage, resistance, current; measurement of absolute values, in conjunction with voltage and/or resistance standard. Calibration of laboratory instruments and components.

ACCURACY: 0.0001% (1 PPM) **RESOLUTION:** 0.0001%

Output voltage is adjustable to any fraction of applied voltage from 0.000000 to 1.000000.

Overall resistance: 100 kilohms ±.01%. Excitation: 300 volts DC max. Also available for DC to 4000 cps application.



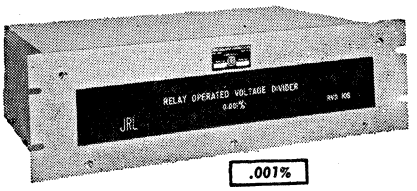
PRIMARY STANDARD ABSOLUTE VOLTAGE REFERENCE SCO-106

A portable primary voltage standard, consisting of 3 saturated standard cells in a temperature-stabilized housing, with an integral thermal resistance bridge for measurement of enclosure temperature to .005%. The cell voltages are measured to 0.1 part per million, and certified to 1.0 part per million, by the Bureau of Standards. These cells are 2 orders of magnitude more accurate than the unsaturated cells usually used for laboratory standards.

ACCURACY: .0002% long term.

STABILITY: 1 ppm for 8 hours. Temp. regulation .05°C long term, .01°C for 8 hours, insures optimum accuracy of the reference value.

PORTABILITY: Heater uses 24-28 VDC (8 watts), permits operating oven during transportation, eliminates weeks of delay in waiting for restabilization. A **portable** primary voltage standard.

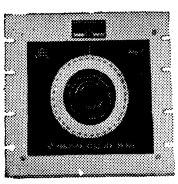


RELAY-OPERATED VOLTAGE DIVIDER RVD-105

The most accurate form of digital-analog converter. Consists of a group of resistors whose values represent a particular coding (i.e. binary-decimal), and a control relay for each resistor. Relays may be programmed manually or automatically, so that a voltage connected across the divider is divided down to produce an output analog value which represents the input digital value. In the standard unit (RVD-105) the total divider is 100K ohms, and coding is 1, 2, 2, 4 by decades, with five decades as full scale (a modified binary-decimal code). Any code is available on order.

APPLICATIONS:
Analog-digital, digital-analog conversion. **Automatic high-speed testing** of synchros, gyros, instruments and components. Resistance or ratio standard.

SPECIFICATIONS:
Total resistance 100K±.01%; 2 ma current rating; 10-millisecond relay operation. Less than .0003% drift per watt, total thermal transient effect .0005%. ACCURACY and RESOLUTION 1 ohm or .001%.



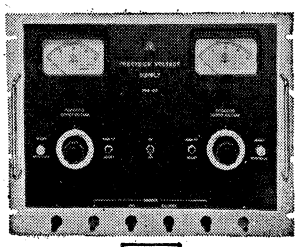
SYNCHRO OR RESOLVER BRIDGES PSB-5 PRB-5

Check synchros or resolvers by proportional voltage method at 5° angular intervals (PRB-5, PSB-5) or 10° angular intervals (PRB-10, PSB-10).

ACCURACY: .002%. **Independent** of switch contact resistance.

FULL RESISTANCE COMPLEMENT. No special switching for multiple use of resistors.

SPECIFICATIONS:
Frequency range: 0 to 4000 cycles per sec. Resistance of each arm. 10,000 ohms ±0.01%. Harmonic distortion: zero. Input — 115 VAC max. Dimensions: 8¾" wide, 9½" high, 2" deep.



PRECISION REGULATED VOLTAGE SUPPLY PVS-105

A highly-stable reference voltage source, capable of furnishing **up to 100 ma,** with accuracy equivalent to the unsaturated standard cell (on an 8-hour basis, nearly equivalent to the saturated standard cell).

APPLICATIONS:
Calibration of instruments, power supplies, transducers, accelerometers, gyros. Precision power supply for design use. Computer testing. Laboratory secondary standard voltage reference.

VOLTAGE LEVEL: Model A: +50/0/—50 volts (or 100 volts), fixed. Model B: +36/0/—36 volts (or 72 volts), fixed.

ACCURACY: .005% absolute. .002%, eight hours. Settable to within .002% against std. cell. Input: 115V 60 cps. Int. Imp.: less than .02 ohms. Ripple: under 1 MV.

INSTRUMENT NETWORKS, INC. a division of

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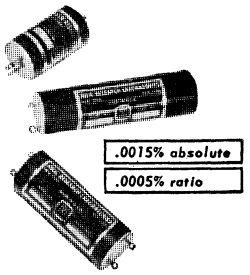
"Firsts in Accuracy"

LABORATORY STANDARDS



NB-1

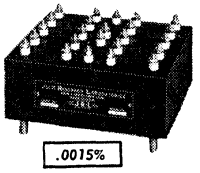
PRIMARY RESISTANCE OR RATIO STANDARDS

Oil-immersed individual standards or ratio sets, packaged in a hermetically-sealed metal case for utmost stability and freedom from external influence.

APPLICATIONS:
Laboratory resistance standard, ac or dc ratio standard, bridge calibration, bridge ratio arms, substitution resistance standard, current metering, computer reference dividers or summing networks.

ACCURACY: .0015% absolute. .0005% ratio.

SPECIFICATIONS: Range: 0-10 Megohm. Temp. Coeff. as low as 2.5 ppm/°C absolute, 0.5 ppm/C relative. Drift: 10 ppm/watt. Up to 3 resistors per can. Special trimming can be provided. Matched low-reactance units are available for AC ratio applications.



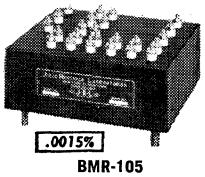
DMR-104
DMR-105
DMR-106

DECADE RESISTANCE STANDARD

Twelve identical primary standard resistors, mounted in an oil bath for minimum thermal and self-heating effects.

APPLICATIONS:
Resistance standard: to .0015% accuracy, over a 144 to 1 range (12 resistors in shunt to 12 in series). Ratio standard: 36 to 1 range, including decades, Kelvin-Varley stages, Wheastone Bridge and divider calibration.

SPECIFICATIONS: Available with 1K, 10K or 100K steps. Stability .0015%, Temp. Coeff. 5 ppm/°C, drift .0003%/watt, total thermal transient effect .0005%.



BMR-105

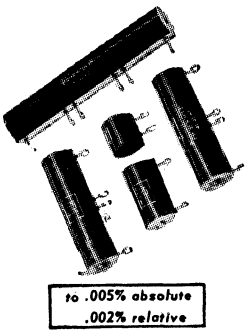
BINARY AND BINARY-DECIMAL RESISTANCE SETS

Ultra-stable standard sets provide either 17-bit binary or five-significant-figure decimal accuracy by simple switching of independent, oil-immersed, ultra-precision resistors.

APPLICATIONS: Secondary Standard, Digital-Analog Conversion, Ratio Synthesis, Bridge and Divider Calibration.

SPECIFICATIONS: Binary Set BMR-105: Synthesizes any value from 0 to 131, 071 ohms in one-ohm steps, max. error ranging from 0 to 1.7 ohms. Accuracy .0015%, stability .0015%, temperature coefficient 5 ppm/°C, self-heating coefficient .0003%/watt, thermal transient effects .0005%, rated 2 ma. Binary-Decimal Set BDR-105: same, except 0 to 100,000 ohms (21 resistors coded 1, 2, 2, 4). Other codes and ranges available.

PRODUCTION STANDARDS



ENCAPSULATED RESISTORS

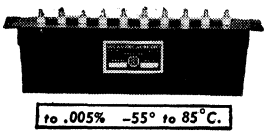
Retain the stability and accuracy features of the NB-1 series. Single or group-encapsulated, offering high precision, unusual reliability, freedom from shock, vibration and environmental effects, at reasonable cost.

ACCURACY: Available from .005% to .05% absolute, .002% relative.

APPLICATIONS: Analog summing, scaling, digital-analog conversion, reference or ratio standards, calibration.

SPECIFICATIONS: Range: from fractions to megohms, standard and special. **Temp. Coeff.:** as low as 2.5 ppm/°C absolute, or matched to arbitrary value.

Radial lug terminals, or axial wire leads. For extended frequency range applications, special low-reactance units are available.



MTR

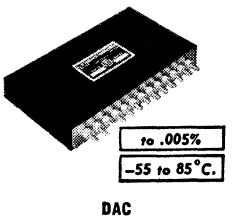
OPERATIONAL AMPLIFIER SUMMING NETWORKS

Resistance networks for dc, carrier-frequency, and pulse operation over military temperature range.

APPLICATIONS:
Analog summing networks, bridge ratio arms, fixed resistance standards, ac or dc ratio, H.F. standards, calibration standards.

EXTREME ACCURACY:
To .0015% over limited temp. range. TRACKING to .005% from —55° to +85°C.

LOW AND/OR MATCHED PHASE SHIFT: Matching to 1/20 milliradian at 1 megohm impedance levels at 400CPS. Very low reactance. For additional specifications see DAC below.



DAC

DIGITAL-ANALOG CONVERTER NETWORKS

Precision units, utilizing the same accurate resistance elements as the MTR above, packaged for computer use.

APPLICATIONS:
Digital-analog, analog-digital conversion, binary and binary-coded-decimal matrices, high-speed, ladder-type, and relay-switched converters.

SPECIFICATIONS: Range: 0-10 meg. **Temp. Coeff.** as low as 2.5 ppm/°C relative. Drift: to 10 ppm/watt. 2 to 36 resistors per can.

RESISTOR NETWORKS, INC. a division of

JULIE RESEARCH LABORATORIES INC.

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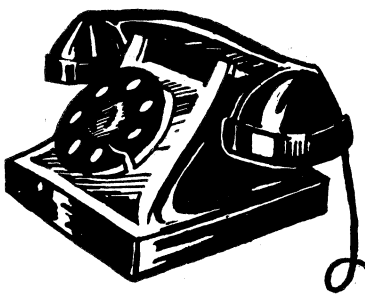


Only ELECTRONIC ENGINEERS MASTER—*eem* gives you this comprehensive listing of manufacturers' sales offices and sales representatives.. 5,000 manufacturers listed are just a phone call away.

Refer to the YELLOW SECTION for MANUFACTURERS and their SALES OFFICES

Tell Them You Saw It In **eem**

DIRECTIONAL COUPLERS
DUMMY LOAD RESISTORS
COAXIAL TUNERS
RF WATTMETERS
VSWR METERS

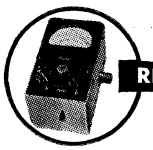
MicroMatch is the registered trade name which identifies a complete line of M. C. Jones Electronics Co., Inc. RF Power and VSWR measuring instruments.

These instruments contain a patented circuit designed to produce an output essentially independent of frequency. They cover the frequency range of 0.5 to 4000 mcs. and power levels of 10 milliwatts to 120 kilowatts.

The RF Power and VSWR instruments are rugged field and laboratory type complete measuring equipment.

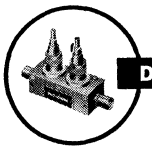
The DC and RF output coupler units only are sold principally to manufacturers who incorporate these units directly into transmitters. Over 3,000 models of couplers are available for your "Special" requirement.

Because they are made in quantity to the highest government and commercial standards, MICROMATCH instruments combine the highest quality with extremely low cost.



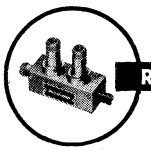
RF POWER and VSWR INSTRUMENTS

Model No.	Frequency Range (mcs.)	Power Range Incident & Reflected (watts)	RF Connectors and Impedance
263	0.5 - 225	0 - 10; 100; 1000	Type N* 52 ohms
706N	28 - 2000	0 - 400	Type N* 52 ohms
711N	25 - 1000	0 - 30; 75; 300	N plus 83-1R Adapters
712N	25 - 1000	0 - 2.5; 5; 10	N plus 83-1R Adapters
722N	1000 - 3000	0 - 4	Type N 52 ohms
723N	1000 - 3000	0 - 12	Type N 52 ohms
405B8	28 - 2000	0 - 4,000	1⅝" Flange 51.5 ohms
445A10	20 - 2000	0 - 40,000	3⅛" Flange 50.0 ohms



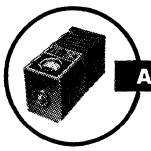
DC OUTPUT DIRECTIONAL COUPLERS

Model No.	Frequency Range (mcs.)	Power Range Incident & Reflected (watts)	RF Connectors and Impedance
576N1	42 - 2000	1.2	Type N* 52 ohms
576N6	28 - 2000	0 - 400	Type N* 52 ohms
596N2	1000 - 3000	0 - 4	Type N 52 ohms
596N3	1000 - 3000	0 - 12	Type N 52 ohms
402B8	28 - 2000	0 - 4,000	1⅝" Flange 51.5 ohms
442A9	28 - 2000	0 - 12,000	3⅛" Flange 50.0 ohms



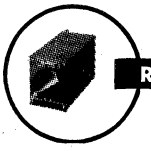
RF OUTPUT DIRECTIONAL COUPLERS

Model No.	Frequency Range (mcs.)	Coupling Attenuation	RF Connectors and Impedance
313N2	950 - 2000	20 db	Type N 52 ohms
313N3	300 - 2000	30 db	Type N* 52 ohms
313N5	60 - 2000	50 db	Type N* 52 ohms
442A40	200 - 1000	40 db	3⅛" Flange 50.0 ohms



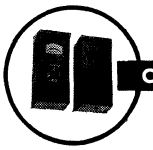
ABSORPTION TYPE RF WATTMETERS

Model No.	Frequency Range (mcs.)	Power Range (watts)	RF Connectors and Impedance
621N	1 to over 1000	0 - 120 milliwatts	Type N* 52 ohms
625C5	50 - 1000	0 - 120	Type C 50 ohms
651N	25 - 1000	0 - 25; 100; 500	Type N 52 ohms
611A7	50 - 1000	0 - 1200	3⅛" Flange 50 ohms
612A	44 - 1000	0 - 6000	3⅛" Flange 50 ohms



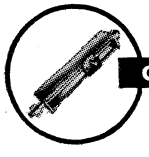
RF LOAD RESISTORS

Model No.	Frequency Range (mcs.)	RF Power Dissipation (watts)	RF Connectors and Impedance
602N	3000	20 (air cooled)	Type N 52 ohms
633N	3000	50 (air cooled)	Type N* 52 ohms
636N	3000	600 (air cooled)	Type N* 52 ohms
638A	2000	6000 (water cooled)	3⅛" Flange 50.0 ohms



CALORIMETRIC TYPE Primary Standard of RF Power

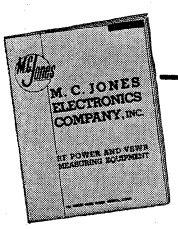
Model No.	Frequency Range (mcs.)	Power Range (watts)	RF Connectors and Impedance
641N	0 - 3000	0 - 3; 10; 30; 100; 300	Type N 52 ohms



COAXIAL LINE TUNERS

Model No.	Frequency Range (mcs.)	Range of Correction	RF Connectors and Impedance
151N	200 - 1000	Tunes a load with a VSWR of 2.00 max. down to a VSWR of 1.00	Type N 50 ohms
152N	500 - 4000		Type N 50 ohms

*Also available with UHF, C, and HN Connectors.



Please write for our 68-page catalog No. 12 describing the complete M. C. Jones line.

M.C.Jones

M. C. JONES ELECTRONICS CO., Inc.
BRISTOL, CONNECTICUT

Order from Local Electronic Parts Distributors or Write for List.

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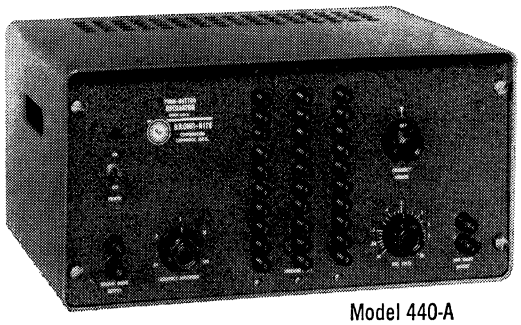
Krohn-Hite WIDE RANGE RC OSCILLATORS

- Exceptional stability under all operating conditions
- Extreme frequency range
- Ultra-low frequency coverage
- Very low distortion



Model 440-A

MODEL	FREQUENCY RANGE	FREQUENCY ACCURACY	OUTPUT AND WAVE FORM		DISTORTION	PRICE
400-A	.009 cps to 1.1 kc	2%	25 mw/10v	∿⊓	1%	$375.00
400-C(1)	.009 cps to 1.1 kc	2%	100 mw/10v	∿⊓	1%	$395.00
410-A	.02 cps to 20 kc	2%	10 mw/5v	∿⊓	1/10%	$1050.00
420-A	.35 cps to 52 kc	2%	25 mw/10v	∿⊓	1%	$315.00
420-C(1)	.35 cps to 52 kc	2%	100 mw/10v	∿⊓	1%	$345.00
430-AB	4.6 cps to 520 kc	2%	50 mw/10v	∿	1%	$145.00
440-A(2)	.001 cps to 100 kc	1%(3)	100 mw/10v	∿⊓	1/10%(3)	$550.00
440-B(2)	1 cps to 1 kc	1/20%(3)	100 mw/10v	∿	1/10%	$950.00

(1) Rack panel construction. (2) Pushbutton operation. (3) Poorer at end of range

For more detailed information on oscillators, power amplifiers, variable electronic filters, and regulated power supplies, write:
Krohn-Hite Corp., 580 Massachusetts Ave., Cambridge, Mass.

See YELLOW SECTION for local offices, telephones, etc.

SAVE TIME

When ordering products shown in this book or writing for additional information, please be sure to mention *Electronic Engineers Master—eem* and specify:

Manufacturers' Catalog Numbers
and Page Numbers

This will avoid confusion and expedite delivery.

THE QUICK, EASY WAY *to an up-to-date product information* FILING SYSTEM

Engineers and p.a.'s are now locating complete current product data in a matter of seconds with the *eem* product information filing system. *eem* product section numbers and monthly *eem* CLIP/FILE provide the basis for this system.

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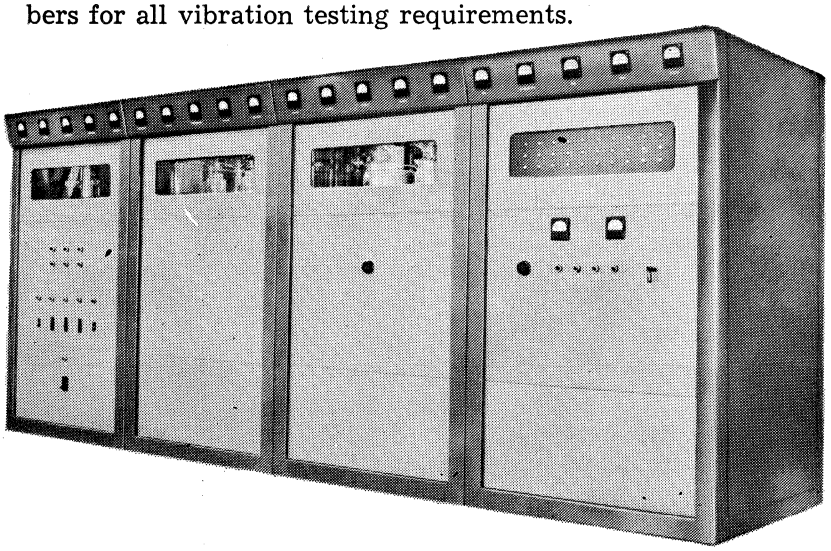
LING *a complete line of random, complex*

Ling Electronics is today the nation's largest manufacturer of complete vibration test systems for random, complex and sine wave testing. These matched systems include high power electronic amplifiers, programming and control equipment, and electrodynamic shakers or acoustic chambers for all vibration testing requirements.

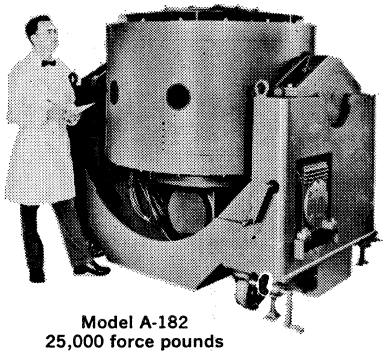
POWER GENERATORS

Ling Electronic Power Generators provide full system performance over the entire frequency range. They feature integrated field and degaussing supplies to suit any shaker requirement, and can be operated remotely from master control consoles or at the generators themselves. They are available in power ratings, from 250 VA to 175,000 VA.

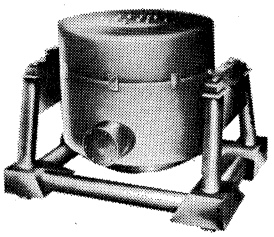


SHAKERS

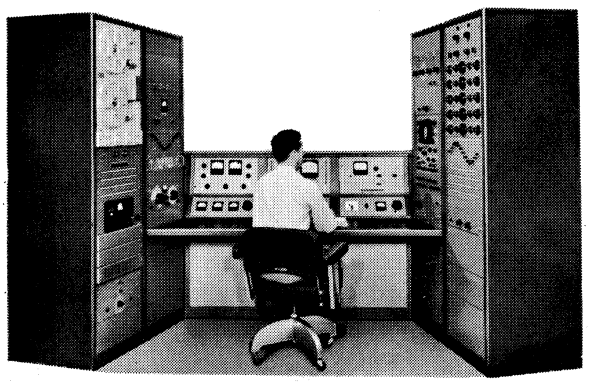
Ling now engineers and manufactures a complete line of advanced electrodynamic shakers in all output ratings, from 25 to 25,000 force pounds, in both air and liquid cooled models. Ling liquid-cooled shakers are designed to be used with environmental chambers operating over a wide range of temperature, humidity and altitude conditions.



Model A-182
25,000 force pounds



Model 246
7,500 force pounds



CONTROL CONSOLES

Ling Master Control Consoles provide the operator with a continuous indication of system performance and give finger-tip control of the completely integrated vibration testing program. Your choice of space-saving rack-mount or streamlined desk-type consoles. Extra panel space and wiring ducts are provided for future expansion or for optional equipment that can be engineered into the consoles to meet your specific requirements.

See YELLOW SECTION for Local Offices, Telephone, etc.

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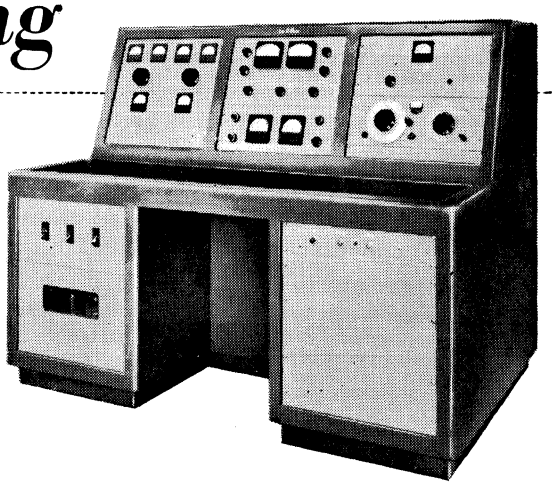
vibration test systems for and sine wave testing

SHAKER FORCE OUTPUT

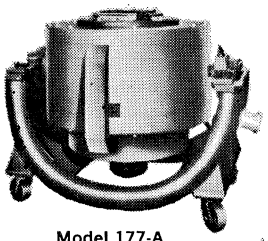
Shaker	Power Supply	Rated Continuous Output In Watts	Amplifier Plate Dissipation In Watts	Sine-Wave lbs.-Force Vector	Random Noise with load equal to Armature Weight lbs. Force RMS	lbs. Force Peak	Armature Protector required
A88	PA-500	500	600	100	70	210	—
227	RP-1/2	1,000	2,000	150	110	330	—
219	CP-3/4	3,000	4,000	500	350	1,050	—
A174	CP-3/4	3,000	4,000	1,200	—	—	—
A174	CP-5/6	5,000	6,000	1,500	800	2,400	AP-5
A174	PP-10/12	10,000	12,000	1,500	1,200	3,600	AP-10
245	PP-10/12	10,000	12,000	2,000	1,200	3,600	AP-10
177	PP-10/12	10,000	12,000	3,150	2,800	8,400	AP-10
177	PP-20/24	20,000	24,000	5,000	4,000	12,000	AP-10
177	PP-30/40	30,000	40,000	5,000	4,500	13,500	AP-30
246	PP-40/60	40,000	60,000	7,500	5,600	16,800	AP-30
182	PP-30/40	30,000	40,000	10,000	11,000	33,000	AP-30
182	PP-75/90	75,000	90,000	15,000	17,000	51,000	AP-40
A182	PP-75/90	75,000	90,000	17,700	17,000	51,000	AP-40
A182	PP-175/240	175,000	240,000	25,000	26,500	79,500	AP-60
249	PP-175/240	175,000	240,000	25,000	26,500	79,500	AP-60



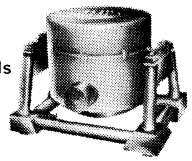
SINE-O-MATIC

The Ling Sine-O-Matic is a completely packaged system, designed and priced to make sine-wave reliability testing practical and profitable for all potential users. It features fully automatic programming and operation, with all components (except the shaker) in a single, compact console.

Several systems are available, with a choice of outputs from 25 to 1500 pounds peak force. No impedance changing or manual power factor correction is required over the entire frequency range. Frequencies range from 5 to 10,000 cps.



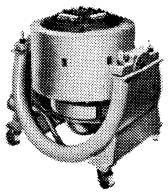
Model 177-A
5,000 force pounds



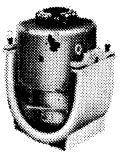
Model 245
2,000 force pounds

Model 227
150 force pounds

Model A-88
100 force pounds

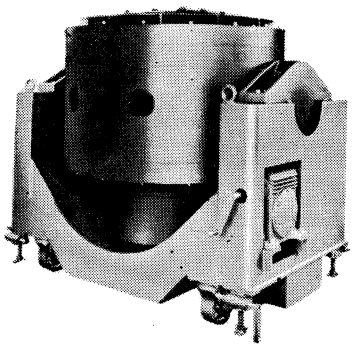


Model A-174
1,500 force pounds

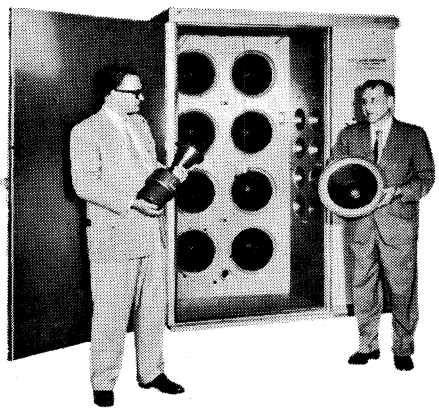


Model 219
500 force pounds

Model 6-C
25 force pounds



Model 182
15,000 force pounds



ACOUSTIC VIBRATION

Acoustic vibration represents a major advance in the field of vibration testing—an advance that has been paced by Ling's development of complete acoustic vibration systems. These integrated systems include acoustic chambers built to the user's specific vibration requirements, and giant loud speakers or whistles driven by Ling Power Generators. A Ling acoustic system extends the frequency range of vibration testing to meet today's newest problems.

LING ELECTRONICS, INC.
Factory Sales Offices:
9937 West Jefferson Blvd., Culver City, California
120 Cross Street, Winchester, Massachusetts

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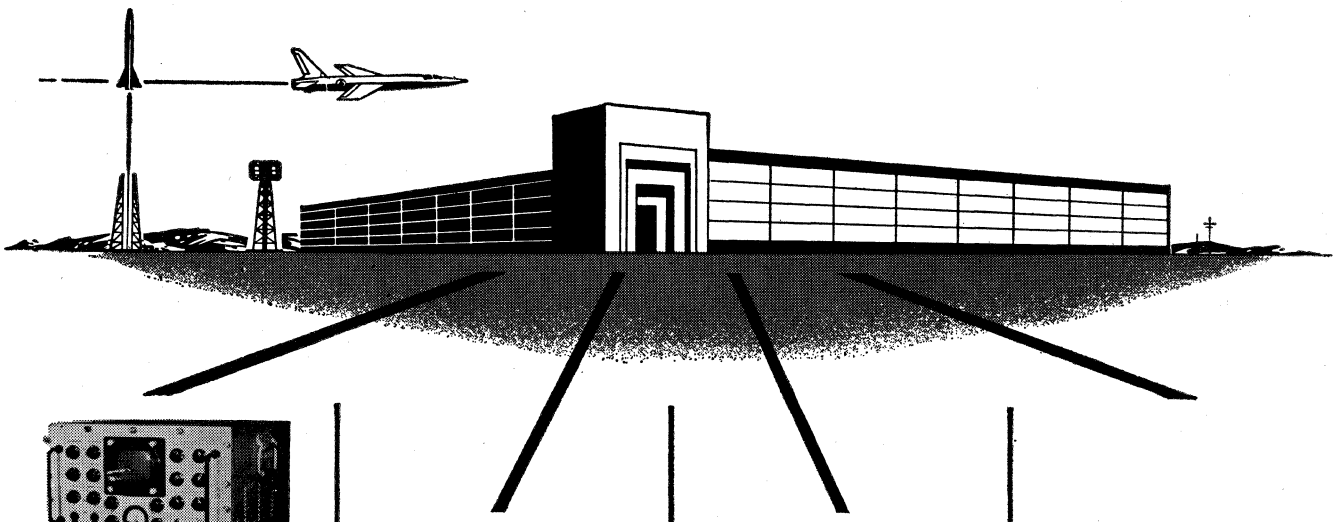
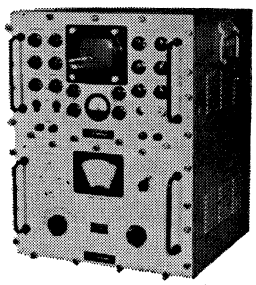
LAVOIE LABS SHOWS

four roads to precision analysis

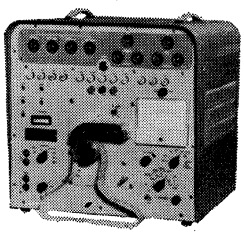
In the field of precision analysis, Lavoie Laboratories has combined bold theory and proven techniques to evolve many promising concepts. Such concepts continue to yield new laboratory instruments of predicted accuracy and reliability. The four quality instruments shown are acknowledged the most recently recorded triumphs in the field of precision analysis. They represent trails blazed by Lavoie research, development, and engineering know-how to aid you in solving test problems of the present and to improve your efficiency in approaching problems in the future.





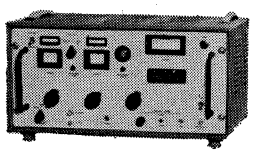
SPECTRUM ANALYZERS

Superior units for everyday use in laboratory and shop which cover the entire 10-44,000 mc range with optional detachable mixers (LA18M);1-44 Kmc (LA20M) Single RF head, triple shielding plus comprehensive human engineering. Unitized subassemblies for rapid maintenance.



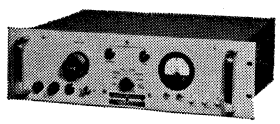
LA-302 ROBOTESTER

Makes possible unprecedented ranges of economy, speed, and accuracy in volume equipment checking through time-tested comparator techniques refined and accelerated to meet today's analytic requirements. Automatic circuit analysis from pre-programmed tape, punched by your engineers.



LA-70 FREQUENCY METER

For generation and measurement in frequency range 10 KC to 3000 MC (direct reading) with accuracy to one cycle per megacycle. Thermostatically controlled 1 MC precision quartz crystal for oscillator stability. Weight of 42 lbs. stresses application for mobile service.



LA-90 FREQUENCY STANDARD

New design approach to crystal oven thermal regulation permits frequency stability of 1 part per 10^9 per day. Oven temperature stability of 0.01°C. Plano-convex 1 mc crystal operated on fifth overtone. Output frequency (basic LA-90 unit): 5 mc and 1 mc. Optional units: 100-10-1 Kc.

Lavoie Laboratories, Inc.

MORGANVILLE, N. J.

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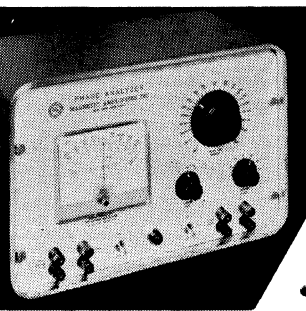

MODEL 240

PHASE ANALYZER

FOR ENGINEERING DEVELOPMENT, FIELD TESTING,
LAB EXPERIMENTATION, PRODUCTION TESTING

FEATURES:
- Operation is simple and acccurate.
- Simultaneously measures magnitude and phase of complex AC voltages. (sinusoidal and non-sinusoidal)
- Magnitude and phase read directly from dial and meter scales. Correct quadrant indicated on full 360° dial.
- Operates on carrier frequencies from 30 cps to 10 KC.
- Measures phase and magnitude of amplifier input impedances in the presence of noise. The phase analyzer discriminates signal from noise.
- Measures synchro nulls.
- Ideally suited for servo system alignment.

REQUEST BULLETIN S675.

MA

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West Coast Division
136 WASHINGTON ST. • EL SEGUNDO, CALIF. • ORegon 8-2665

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ABSOLUTE PRESSURE TRANSDUCER

Accurate, Noise-Free Performance
At 15G up to 2000 CPS

Having extremely ac… per-
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… as an
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…form-
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…e cov-
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Press… … psia or as
high as 0-10… …lable. Unit is temperature compensated over the operating range of -65 to 200°F. Temperature error is claimed negligible.

The 409 is available with outputs which are linear with pressure or altitude, with outputs which are functional, or with tapped potentiometers, switching segments and other electrical features.

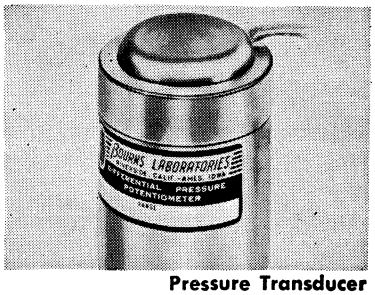
The unit has high case pressure; incorporates the maker's Ni-Span-C aneroid type capsule.

PRICE: Approximately $200.00
AVAILABILITY: Some pressure ranges from stock; others, 8 to 10 weeks.
SALES OFFICES: See **eem** p. 851 (Yellow Section)

For other Bourns Laboratories products refer to **eem** *pp. 658, 659, 669 (1958 Edition).*
Circle 35 Reader Service Coupon (p. 2)

Here are a few of the suggestions offered by engineers that are now exclusive features in Clip/File:

eem File System electronic engineers master Sec.



Pressure Transducer
Bourns Laboratories, Inc.
CLIP & FILE ☐

PRICES — *The design of a circuit, system or component must be practical from a cost standpoint as well as technical characteristics.*

AVAILABILITY — *Delivery on both military and commercial orders must meet strict schedules. Knowledge of availability is essential.*

LOCAL SALES OFFICES — *Listing the address and phone number of the local sales offices or representative expedites the placing of an order, or a request for additional information.*

PROVISION FOR FILING — *A system for clipping, filing and locating product data when it is needed for future reference.*

Engineer-designed CLIP/FILE is now used and relied upon for new product data by thousands of the same engineers who helped create it; thousands have set up their own personal filing systems based on the 51 **eem** product section numbers. And thousands are now saving many hours of valuable engineering time. How about you?

Start saving engineering time today — rely on CLIP/FILE for new product information. Set up your own **eem** filing system. **See complete details on inside back cover.**

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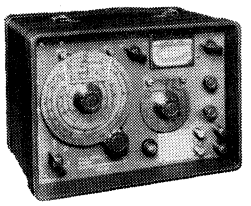
MARCONI INSTRUMENTS

SHORT FORM CATALOG

Most of the instruments below have unique features which simplify your measurement problems. They are among the finest products of the Marconi Organization which pioneered in the electronics industry. Each instrument is of advanced design, of great reliability and is unconditionally guaranteed for twelve months.

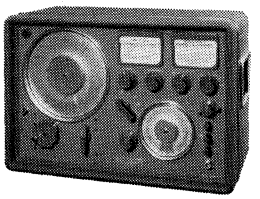
867 LF/HF SIGNAL GENERATOR

Resulting from 5 years of continuous development, Model 867 has reached a peak in frequency stability, attenuator accuracy and reliability. Stabilization permits tuning over entire range without readjusting carrier level. AM 0-100% with good waveform, built-in crystal check, 15 foot scale length and tuning discrimination of 10,000:1, all these make Model 867 a joy to use.



1064/2 FM SIGNAL GENERATOR

For use in design, production and maintenance of FM mobile radio—this new portable FM generator has a separate oscillator for each band thus eliminating instability due to band switching. This and other special design features give it frequency stability even higher than Model 1066 A. Includes IF crystal oscillator for any 5 spots between 290Kc and 16Mc. (crystals not supplied). 1000 c.p.s. mod. oscillator can be used as audio test tone.



1066A FM SIGNAL GENERATOR

A very stable FM generator which covers all Mobile Radio bands, also Aircraft bands. Has electronic, calibrated △ frequency control which permits measured carrier frequency shifts of as little as 1kc in 470Mc. Model 1066 A has been supplied to all leading manufacturers of mobile radio and most aircraft companies.

SIGNAL GENERATORS & SWEEP GENERATORS

Model	Frequency Range	FEATURES
867 LF/HF SIG. GEN.	15kc-30Mc (higher to order)	.4μV to 4V. Very high freq. stability. Carrier stabilized to .5db. 15 feet of scale length. Crystal standardized.
867/2 LF/HF SIG. GEN.	15kc-37Mc	As Model 867; has extra fine tune control. Crystal lock at 1Mc points.
888/3 Portable SIG. GEN.	70kc-70Mc	.1μV to .5V, 52Ω. AC or battery operated. Includes audio power meter and 1kc tone source. Crystal standardized. Provides completely hum-free CW
913/3 Portable FM/AM SIG. GEN.	22-176Mc	.1μV to 100mV, 52 & 75Ω. Deviation variable 0-100kc. AM 30%. Has Xtal check. CW carrier can be Xtal locked.
995A/2 FM/AM SIG. GEN.	1.5-220Mc	.1μV to 100Mv. Calibrated incremental. Crystal standardized, and extremely stable. Deviation variable and monitored 0-600kc on top bands.
995A/4 FM/AM SIG. GEN.	1.5-220Mc	A premium quality 995A/2. Has calibrated △ freq. control, improved stability, SN ratio 52db below 10kc deviation. Spurious FM on CW less than 25cps.
1064/2 FM SIG. GEN.	290kc-16Mc 30-50Mc 118-185Mc & 450-470Mc	.05 to 100mV (10mV calibrated). Extremely stable, has quick warm-up time and no attenuator reaction. Designed for MOBILE RADIO.
1066A FM SIG. GEN.	10-470Mc	.1μV to 100mV. 52Ω. Deviation variable and monitored 0-20 & 0-100kc. △ Frequency control calibrated 1-200kc. Mod. frequencies 1kc & 5kc. Wider deviation to order.
1060 SIG. GEN.	450-1250Mc	.15μV to 450mV, 52Ω (—130 to Odbm) but max. output nearly 3V above 1000Mc. Calibrated △ freq. control.
1058 SIG. GEN.	1700-4000Mc	.1μV to 450mV, 52Ω (—135 to Odbm). Modulation: 1kc square wave, pulse or FM 50cps to 20kc.
1102 AMPLITUDE MODULATOR	100kc-500Mc and DC	Modulates any CW source, 0-80%, monitored, with ZERO FM. Handles sine, pulse or video signals. Insertion loss 20db.
1099 SWEEP GEN.	100kc-20Mc	3V max, level stabilized, 75Ω. Measurement accuracy 0.01db. Includes 1Mc & 5Mc crystal markers and input and output probes.

FREQUENCY METERS

975	100kc-100Mc	Direct reading. 8 ranges. Accuracy 3%. Portable.
643C	20-300Mc	Direct reading. 4 ranges. Accuracy 1%. Portable.
1026 series	250-4200Mc	9 instruments 250-500Mc, 500-1000Mc, 1000-2000Mc, 2000-4000Mc, 1700-2100Mc, 1800-2200Mc, 2000-2400Mc, 2275-2675Mc, 3800Mc-4200Mc. Accurate, portable. No tubes or power supplies.
1059	4000-10,000Mc	Micrometer tuned. Accuracy .05%. Includes overload protection.

VTVM's & MILLIVOLTMETERS

899 VT MILLIVOLT-METER	50cps-100Mc	10mV to 2V, ±1db to 50Mc, ±2db to 100Mc. Accuracy 5%. Aural monitoring facility for fault tracing.
1300	20cps-300Mc DC and Ohms	.05-100V AC, .05-300V DC. Stable zero. Has overload protection.
1041A	50cps to 1000Mc DC and Ohms	25mV to 300V, 100V on DC. Accuracy ±2% of f.s.d. Input capacity less than 2μμF. 5½" mirror scale.
1041B	20cps-1500Mc DC and Ohms	25mV to 300V AC, 10mV to 1000V DC. Accuracy ±.2db, 50cps to 500Mc, +3db at 1500Mc. Input capacity 1.5μμF.

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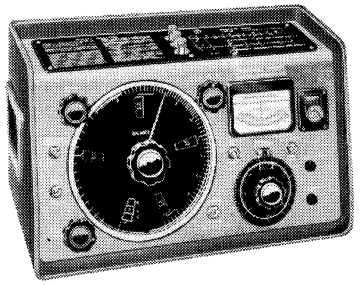
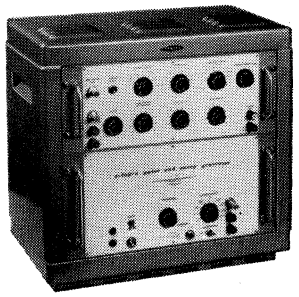
MARCONI INSTRUMENTS



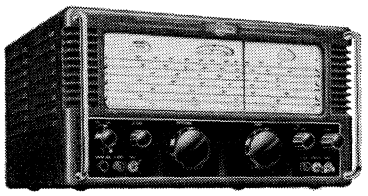
868A UNIVERSAL BRIDGE

Over 1200 868 bridges are in use throughout the U.S.A. Inexpensive and accurate, the ingenious direct-reading facility eliminates mistakes made by unskilled operators. Model 868A takes a very valued place in laboratory, plant or shop.



MILLI MICROSECOND PULSE GEN. CINTEL 3351

In this new instrument the designers have attempted to include all features an engineer may need in a stable pulse generator having excellent rise time and wave shape. Necessarily a large instrument (22"x 23"x 13") it has conservatively run components and forced ventilation. It is very reliable in operation.



770U EDDYSTONE RECEIVER

Models 770R and U are now used throughout the U.S.A. in monitoring multi-channel crystal controlled aircraft and mobile radio systems, for which their stability and rapid accurate tuning ideally fit them. Compact and reliable, they also suit telemetering and laboratory needs. Model 770R is now widely used for monitoring Earth Satellites.

BRIDGES 400cps to 250Mc

Model	Frequency Range	FEATURES
868/1 UNIVERSAL	1kc & 10kc 400cps to order	1μμF to 100μF, 1μH to 100H, .1Ω to 10MΩ. Accuracy 1%. Includes oscillator and VTVM detector. DIRECT READING on all ranges.
868A UNIVERSAL	1kc & 10kc 400cps to order	As 868/1 above but includes metered variable bridge volts for measurements on ferrites, etc.
1852 MUTUAL INDUCTANCE	1592cps (10,000 radians)	.001μH to 30mH, 100μΩ to 3000Ω in 12 ranges. Accuracy 1%. The only bridge which reads MUTUAL inductance directly. Also measures self inductance.
1862 C and R	1592cps (10,000 radians)	.002μμF to 100μF, 1Ω to 10,000MΩ in 18 ranges. Accuracy 1%. Makes "in circuit" measurements (See "Electronic Design", Sept. 15th, 1957).
2772 INCREMENTAL INDUCTANCE	60cps	.01H to 1000H in 7 ranges. Q to infinity. Accuracy 5%. AC excitation 1, 2, 5, 10 & 20V. Superimposed DC 0 to 1 amp.

POWER METERS, AF & RF

893	20cps-35kc	20μW to 10W. Impedance 2.5Ω to 20,000Ω. Accuracy 5%. Direct calibration in Watts and dBm.
1020A	DC-250Mc	1 to 50 & 2 to 100W. 75Ω Accuracy 5%. VSWR better than 1.25, DC to 250Mc. Calibration can be checked at DC or 60cps.
1020A/1	DC-250Mc	As 1020A, but 50Ω.
1152	DC-500Mc	.5 to 25W. 75Ω. Accuracy 5%. VSWR better than 1.2, D.C. to 500Mc. Calibration can be checked at DC or 60cps.
1152/1	DC-500Mc	As 1152, but 50Ω.
1065	50cps-500Mc	Measures RF & AF power and FM deviation. A companion to Model 1064/2 Sig. Gen.
1205	DC-500Mc	10 to 500W. 50Ω. Accuracy 5%. VSWR better than 1.1 at 250 Mc, 1.25 at 500 Mc. Self-cooled, oil-filled.
1341	DC-500 Mc.	20-1000W. All other features as for 1205 (above).

MILLI-MICROSECOND PULSE GENERATOR

3351 CINTEL	1cps-1.1Mc	Rise time 10mμsec. 50V max. Main pulse variable in width, amplitude, polarity and delay; all parameters calibrated. Has pre-pulse and overload warning.

RECEIVERS FM/AM

680X	480kc-30Mc	Sensitive, compact, very stable AM communications receiver. Absolute sensitivity 0.5μV. 2RF stages, 15 tubes, Xtal filter, variable selectivity.
730/4	480kc-30Mc	Similar to 680X but has 4 xtal controlled channels, xtal and audio filters. Max. selectivity is 700 cps to 40db.
770R	19-165Mc FM or AM	Extremely sensitive, stable and reliable. Selectivity 40db down at 50kc.
770U	150-500Mc FM or AM	As 770R. Selectivity 20db down at 50kc. These 2 receivers are the only ones made having continuous tuning 19-500Mc, FM/AM.

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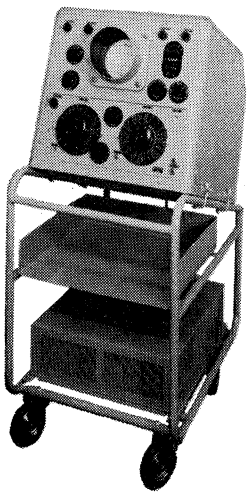
MARCONI INSTRUMENTS

928/2 DEVIATION METERS

Like all Marconi Deviation Meters, Model 928/2 uses an ultra-linear counter type discriminator with less than 2% distortion, and crystal standardization. Specially developed for Armed Forces use it is rugged, shock-mounted and waterproof.



1094 SSB SPECTRUM ANALYZER

The advent of commercial SSB systems calls for specialized test gear of high precision. The Marconi engineers who pioneered these developments have produced Telegraph Test Generators, High Discrimination Oscillators, Spectrum Analyzing Equipments and two tone Test Sets peculiarly suited to the design and test problems involved.

Full details on request.

MULTI-CHANNEL TEST GEAR

The Marconi range of Multi-channel Test Gear includes Model 1249 for intermodulation measurement at baseband frequencies, Model 1259 for alignment of modulator/demodulator units and IF amplifiers and Model 1248 for measurements at carrier freq. 1700-2300 Mc. 4000 Mc test gear will be available soon. All these specialized instruments meet CCIR specs. and can be used on the most sophisticated systems engineers are now designing.

FM DEVIATION METERS

MODEL	FREQUENCY RANGE	FEATURES
791C FM DEV. METER	4-540Mc	Deviation ranges 0-5, 0-25, 0-75 & 0-125kc, direct reading. Accuracy 3%, crystal standardized. Very stable. Distortion below .2%.
791CM FM DEV. METER	4-540Mc	As 791C but has extra range 0—2.5kc & better S/N ratio.
791D FM DEV. METER	4-1024Mc	An improved version of Model 791C. LO can be xtal locked; when locked noise is —55db relative to 5kc deviation. Measures deviation down to 10cps.
934/2 FM DEV. METER	2.5-500Mc	Deviation ranges 0-5, 0-25 & 0-75kc, direct reading. Accuracy 3%. Ruggedized, waterproof. Case or rack mounting. Crystal standardized.
928 FM DEV. METER	20-500Mc	Wide range, handles mod. freqs. up to 120kc. Dev. ranges 0-100, 0-200, 0-400kc. Accuracy 3%. Ruggedized. Crystal standardized.
928/2 FM DEV. METER	215-260Mc	Telemetering version of 928. Deviation ranges can be modified to special order.

Q METERS

329G Q METER	50kc-50Mc	Q range 10-500. Accuracy 5%. Rugged, reliable, inexpensive.
1245 Q METER	Ikc-300Mc	Q ranges 5-1000, Δ Q25-0-25. Accuracy 5% at 100Mc, 20% at 300Mc. 2 tuning capacitors, 7.5-110 and 20-500$\mu\mu$F. Uses external oscillators—see below.
1246 Q OSCILLATOR	40kc-50Mc	4V output. For Model 1245 Q Meter, and general lab use.
1247 Q OSCILLATOR	20-300Mc	4V output. For Model 1245 Q Meter, and general lab use.

SSB SPECTRUM ANALYZER

1094 SPECTRUM ANALYZER	1kc-30Mc	Dynamic range 0 to —30db, —30 to —60db. Accuracy ±1db. Selectivity at 3db points 6, 30 & 150 cps. Spectrum width variable 100 to 30,000 cps. —if supplied without LF Adaptor TM5606, range is 3-30Mc.

WAVE ANALYZERS

455E WAVE ANALYZER	20cps-16kc	30μV-300V. Accuracy 2%. 4cps flat-topped pass band. Includes RF demodulator and cal. check. Very stable, AC or battery operated.
1270 HF WAVE ANALYZER	10-600kc	Flat to within .5db. Includes 5 fundamental rejection filters and 100db attenuator. Measures distortion down to .003%.

DEMONSTRATION OSCILLOSCOPE

1159 OSCILLOSCOPE	15cps-20kc	17" screen. Sensitivity variable to 4mV/cm. Provides a high discrimination display for sweep generators such as Model 1099.

MULTI-CHANNEL REPEATER TEST GEAR

1249 WHITE NOISE TEST SET	12-4028kc i.e. up to 960 channels	For noise and intermodulation tests on telephony equipt. Comprises noise generator, band-pass and band-stop filters, receiver. Range to —70db. Accuracy ±.5db.
1259 DERIVATIVE TEST SET	65 to 75Mc swept ±20Mc or to order	For checking FM modulator/demodulator linearity. Displays 1st derivative (slope) of volts/Δf curve. Measures distortion down to —60db.
1248 CARRIER TEST SET	1700-2300Mc	Comprises stable Sig. Gen. with CW, swept and square wave mod., noise generator, receiver with 10Mc bandwidth, 110db gain.

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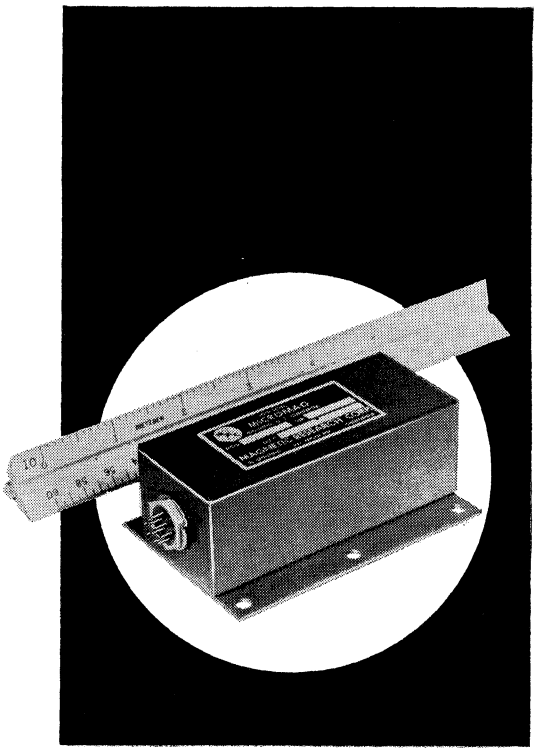
Pacing the industry in Astro-Magnetics



The MICROMAG is ideally suited for temperature and strain measurements in industrial, military, and medical applications. It is used where utmost reliability and stable performance, under most unfavorable conditions, must be maintained. It serves equally well as a very stable DC voltage amplifier for radio telemeter systems, or as a high gain DC power amplifier for relay type temperature and servo control systems.

The MICROMAG is drift free for all practical purposes and has an exceedingly high gain stability. No moving parts or fragile elements are used. Instead, it uses reliable transformer type magnetic elements which can withstand extreme vibration and high environmental temperatures. Due to these outstanding features, the MICROMAG has fast become a trusted instrument amplifier for aircraft, target, and missile instrumentation.

MICROMAG amplifiers are carefully manufactured. Expert quality control is maintained during assembly. Each unit is individually temperature compensated. Exhaustive environmental tests have proven that the MICROMAG is a unique magnetic amplifier which continuously exceeds its performance specifications.

MICROMAG

MODEL NO.	PART NO.	SUPPLY VOLTAGE	SUPPLY POWER	SUPPLY FREQUENCY	VOLTAGE GAIN	GAIN STABILITY	INPUT RESISTANCE (ohms)	DIMENSIONS (inches) H W D	WEIGHT
MM-411	10-102-0	6.3 ±0.3V	~3 mw	400 ±10 cps	750 ±25%	±2%	20	2⅜ x 1½ x 1¼	< 7 ozs.
MM-421	10-101-1	6.3 ±0.3V	~3 mw	400 ±10 cps	280 ±25%	±2%	180	2⅜ x 1½ x 1¼	< 7 ozs.
MM-431	10-103-0	6.3 ±0.3V	~3 mw	400 ±10 cps	60 ±20%	±2%	2000	2⅜ x 1½ x 1¼	< 7 ozs.
MM-423	10-108-0	115V ±20%	~5 VA	400 cps ±0.5%	500 ±20%	±2%	200	4⅛ x 1¼ x 1½	12 ozs.
MM-424	10-112-0	115 ±10V	~5 VA	400 ±1 cps	500 ±5%	±1.5%	180	4⅛ x 1¼ x 1½	11 ozs.
MM-425	10-113-0	115 ±10V	~5 VA	400 ±1 cps	500 (Adjustable)	±3%	180	5 11/16 x 3 9/16 x 1 3/32	~16 ozs.
MMO-522*	12-101-0	22.5 V DC ±0.2%	~75 mw	DC	500 ±10%	±0.5%	180	4 3/16 x 1¼ x 1½	12 ozs.
MMO-522†	12-101-1	22.5 V DC ±0.2%	~75 mw	DC	500 ±10%	±0.5%	180	4 3/16 x 1¼ x 1½	12 ozs.
MMO-522‡	12-101-2	22.5 V DC ±0.2%	~75 mw	DC	500 ±10%	±5%	180	4 3/16 x 1¼ x 1½	12 ozs.
MMO 522D§	12-101-3	26-31V DC	0.5 W	DC	500 ±10%	±3%	180	3½ x 1½ x 1¼	12 ozs.
MMO-528	12-102-0	26-31V DC	0.5 W	DC	500 ±10%	±3%	180	3½ x 1½ x 1¼	12 ozs.

* 8-Pin Octal Header
† 8-Pin Glass Header, Stud Mounting
‡ 8-Pin Octal Header, Pull Ring
§ 9-Pin Hermetic Seal Connector

ELECTRICAL CHARACTERISTICS COMMON TO MICROMAG UNITS:

1. Output Voltage: 0-5V DC
2. Linearity: ±2% between 0.5 and 5 Volts Output
3. Frequency Response: >2 cps at 3 db amplitude reduction
4. Hysteresis: <1%
5. Noise: <25 mv
6. Temperature Range: −55° to +85°C

Pacing the industry in Astro-Magnetics

MAGNETIC RESEARCH CORPORATION

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Magnetic Research Corporation is also manufacturing...

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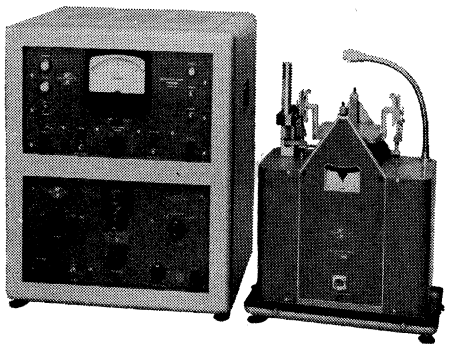
MAGNETRIC AND HYBRID PULSE MODULATORS . . . POWER SUPPLIES . . . TELEMETERING SIGNAL CONDITIONERS . . . TEMPERATURE MEASURING SYSTEMS

See YELLOW SECTION for Local Offices, Telephone, etc.

SIMULATION TABLES

FOR TESTING GYROS, ACCELEROMETERS, AND AUTOMATIC STABILIZATION SYSTEMS

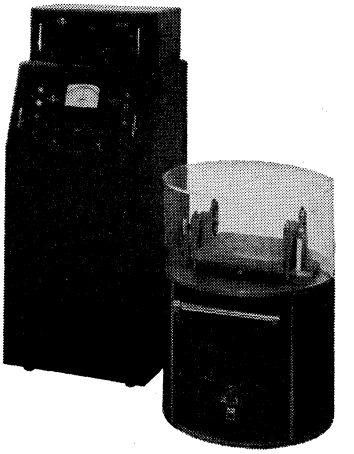
- Readily used for statically and dynamically testing gyros and accelerometers of automatic stabilization systems for aircraft and missiles.
- Ideal for frequency response and dynamic threshold measurements.
- Easily used in a closed loop with an analog computer for simulated flight testing of automatic flight control equipment.



MODEL 10C SINGLE DEGREE OF FREEDOM SIMULATION TABLE

SPECIFICATIONS

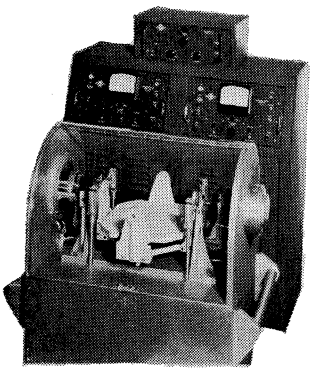
GAIN: 1 degree/volt.
INPUT IMPEDANCE: 200,000 ohms.
RECORDER OUTPUT: 3 Ranges ±0.1, ±1, ±10 volts/degree.
Accuracy: ±0.01 degree or ±1% of full scale.
METER: 3 Ranges: ±10, ±1, ±0.1 degrees full scale.
Accuracy: ±0.01 degree or 3% of full scale.
NATURAL FREQUENCY: Exceeds 15 cps.
DAMPING RATIO: Adjustable between approximately 0.1 and 1.0.
THRESHOLD: Less than 5 microradians (1 second of arc).
DISTORTION: Less than 1% for amplitudes above 0.01 degree and accelerations below 75 radians/sec/sec.
LOAD: A. Weight 5 pounds.
B. Moment of Inertia: 8 lb. — in^2
Size: 6" x 6" Base.
Load characteristics may be exceeded by a factor of three but dynamic performance may not necessarily be as specified above.
POWER: 105-125 V., 60 cycles — 1 phase, 350 watts.
COMPONENTS: Amplifier—Function Generator in self-contained carrying case.
Table Assembly and carrying case.
SIZE: Amplifier—Function Generator: 22¼" x 18½" x 25" high.
Table Assembly: 16½" x 10" x 22" high.
WEIGHT: Amplifier—Function Generator: 120 lbs.
Table Assembly: 120 lbs.
PRICE: $7,300.00 F.O.B., Culver City, California.



MODEL 12A SINGLE DEGREE OF FREEDOM SIMULATION TABLE

SPECIFICATIONS

GAIN: 1 degree/volt.
INPUT IMPEDANCE: 200,000 ohms.
RECORDER OUTPUT: 3 Ranges ±0.1, ±1, ±10 volts/degree.
Accuracy: ±0.01 degree or ±1% of full scale.
METER: 3 Ranges: ±10, ±1, ±0.1 degrees full scale.
Accuracy: ±0.01 degree or 3% of full scale.
NATURAL FREQUENCY: Greater than 25 cps, no load.
Greater than 10 cps, 50 lb. wt., 6 b. — ft^2
DAMPING RATIO: Adjustable between 0.2 and 1.0, dependent upon the load.
THRESHOLD: Less than 0.0025 Degree.
DISTORTION: Less than 1% for amplitudes above 0.01 degree.
LOAD: 50 pounds.
SIZE: 12" x 12" Base.
POWER: 115 volts, 60 cycles, 1 phase, 600 watts.
COMPONENTS: Amplifiers in Roll-Away Console.
Table Assembly/Carrying Handles.
SIZE: Amplifier: 23" x 18" x 55" high.
Table Assembly: 24" Dia. x 32" high.
WEIGHT: Amplifier: 150 pounds.
Table Assembly: 250 pounds.
PRICE: $15,000.00 F.O.B., Culver City, California.



MODEL 11A TWO DEGREE OF FREEDOM SIMULATION TABLE

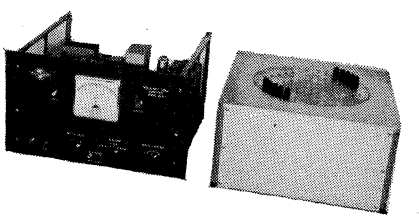
SPECIFICATIONS

GAIN: 1 degree/Volt.
INPUT IMPEDANCE: 200,000 Ohms.
RECORDER OUTPUT: 3 Ranges ±0.1, ±1, ±10 volts/degree.
Accuracy: ±0.01 degree or 1% of full scale.
METER: 3 Ranges: ±10, ±1, ±0.1 degrees full scale.
Accuracy: ±0.01 degree or 3% of full scale.
NATURAL FREQUENCY: Pitch, greater than 10 cps.
Roll, greater than 15 cps.
DAMPING RATIO: Adjustable between approximately 0.2 and 1.0 for both pitch and roll.
THRESHOLD: Pitch, less than 0.0025 Degree.
Roll, less than 0.0025 Degree.
DISTORTION: Less than 1% fo amplitudes above 0.01 degree.
LOAD: 25 Pounds.
SIZE: 12" x 12" Base.
POWER: 115 Volts, 60 cycles, 1 phase, 1200 watts.
COMPONENTS: Amplifiers in Roll-Away Console.
Table Assembly/handles.
SIZE: Amplifier: 46½"W x 19"D x 55½"H.
Table Assembly: 36½"W x 20"D x 38"H.
WEIGHT: Amplifier: 300 lbs.
Table Assembly: 450 lbs.
PRICE: $25,000.00 F.O.B., Culver City, California.

MODEL 80B YAW RATE TABLE

SPECIFICATIONS

RANGE: 0 to 1200 Deg./Min.
LOAD: 20 Pounds.
POWER: 115 V., 60 cycles, 1 phase at 3 amperes.
ACCURACY: Less than 1% WOW.
TABLE AMBIENT RANGE: Temperature: —67°F to +187°F. Altitude: 0 to 60,000 Feet.
WEIGHT: Amplifier: 75 pounds.
Table: 100 pounds.
NOMINAL SIZE: Amplifier: 19" Rack Panel x 10½" Panel Height x 17" Deep.
Table Assembly: 18" x 18" x 10".
Table: 12" Diameter.
RATE MONITORING: From Rate Generator and/or Pulse Circuit (2 pulses per degree).
SLIP RINGS: Eight (8).
PRICE: $6,300.00 F.O.B., Culver City, California.



Manufacturers of Signal Simulators, Servo Tables, Simulation Tables and other Special Test and Simulation Equipment.

Micro Gee Products, Inc. 6319 WEST SLAUSON AVENUE • CULVER CITY, CALIFORNIA • EXMONT 1-1716

Send for information on any of the above products or let us bid on your requirements.
Rental, Lease, or Lease-Purchase Arrangements are available.

See YELLOW SECTION for Local Offices, Telephone, etc.

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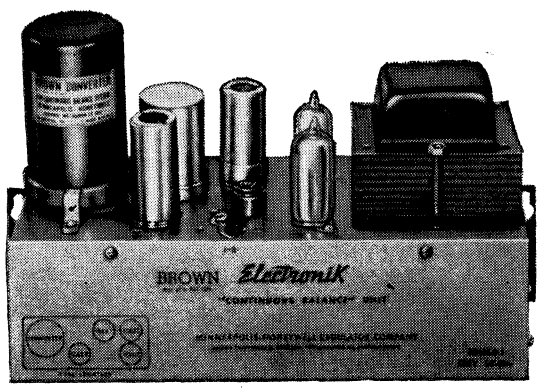


BROWN AMPLIFIERS

for measuring, balancing and positioning applications

They amplify a d-c or a-c microvolt input signal sufficiently to drive one field of a two-phase balancing motor. Three stages of voltage amplification are followed by the power output-phase discriminator stage, which supplies the required power for the motor.

Extremely low stray pickup . . . adjustable sensitivity . . . fast response. Proved in thousands of *ElectroniK* precision instruments.

ORDER NOW! Write or phone for immediate quotation. Fast, dependable delivery. Prices from $100 to $250.

MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.

Gain	Sensitivity (Microvolts)	Nominal Input Impedance (Ohms)
10^6	4.0	400, 2,200, 50,000
4×10^6	1.0	400, 7,000, 50,000
12×10^6	0.4	400, 2,200, 7,000
40×10^6	0.1	2,200

POWER SUPPLY—115 v., 60 cycles (fused power line)

OUTPUT—2 to 18 ma. into 12,000 ohm load

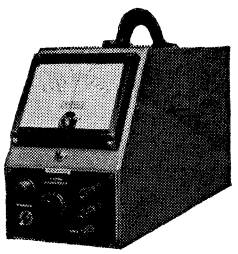
SENSITIVITY—Continuously variable screwdriver adjustment. Recessed slot protects setting

MOUNTING—Operation unaffected by mounting position

OPTIONAL FEATURES—(a) thermocouple burnout protection, (b) without desensitizing adjustment, (c) parallel T feedback, (d) velocity damping, (e) special connecting cables and plugs, (f) without tubes, shields, and converter, (g) for 25 cycles.

ElectroniK
NULL INDICATOR

The modern successor to the spotlight galvanometer, the *ElectroniK* Null Indicator is ideal for either lab or production work. Resists vibration, responds quickly, takes heavy overloads without "loss of spot." $175, F.O.B. Philadelphia.



Honeywell

First in Control

See YELLOW SECTION for local offices, telephones, etc.

use the **PRODUCT DIRECTORY** *to locate information quickly*

The *eem* Product Index and Directory pinpoints any electronic product and the manufacturers making it. The index refers you to the manufacturer's catalog pages in *eem*. If a manufacturer does not have catalog pages, the Product Index refers you to the manufacturers' Directory (Yellow Section) where you will find the manufacturer's name, address, phone number, key personnel and local Sales Offices.

eem is organized to supply information accurately, quickly.

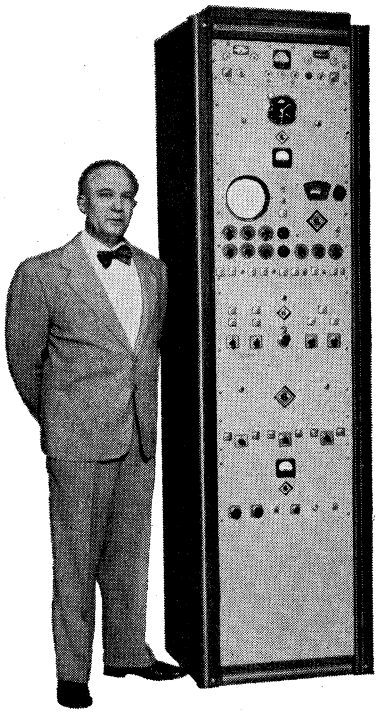
ACCELEROMETERS ..... *p. 456*
Bell Aircraft Corp., Avionics Div., P. O. Box 1759, Garden City Station, Buffalo, N. Y.
Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Cal.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bourns Laboratories, Inc., P. O. Box 2112, Riverside, Cal.-Pg. 456
Brush Instruments, Div. of Clevite Corp., 3405 Perkins Ave., Cleveland 14, Ohio
ADHESIVES ..... *pp. 123, 789,*
Ambroid Co., Weymouth 88, Mass.
American Products Mfg. Co., 8127-33 Oleander St., New Orlean

USE THE PRODUCT DIRECTORY — GREEN SECTION

Tell Them You Saw It In **eem**

MODEL 111 FREQUENCY-TIME STANDARD

Space Satellite Timer



After over a year's extensive testing and comparison with other units the SMITHSONIAN INSTITUTION selected the unit pictured above for their satellite tracking stations located around the earth. It was established that this unit will keep time within 1/10,000 second per day. We guarantee a stability of 1 x 10^{-9} and supply a continuous record to prove this. DON'T BUY ANY FREQUENCY STANDARD CLAIMING THIS STABILITY UNLESS THE SUPPLIER PROVIDES A *CONTINUOUS* RECORD TO PROVE IT. DO NOT ACCEPT ASSERTIONS OR EVEN "PLOTTED CURVES."

GENERAL SPECIFICATIONS

We can supply units on special order that are stable within 5 x 10^{-10}. Two units in stock now.

Frequency Stability .....1 x 10^{-9} per day
Time Stability.....1/10,000 second/day
Time Measuring Resolution.....
10 micro-seconds
Time Transmission Synchronized with WWV (mechanical cam) accurate to.....
1/1000 second
Time Transmission by electronic seconds pulse (repetition stability) .....
10 micro-seconds

OUTPUTS:	Sine Wave	Pulse
	1 mc	1 mc
	100 kc	100 kc
	10 kc	10 kc
Single phase	1 kc	1 kc
3-phase	1 kc	
	100 cps	100 cps
Single phase	60 cps	10 cps
3-phase	60 cps	1 cps

TIME-OF-DAY CLOCK

Shows hours, minutes and seconds.

MICRO CLOCK

Reads time to 0.001 second. Micro-clock is provided with a cam system that can be synchronized with WWV time signal ticks and used as a time signal repeater. Can be used to study and measure outside phenomena.

OSCILLOSCOPE

Circular sweeps of 100 cps, 1 kc, and 10 kc time received pulses within a few micro-seconds. Separate inputs to study outside phenomena.

TIME SIGNAL AMPLIFIER

Amplifier designed to receive time signals through heavy interference. Filter eliminates tone signal modulation on WWV signals so "ticks" can be received when tone is on. A switch cuts out filter from the circuit when not desired.

PHASE SHIFT CIRCUIT

Electronic phase shifter provided to change phase of outputs.

50 other models of FREQUENCY STANDARDS

1. **SUBASSEMBLIES:** Models 52, 54, 56, 124, 126 and many others not listed here.
2. **GENERAL PURPOSE UNITS:** Models 61, 63, 65, 67, 128
3. **MOTOR AMPLIFIERS:** Models 71, 101-6L6, 103, 104, 119, 140, 141, 200-IN, 201-IN.
4. **FREQUENCY MEASUREMENT UNITS:** Models 105, 110, 129, 138
5. **TIME KEEPING UNITS:** Models 25L6B, 35L6B, 103, 104, 110, 111
6. **FREQUENCY DIVIDERS:** 107, 115, 117, 130
7. **TRANSISTOR STANDARDS** Models 73, 301, 302, 303
8. **CRYSTAL CLOCKS FOR SIDERAL TIME**

Model 110B Frequency-Time Standard

SPECIFICATIONS:

Frequency Stability.....1 x 10^{-9}/day
Time Stability .....1/10,000 second/day
Measuring Resolution (time) .....
1/1000 second
Time Transmission can be synchronized with WWV to.....1/1000 second

OUTPUTS:	Sine Wave	Pulse
	1 mc	1 mc
	100 kc	100 kc
	10 kc	10 kc
	1 kc	1 kc
	100 cps	100 cps
	60 cps	1 cps
	50 cps	

The Model 110 Frequency-Time Standard was originally designed for the U.S. Air Force Eclipse Expedition of 1954. Units were stationed around the world for timing the total solar eclipse that year. Since then the units have been on several other "around the world trips," and they are still operating. The construction is rugged and meets Mil specs. in all major respects. The stability of the original Model 110 units has been improved so that it is the same as for Model 111. But it has not got all the features of the Model 111 assembly.

ERNST NORRMAN LABORATORIES

WILLIAMS BAY, WIS. — TEL. Circle 5-5516

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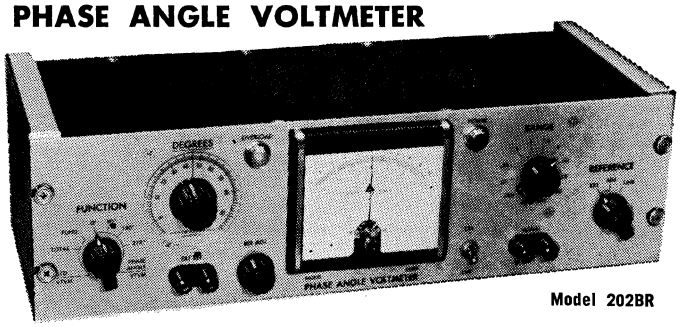
NORTH ATLANTIC industries, inc.
603 Main Street • Westbury, L. I., New York EDgewood 4-1122

PHASE ANGLE VOLTMETER



Model 202BR

The North Atlantic Industries Phase Angle Voltmeter is a versatile laboratory or production test instrument capable of functioning as a conventional voltmeter or as voltmeter reading that component of a signal in phase or in quadrature with a reference signal. Through the use of a calibrated phase shifter the instrument also measures phase shift. The following typical applications are listed.

NULL INDICATOR

Phase Sensitive Nulling.
Independent Nulling of In-Phase and Quadrature Components.
Harmonic Rejection greater than 55db on Models with filters.
Nulling Sensitivity — 5 microvolts maximum (.5% of full scale voltage).
Absolute voltage measurement of all residual voltages at null, including In-Phase, Quadrature, Fundamental and Total Voltage including harmonics.
Null measurements can be made in presence of non-indicated out of phase signal as high as 10 times full scale range setting.
Built in overload lamp warns of presence of large out of phase non-indicated signal.

VOLTAGE MEASUREMENTS

Absolute measurement of In-Phase, Quadrature, Fundamental and Total Voltages to accuracy of ±2%.
Linear voltage scales 10-0-10 and 3-0-3.
10 Meg Input Impedance.
Standard VTVM operation 10 cps-50KC, ±3% accuracy.
1 Millivolt to 300 volts full scale in 12 ranges.

PHASE MEASUREMENTS

Direct Dial Reading of Phase Angle 0-360°, without ambiguity to accuracy of ±1°.
Meter reads E cos Θ (Angle between reference anl signal).
Highest Range 0 to ±90° Full Scale Quadrature Signal.
Lowest Range 0 to ±6° Full scale Quadrature Signal.
Accuracy — ±3% of Full scale degrees.

ADDITIONAL SPECIFICATIONS AND MODELS

Size — 5¼" high x 19" wide x 7⅞" overall depth (without side brackets).
Removable side brackets convert unit to standard rack mount.
Power — 115V ±10%, 60-400 cps, 60 Watts max.
Reference Input — 100,000 ohms, .25 volts min.
Overload — Overload alarm lamp set at 5 x full-scale voltage.

Optional Features

a) Back panel connectors
b) Built in Reference Channel isolation transformer.
c) Built in Signal isolation for balanced or single ended inputs.

Companion Models

Model 301 — Broadband Phase Angle Voltmeter having same characteristics as the Series 200 but adjustable to any frequency. Filters are removable and can be changed from the front panel.
Model 401 — Precision Phase Sensitive AC to DC Converter provides single or double ended D.C. output proportional to RMS of Fundamental, Total, In-Phase or Quadrature component of A.C. Input. Linearity to better than .05%.

PHASE ANGLE VOLTMETER PRICES (STANDARD INSTRUMENTS)

For any single frequency 25 cps to 10 KC
Model 202R (No filters) **$525.00**
Model 202AR (Signal Channel Filters) **$590.00**
Model 202BR (Signal and Reference Channel Filters) **$675.00**
For frequencies from 25 cps to 100 cps and over 4,000 cps, request prices.

PLUG-IN ACCESSORIES

P201 — Reference Isolation Module
For isolating the Reference input in order to avoid possible ground loops **$35.00**

P202 — Precision Resistance Summing Module
For Ratiometer applications where the outputs of the Ratio device and test items are most conveniently added by use of a summing resistance net work. Specify resistor magnitude (10K, 100K, etc) and precision of A.C. match **$45.00**

P203 — Bridging Transformer Modules
For higher accuracy in AC Ratiometry where the outputs of the Ratio device and test items are of the same polarity and where no loading can be tolerated when in the nulled condition **$50.00**

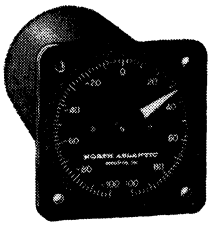
SELF BALANCING SERVO INDICATORS AND REPEATERS

DESCRIPTION

A miniature panel mounted position servo designed to provide a visual reading or shaft position proportional to input. Available for either D.C. or A.C. Inputs. These instruments are completely self contained and require only primary power and signal input. Units for absolute measurements contain a built in zener diode reference.

SERIES 200 SINGLE POINTER INDICATOR

For general indicator and repeater application requiring accuracies and resolutions of less than .2% and high speed of response.

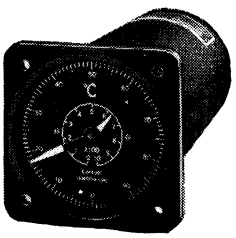


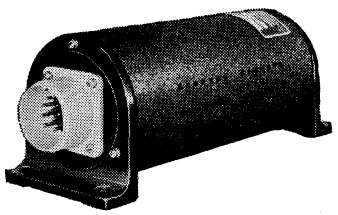
SERIES 300 DIGITAL DISPLAY INDICATOR

For highest accuracy and resolution.

SERIES 200 DUAL POINTER INDICATOR

For high resolution and accuracy application where readability and dynamic response are important.





SERIES 400 SERVO REPEATER

For general purpose repeater and digitizer applications where visual readout is not required.

APPLICATIONS

Ratiometer
Millivoltmeter
Temperature Measuring Systems - Resistance thermometer or thermocouple.
Tachometer
Synchro repeater
Telemetry repeater
Photo Panel Indicator
Pilot Indicators
A — D Converter using front mounted encoder.

TYPICAL SPECIFICATIONS (D.C. Indicators Only)

Accuracy	— .5% (Depending upon potentiometer to .05%)
Resolution	— .2% (Depending upon potentiometer to .03%)
Sensitivity	— 30 Microvolts minimum input
Full Scale Response	— 0.25 seconds (min)
Input Power	— 115 Volts ±10 volts, 400 cps ±5%, 6-28V D.C. typical for D.C. Ratiometer Type.
Outputs	— Multiple Pot outputs, synchro output, current output, dial reading, shaft encoder.
Scale	— Any
Dimensions	— Bezel — 3-5/6" square Length — 7¾" typical Body — 3" dia.
Input Voltage Ranges	— 0-10 millivolts, ±5 millivolts and up.

Due to the large number of variations on these instruments, it is not possible to list detailed specifications on all variations and types. Please submit your inquiry outlining performance, Model Type, number of extra output pots, encoder type, etc. for prompt quotation.

See YELLOW SECTION for Local Offices, Telephone, etc.

PANORAMIC
RADIO PRODUCTS, INC.
THE PIONEER IS THE LEADER

RESEARCH • DEVELOPMENT • PRODUCTION

Proved performers in plants, laboratories and military installations, Panoramic's broad range spectrum analyzers, unparalleled sweep generator systems, highly reliable frequency calibrators and associated instruments accelerate completion of research and development projects and quickly clear production test bottlenecks. Panoramic instruments offer visual and often direct reading analyses. Operation is simple and reliable. Interpretation easy. Design and construction are of the finest following best commercial standards but using MIL specifications as a guide. Each instrument is subject to careful calibration, rigorous testing and exhaustive quality control checks. Product improvement is continuous. Panoramic's highly skilled engineering staff constantly endeavors to develop new instruments for application and to extend uses of existing equipment.
For 20 years, Panoramic has been the pioneer and leader in the field of panoramic instruments.

PANORAMIC BROAD BAND SPECTRUM ANALYZERS—0.5 CPS-25 MC

These compact easily operated Panoramic Spectrum Analyzers are repetitively scanning heterodyne receivers which automatically measure the frequency and amplitude of input signal components. A graphic readout is provided along calibrated X and Y axes of either a CRT or inked paper chart (or both) as illustrated below.

The instruments conveniently handle both discrete and noise type signals. Uses include vibration and noise analysis; general Fourier analyses; cross-modulation measurements; monitoring transmissions for bandwidth, spurious modulation, parasitics and interference; geophysical investigations; medical studies and a host of other applications. Use of accessory equipments listed in the chart on next page considerably broadens the application areas.

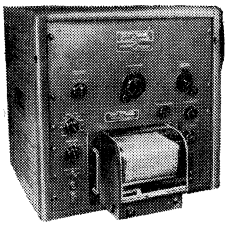
All of the analyzers are designed for maximum versatility, flexibility and reliability. Virtually any spectrum analysis requirement (within the frequency ranges covered) can be satisfied by the wide variety of technical characteristics offered. The frequency ranges of the several models are broad and overlap each other considerably.

In order to facilitate analysis of widely diverse phenomena, most analyzers feature adjustable IF bandwidth to adjust frequency resolution (selectivity). For example the Model LF-2a which covers a portion of the audio spectrum, offers a frequency resolving capability of 0.1-20 cps while the Model LP-1a has an inherent resolving capability between 10 cps and approximately 1 kc for the entire audio region. The former model would be selected when it is necessary to analyze components or energy distributions with extremely close spacings in frequency.

Most models have scanning ranges of selectable widths to allow either a quick overall look at the spectrum or highly resolved analysis of smaller, magnified spectrum segments. The degree of frequency resolution obtainable for a given sweep width depends upon sweep rate. A wide variety of sweep rates are available not only for resolution versatility but also to handle different types of information e.g., discrete and random.

Calibrated controls are incorporated which select the center frequency and width of the spectrum segment to be examined. No VFO or tuning head is needed in these instruments thus precluding ambiguous calibrations and minimizing spurious responses.

High sensitivity, extensive dynamic range and low residual distortion are characteristic. High input impedance permits direct use of most transducers. As an aid to selecting equipments for your needs, the technical characteristics of the models are charted side by side on the next page. Our Applications Engineering section is available for further assistance, without obligation.

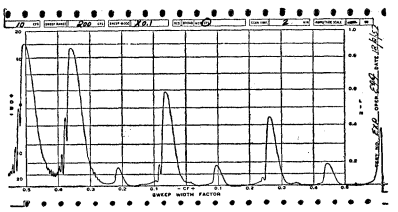


SUBSONIC SPECTRUM ANALYZER

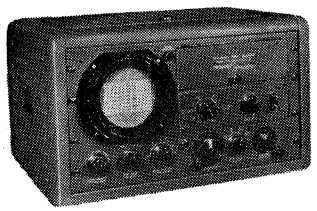
Model LF-2a — **0.5 cps-2250 cps**

Extremely stable with unique resolution capabilities. Simple to use—self checking digital calibrating markers available. 0.1 cps resolution for analysis up to 225 cps. 0.5 cps resolution for analysis up to 2250 cps.

- Designed to operate with Model LP-1a.
- Inked chart recorder included. 12" x 4½" readout for each excursion. Optional second pen for marker of frequency, time, or other parameter. Requires external actuator.
- Optional built-in 3" oscilloscope with P-7 screen.



Complex Wave Analysis on LF-2a:
Sweep Width = 20 cps; Center Frequency = 10 cps; Scan Time = 2 min.; Amplitude Scale: Decibel.



SONIC SPECTRUM ANALYZER

Model LP-1a — **20 cps-22.5 kc**

LP-1a is now in use at literally hundreds of laboratories and production facilities for:

• Vibration and noise measurements • Harmonic and IM analysis • Acoustic waveform studies • Medical electronics.

Rugged and reliable, the LP-1a has proven its worth in its own right and as a basic component in several unique Panoramic Systems for waveform study and frequency response curve tracing. Among standard LP-1a features are:

• "Quick-look" log sweep; 40 cps-20 kc in 1 sec.

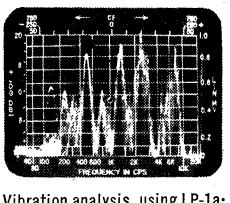
• Adjustable linear analysis provisions for 20 cps-22.5 kc • Automatic optimized resolution (variable IF bandwidth options) • Residual spurious down more than 60 db.

Some optional LP-1a features include:

"M" Internal Markers at 60 cps, 500 cps and 5 kc (and harmonics).

"Z" Flat face crt, edge-lit reticule and camera mount bezel.

Refer to Models TFA-1, PDA-1, SF-2, RC-3a, G-2, CF-1, Auxiliary Function Unit C, TW-1, and SW-1 for other LP-1a uses.

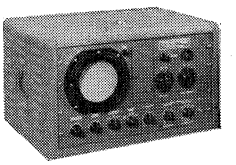


Vibration analysis, using LP-1a: 40 cps—20 kc log-log analysis. Sweep time—1 sec. Exposure time—15 sec. Transient at 150 cps appeared during one scan interval.

SONIC SPECTRUM ANALYZER

Model AP-1 — **40 cps-20 kc**

Similar to LP-1a but provides for log sweep mode only.



ULTRASONIC SPECTRUM ANALYZER

Model SB-7bz — **1 kc-300 kc**

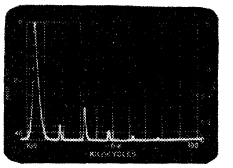
The new, more convenient SB-7bz is the latest version of Panoramic equipment which has been continuously specified for more than a decade for:

- Ultrasonic noise and vibration analysis.
- Communications system analysis—wire carrier and VLF radio.
- FM Telemetry subcarrier channel analysis (See also Model TMI-1a).
- General Fourier analysis.

The low-cost SB-7bz is now standard equipment in several military systems and private enterprises.

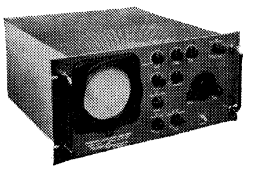
Some of its features are:

- Versatile, simply adjusted linear analysis.
- Discriminator linearized and stabilized swept local oscillator.
- Proven reliability even under field conditions.
- Successfully evaluated at 50°C and 95% humidity.
- Packaged for ease of maintenance.
- Semi-adjust controls available behind panel door.



25.5 kc fundamental and harmonics. 175 kc sweep width. Logarithmic amplitude.

ULTRASONIC SPECTRUM ANALYZER

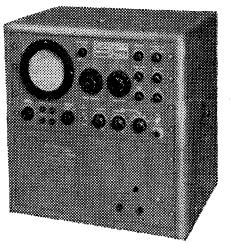


Model SB-15 — **0.1 kc-525 kc**

Advanced packaging and excellent circuit design have been incorporated into the compact, SB-15. It requires only 8¾" panel height. No external power supply or regulator is required. SB-15 finds application in distortion analysis, communications systems monitoring, telemetry, vibration analysis.

SB-15 features extended range analysis for audio, ultrasonic and low rf frequency bands. Sweep rate, center frequency, sweep width and IF bandwidth are all continuously adjustable. Residual distortion is less than —60 db.

SPECTRUM ANALYZER



Model SPA-3 — **200 cps-15 mc**
Model SPA-3/25 — **200 cps-25 mc**

An extremely versatile "workhorse" instrument, the SPA-3 analyzes at a glance any spectrum up to 3 mc wide in the range up to 15 mc (or 25 mc). Fields of application are numerous in the audio through rf ranges. The SPA-3 is an invaluable video spectrum analyzer. Tremendous versatility permits use for variety of tasks including noise analysis.

Features

- Simple straightforward operation.
- Continuously adjustable center frenquency, sweep width, sweep rate and IF bandwidth.
- Sensitivity of 20 microvolts full scale.
- Resolution capability 200 cps at reduced sweeps.
- Internal frequency markers.
- Smoothing filter for noise analysis.

Condensed information on standard Panoramic instruments is given in this catalog. For detailed technical data, application notes and prices... write...

See YELLOW SECTION for Local Offices, Telephones, etc.

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PANORAMIC BROAD BAND SPECTRUM ANALYZERS 0.5 CPS — 25 MC • SUMMARY OF SPECIFICATIONS

Model Number ➧			LF-2a, LF-2aM (1)	LP-1a (12, 13)	AP-1	SB-7bZ	SB-15	SPA-3, SPA-3/25 (2)
Frequency Range			0.5 cps to 2250 cps & 0.5 cps to 225 cps	20 cps to 22.5 kc	40 cps to 20 kc	1 kc to 300 kc	100 cps to 525 kc	200 cps to 15 mc (optional to 25 mc)
Frequency Scale			Linear	Linear and Logarithmic	Logarithmic	Linear	Linear	Linear
Sweep Width			Preset: 500, 100, 20 cps on 2250-cps range 50, 10, 2 cps on 225-cps range	Preset Logarithmic: 40 cps to 20 kc Preset Linear: 200, 1000, 5000 cps	Preset: 40 cps to 20 kc	Variable from 0 to 200 kc	Variable from 1 kc to 200 kc	Variable from 0 to 3 mc
Range of continuously variable calibrated center frequency control			0-2000 cps 0-200 cps	0 to 20 kc (on Lin Sweep)	No CF Control	0 to 200 kc	0 to 500 kc	0 to 13.5 mc (0 to 23.5 mc)
Resolution Capabilities (Depends upon sweep rate and sweep width)			See Chart, footnote 3 below.	On log freq scale: 50, 150 and 500 cps when at 100 cps, 1 kc and 10 kc points on frequency scale, respectively. (4)		Variable (5) 100 cps thru 2 kc	Variable 100 cps thru 4 kc	Variable 200 cps thru 30 kc
Frequency separation (Δf) required to measure unequal signal amplitudes on the linear frequency scale. Range of Δf (which depends on sweep rate and sweep width) is listed.	AMPLITUDE RATIO	1:1	0.5 cps-15 cps	30 cps-160 cps	Not so rated	130 cps-1.7 kc	85 cps-5 kc	420 cps-2.6 kc
		10:1	1 cps-28 cps	50 cps-310 cps	Not so rated	220 cps-3.7 kc	300 cps-9 kc	960 cps-5.2 kc
		100:1	2.2 cps-50 cps	130 cps-600 cps	Not so rated	700 cps-8.2 kc	600 cps-17 kc	2.2 kc-72 kc
		1000:1		250 cps-1100 cps	Not so rated	6 kc-18 kc	1.3 kc-30 kc	5.2 kc-88 kc
Sensitivity: Input Voltage Range (Voltage required for full scale linear)			10 mv to 100 v	500 μv to 500 v	500 μv to 500 v	250 μv to 25 v	200 μv to 200 v	20 μv to 2 v
Amplitude Scales: (Selectable with front panel switch)			Linear (calibrated from 1.0 to 0) Logarithmic (calibrated from 0 db to −40 db)					
Additional Amplitude Scales:			—	—	—	2.5 db expanded scale	2.5 db expanded scale	power scale
Amplitude Response Flatness		On lin amplitude scale	±5% 1.0 to 2250 cps	±10%	±10%	±5%	±5% 200 cps to 525 kc	±10%
		On log amplitude scale	±0.5 db 1.0 to 2250 cps	±1.5 db	±1.5 db	±0.5 db	±0.5 db 200 cps to 525 kc	±1 db
Residual Distortion	**Residual Harmonic Prod.**		−40 db	−60 db	−60 db	−50 db	−55 db	−46 db
	Residual Hum		−40 db	−55 db	−55 db	—	—	—
	Residual Cross Modulation Prod. of 2 equal amplitude signals		−40 db	−60 db	−60 db	−50 db	−55 db	−46 db
Input Impedance			5 meg	250 k	250 k	55 k	55 k	72 ohms (7)
Sweep Repetition			1 sweep/10 sec.; 1, 2, 4, 8, 16 min. (and hrs. optional)	1 sweep/sec Free running (6, 12)	1 sweep/sec. Free running	6.7 sweep/sec. (6) Synchronized to power line.	1 to 60 sweep/sec. continuously variable. Sweep may be operated externally synchronized, synchronized to the power line, or non synchronized.	
Visual Indicator (8)			Chart Recorder (12" x 4½" readout). External oscilloscope terminals furnished.	5UP7 crt (5ADP7 with edgelit reticule and camera-mount bezel available on special order. Order Z mod.)		5ADP7 crt	5ADP7 crt	5ADP7 crt
Power Requirements			115 v (nominal) 60 cps, single phase. Provision for other power lines supplied on special order. Power line voltage regulators supplied with all except SB-15 which has internal power-line regulators.					
Panel Size	**Analyzer Section**		10½"h x 19"w (9)				8¾"h x 19"w (9)	10½"h x 19"w (9)
	Power Supply		8¾"h x 19"w (9)	Style A & D: 8¾"h x 15¾"w (10) Style B & C: 8¾"h x 19"w (9)		8¾"h x 15¾"w (10)	—	8¾"h x 19"w (9)
Cabinet Size			21⅛"h x 22½"w x 21"d	Style A & D Analyzer (11): 12⅛"h x 22½"w x 20½"d Style A & D Power Supply (11): 8¾"h x 16¼"w x 11⅛"d Style B & C Common Cabinet: 21⅛"h x 22½"w x 21"d		Analyzer (11): 12⅛"h x 22½"w x 20½"d Power Supply: 8¾"h x 16¼"w x 11⅛"d	—	21⅛"h x 22½"w x 21"d
Compatible Accessory Equipments								
Panoramic Response Indicator (companion sweep frequency generator) (Page 730)			G-5	G-2	G-2	G-3a	G-15	G-6
Panoramic Model SW-1 Signal Alternator (Page 729)			—	Yes	Yes	Yes	Yes	Yes
Panoramic Model TW-1 Triangular Wave Generator (Page 729)			—	Yes	—	Yes	Yes	—
Panoramic Model RC-3a and Sawtooth Wave Generator (Page 729)			—	Yes	—	Yes	Yes	—
Panoramic Model PDA-1 Power Spectral Density Analyzer (Page 728)			Yes	Yes	—	Yes	Yes	—
Panoramic Model TFA-1 Time-Frequency Analyzer (Page 728)			Yes	Yes	Yes	Yes	Yes	Yes
Fairchild Polaroid Oscilloscope Camera (Pg. 729)			—	With 5ADP7 crt only	With 5ADP7 crt only	Yes	Yes	Yes

1. LF-2aM is an LF-2a with the addition of an automatic sequencing feature which successively scans four adjacent spectrum segments each 500 cps wide (0.5 to 2250 cps range) or 50 cps wide (0.5 to 225 cps range).
2. SPA-3/25 is the same as SPA-3 except for frequency range. The SPA-3/25 range is 200 cps to 25 mc.
3. Resolution capabilities of Models LF-2a, LF-2aM.

Frequency Range	Linear Sweep Widths (cps)	Cps Resolution at Scan Intervals of		
		10 sec.*	2 min.	16 min.
0.5-2250 cps	500	12	3.5	1.5
	100	6	1.7	0.75
	20	3	0.7	0.5
0.5-225 cps	50	—	1.0	0.5
	10	—	0.5	0.25
	2	0.7	0.18	0.1

*Usable only with external oscilloscope or with Model LP-1a.

4. On linear freq scale (LP-1a only): 30, 75 and 170 cps at 200, 1000 and 5000 cps sweep widths, respectively. 10-cps to approximately 1-kc variable resolution available on special order. (Order R modification or Auxiliary Function Unit C.)
5. When SB-7bZ is operated at slower sweep rates (e.g., with Models RC-3a or TW-1) the listed resolution capabilities can be obtained at greater sweep widths.
6. Provision for variable sweep rate when used with accessory equipment.
7. 50 ohms available on special order. Probe Model PRB-1 available for high impedance sources.
8. All equipments with flat-faced 5ADP7 crt are also provided with edge-lit reticule and camera-mount bezel.
9. Panel can be mounted in standard 19-inch, electrical-equipment rack.
10. Can be supplied with 19-inch rack mounting panel.
11. Analyzer and power supply can be supplied in common cabinet 21⅛"h x 22½"w x 21"d.
12. An Auxiliary-Function Unit C is available . See page 729.
13. Style A: Analyzer + Power Supply
    Style B: Analyzer + Power Supply + Intermodulation Analyzer
    Style C: Same as Style B + G-2 Sonic Response Indicator
    Style D: Same as Style A + G-2 Sonic Response Indicator

PANORAMIC RADIO PRODUCTS, Inc., 520 South Fulton Avenue, Mount Vernon, N. Y.
See YELLOW SECTION for Local Offices, Telephones, etc.

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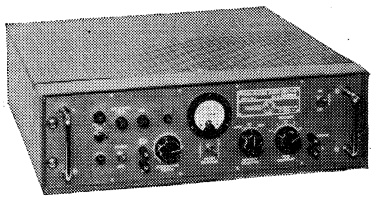
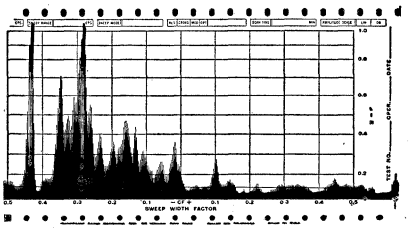
PANORAMIC
RADIO PRODUCTS, INC.
THE PIONEER IS THE LEADER

SPECIAL PURPOSE ANALYSIS INSTRUMENTS

Analysis of Complex Vibration Waveforms, Transients, Noise

Panoramic POWER SPECTRAL DENSITY ANALYZER — Model PDA-1





Integrated power density readout of impact waveform derived from magnetic tape loop.

PDA-1 is a companion analog computer to several Panoramic Spectrum Analyzers for use in analysis of random waveforms. Applications are in such fields as vibration and noise studies, medical electronics, and geophysics.

PDA-1 has 4 Operating Modes:

1. Peak squared voltage vs. frequency
2. Average squared voltage vs. frequency (adjustable time constant)
3. Integrated squared voltage vs. frequency—external triggering of integrator discharge
4. Integrated squared voltage vs. frequency—internal triggering of integrator discharge (0.7-30 sec. integration interval).

The plots of power spectral density are formed on a 12" x 4½" inked chart. Sweep rate, sampling filter (IF) bandwidth, and frequency excursion are all adjusted on the companion analyzer to insure proper intercept of the data within each spectrum segment.

When information is derived from a continuous loop of magnetic tape, PDA-1 is normally set for externally triggered integrator operation. A pulse derived from the splice controls discharge of the integrator. The analyzer is then adjusted to sweep one incremental filter bandwidth per loop interval.

Therefore Total Analysis Time =

$$\frac{\text{Sweep Width}}{\text{IF Bandwidth}} \times \text{Loop Time}$$

SUMMARY OF SPECIFICATIONS

Frequency Range and Filter Bandwidth:
Same as companion Panoramic Spectrum Analyzer. See data on Models LF-2a, LP-1a (linear scan only) SB-7bZ and SB-15. Other models are available for higher ranges.
Model RC-3a, Panoramic Recorder and Sawtooth Wave Generator must be used with PDA-1 except when a Model LF-2a is available. LF-2a has internal recorder.

Readout Calibrations:
Integrated output:

$$\frac{(\text{Volts})^2 \text{ Seconds}}{\text{Cps (IF) bandwidth}} \text{ vs. frequency}$$

Continuous average and instantaneous outputs:

$$\frac{(\text{Volts})^2}{\text{Cps (IF) bandwidth}} \text{ vs. frequency}$$

Scan Intervals: 1, 2, 4, 8, 16 minutes
(See also RC-3a) 1, 2, 4, 8, 16 hours

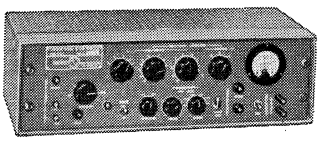
Integration interval: 0.7-30 seconds with internal synchronization. Interval limited by integrator overload with external synchronization. Integrator level monitored by panel meter.

Averaging Time Constant: Adjustable, 10 seconds max. Greater time constants available on special order.

Dimensions:
19" x 5¼" rack mount panel
19" cabinet depth

Power Requirements:
115 v (nominal), 60 cps, single phase. Provision for other power lines supplied on special order. Power line regulator supplied with equipment.

Panoramic SYNCHRONOUS FREQUENCY ANALYZER — Model SF-2



Uses: Critical vibration analysis of rotating and reciprocating devices, dynamic balance analysis, resonance determinations. The Model SF-2 automatically plots the amplitude of the vibration at the rotational speed of rotating devices. As the speed of the device under test changes, the Model SF-2 automatically tracks the resulting change in frequency of the vibration. This results in an **automatic** two-dimensional plot of vibration amplitude versus frequency (as related to rotational speed) on the CRT screen of the associated Spectrum Analyzer (Model LP-1a). Model SF-2 may be adjusted to track multiples or submultiples as well as fundamental components. A reference (tachometer) output determines the frequency continuously monitored for amplitude by the SF-2. The LP-1a 5" CRT indicator is used. Several speed ranges from 20-150 cps to 20-1500 cps are calibrated along the horizontal axis. Decibel and linear amplitude calibrations are provided.

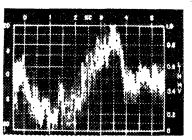
Typically, an accelerometer or other transducer mounted on the machine under test provides the signal input with SF-2 operation. An SF-2 control sets the analysis to frequencies equal to the instantaneous speed or at multiples of speed from 1.0 to 5.0 in increments of 1% of speed. Monitoring is also selectable at ½ or ⅓ speed and other submultiples.

As a particular frequency ratio is chosen, the frequency calibration is automatically changed to encompass the same basic speed range. E.g., the 20-300 cps fundamental calibration becomes 20 cps-600 cps during second harmonic analysis.

Rejection of signal input frequencies other than the selected component is effected by the narrow IF in the LP-1a (available with IF bandwidth adjustable from 10 to 1000 cps).

SUMMARY OF SPECIFICATIONS

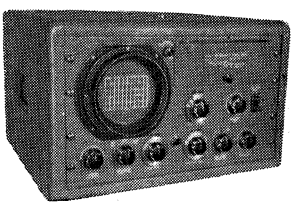
Frequency Calibrations: A special 5" CRT screen is furnished with SF-2. 20 cps-7500 cps; 20-1500 cps on fundamentals.
Analyzed Frequency / Reference Frequency Range: 1.0 to 5.0 in 0.01 increments. ⅓, ½ and other submultiples.
Reference Source: Pulse, DC, or sine wave type tachometer.
Selectivity: Same as LP-1a.
Amplitude scales: Linear and 40 db log

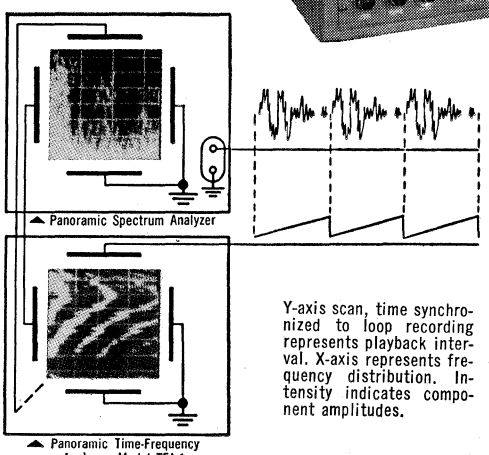


Input Signal Range: 500μv-500 V full scale.
Dimensions: Panel, 5¼" h x 19" w; Cabinet, 6" h x 20" w x 19" d.

SF-2 Analysis of Fundamental Vibrations vs. Speed of Small Motor. Linear Frequency and Amplitude Scales.

Panoramic TIME-FREQUENCY ANALYZER— Model TFA-1





▲ Panoramic Spectrum Analyzer

Y-axis scan, time synchronized to loop recording represents playback interval. X-axis represents frequency distribution. Intensity indicates component amplitudes.

▲ Panoramic Time-Frequency Analyzer, Model TFA-1

Designed to perform as a companion instrument to any one of the Panoramic Spectrum Analyzers (from Subsonic through Microwave) as well as the TMI-1a, Panoramic Telemetering Indicator, the TFA-1 provides a complete history of the time occurrence of transient waveform components, in addition to frequency and amplitude information.

Data to be analyzed may be derived either from continuous loop recordings or any other source of repetitive blocks of information, having a playback time of a fraction of a second to 60 seconds.

To concentrate the companion amplitude vs. frequency analysis on a fraction of the data, a variable time gate is available upon request. The gate blanks the indicator except during a selected section of the time scan interval. The section scan feature is valuable for study of interesting regions found by the overall TFA-1 presentation.

Presentations of frequency vs. time vs. amplitude are on a long persistence CRT with provisions for photography. Frequency range is governed by analyzer used.

SUMMARY OF SPECIFICATIONS

Frequency Range, Sweep Widths, and Sensitivity:
Determined by analyzers used.

Data Duration Periods:
Less than 1 second continuously adjustable through 60 sec.

Time Axis Synchronization Pulse:
Derived from recorder through second channel on tape or other appropriate means.

Frequency Scan Periods:
Less than 1 minute continuously adjustable through 60 minutes.

Resolution Capabilities:
Resolution capability equal to minimum IF bandwidth setting of analyzer used. Resolution determined by IF bandwidth setting and duration of data.

Amplitude Dynamic Range:
At least 10:1 when db amplitude scale on analyzer is employed.

Section Scan Provisions:
Specifications upon request.

Cathode Ray Tube:
Flat faced 5ADP7 CRT, edgelit reticule and camera mount bezel supplied.

Power Requirements:
115 v (nominal), 60 cps, single phase. Provision for other power lines supplied on special order. Power line regulator supplied with equipment.

Dimensions:
Cabinet—12⅛" h x 22½" w x 20½" d.
Std. Relay Rack Panel—10½" h x 19" w.

Condensed information on standard Panoramic instruments is given in this catalog. For detailed technical data, application notes and prices... write...
See YELLOW SECTION for Local Offices, Telephones, etc.

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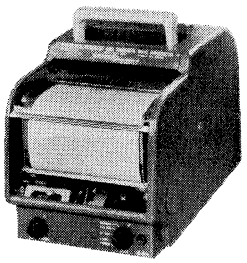
PANORAMIC ACCESSORY INSTRUMENTS

Invaluable Adjuncts to Panoramic Spectrum Analyzers

dependable CERTIFIED SPECIFICATIONS for accurate data

Panoramic RECORDER & SAWTOOTH WAVE GENERATOR

Model RC-3a



A companion recorder for the Panoramic Spectrum Analyzers listed below, the RC-3a provides permanent, 12" x 4½" inked plots of their readouts. Operation is automatic and repetitive for successive scan intervals. The sawtooth output voltage of the RC-3a is synchronous with the chart motor drive and is used as the sweep source in the companion analyzer. An internal marker indicates the start of a new scanning interval on the chart at 12" intervals to facilitate registration on the frequency calibrated chart paper. Scanning intervals normally provided are 10 seconds ("quick look" on analyzer CRT screen only) and 1, 2, 4, 8 and 16 minutes and 1, 2, 4, 8 and 16 hours. The recorder may also be used for an amplitude vs. time analysis of a single frequency to which the analyzer may be tuned.

SUMMARY SPECIFICATIONS

Compatible Panoramic Instruments:*

Spectrum Analyzers — Models LP-1a, SB-7bZ, SA-8b, SB-8b, SB-12a, SSB-3, SB-15 and Power Spectral Density Analyzer, Model PDA-1.

Companion Sweep Frequency Generators—Models G-2, G-3a, G-15.

Scanning Intervals:
10 seconds (readout on anlyzer CRT).
1, 2, 4, 8 or 16 minutes and hours.

Other Operation Modes:
1. Manual; no frequency sweep or chart advance.
2. Time-Frequency; no frequency sweep. Chart advances to plot amplitude vs. time for selected frequency.

Maximum Pen Speed: 0.25 seconds full scale.

Paper Registration Marker: Negative pip on chart paper.

Chart Calibration:
Frequency scale—Linear divisions printed.
Amplitude scale—Overlay scale provides lin and log calibrations.

Chart Size:
12" chart length per scan. Usable chart width, 4.5". Roll length, 100 ft.

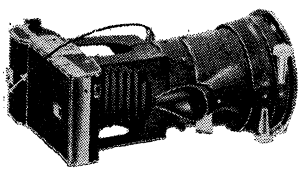
Optional 2nd Pen:
Used as marker of frequency, time, or other parameter. Requires external actuator.

Power Requirements: 115 v, 60 cps, 13 watts.

Cabinet Dimensions: 9¼" h x 8¼" w x 15" d.

*Specify companion analyzer when ordering RC-3a.

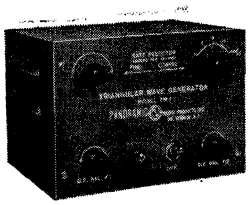
OSCILLOSCOPE CAMERA



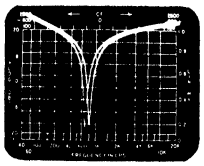
Fairchild Polaroid — Model F-296

Designed for use with Panoramic instruments incorporating a 5" flat face CRT, edgelit reticule and camera mount bezel, the F-296 provides FULL SIZE prints of Panoramic presentations without mirror image reversal. No photographic skill is required. Viewer permits simultaneous observation of the Panoramic display.

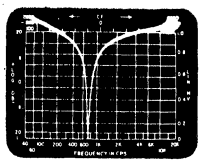
Panoramic TRIANGULAR WAVE GENERATOR — Model TW-1



Designed primarily to insure proper representation of the static response characteristics of sharply attenuating networks, the TW-1 operates in conjunction with the several Panoramic analyzers and response indicators listed below. Producing a continuously variable (0.05 to 60 per sec.) linear bi-directional time base enabling establishment of the proper scan rate, the TW-1 insures presentation of a true response (see block diagram, page 730). In operation the scan rate is adjusted downward until there is coincidence between the curves resulting from the forward and reverse swept frequency. **When ordering, state the model and serial number of equipment with which the TW-1 is to be used.)**



Incorrect reading due to excessive scan rate.



True response of filter.

SUMMARY OF SPECIFICATIONS

Companion Analyzers and Response Indicators: LP-1a and G-2 or PA-1, SB-7bZ and G-3a, SB-15 and G-15, SG-1.

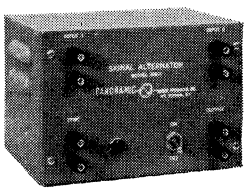
Rate of Scan Range: 0.05 to 60 per sec. Continuously adjustable. Considerably slower scan speeds available on request.

Output Waveform: Symmetrical triangle, constant amplitude.

Power Requirements: 115 v 50-60 cps, 10 watts. 250/285 v regulated DC from "parent" equipment.

Dimensions:
Cabinet—5¼" h x 7⅛" w x 5⅛" d.
Std. Relay Rack Panel mounting available in Accessory Panel B (7" h x 19" w) together with the SW-1, Panoramic Signal Alternator. Panel includes selector switch for TW-1 or internal sawtooth time base derived from analyzers.

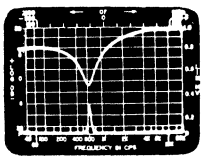
Panoramic SIGNAL ALTERNATOR — Model SW-1



An electronically triggered relay switch, the SW-1 permits observation of two independent inputs either for comparison or calibration purposes. With high persistence indicators, alternate displays can be viewed simultaneously thus permitting a very high degree of readability of small differences in frequency and/or amplitude.

The SW-1 is used with Panoramic Analyzers and the several Panoramic sweep frequency generating instruments (Models LP-1a, AP-1, SB-7bZ, SB-15, SG-1, G-2, G-3a, G-15, PA-1, SPA-3, G-6, TW-1).

The SW-1 also forms a part of Panoramic's Response Tracing System (see block diagram, page 730).



Marker pip injected alternately onto selected response indicator by means of Model SW-1 Signal Alternator and external signal generator. Precision of frequency determinations is greatly improved by this comparison method.

SUMMARY OF SPECIFICATIONS

Useful Switching Rate:
Bi-stable. 0-6.7 cps, as synchronized with "parent" equipments.

Power Requirements:
Self-contained requiring 115 v, 50-60 cps.

Dimensions:
Cabinet—5¼" h x 7⅛" w x 5⅛" d.
Std. Relay Rack Panel mountings available in Accessory Panel B (7" h x 19" w) together with the TW-1, Panoramic Triangular Wave Generator.

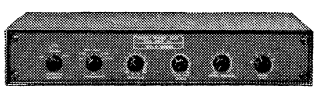
Panoramic MULTI-BANDWIDTH CRYSTAL FILTER — Model CF-1

An accessory to the Model LP-1a, Panoramic Sonic Spectrum Analyzer, the CF-1 provides 7 stable well defined IF filter bandwidths. The CF-1 facilitates quantitative power spectral density analyses and noise spectral studies because of the known shape and gain of the filter. Rectangular "flat topped" bandpass characteristics are used except for the 1 and 2 cps filters. **Bandwidths normally provided are 1, 2, 10, 20, 50, 100 and 200 cps. External 100 kc filters may also be used with CF-1.**

Crystal filters are employed with extremely rapid attenuation out of band. Individual gain equalizers are provided.

Dimensions: In cabinet: 5½" h x 19" w x 11" d.
Rack panel style: 8¾" h x 19" w.
Rack style is intended for use with LP-1a power supply mounted behind CF-1.

Power Requirements: From LP-1a.



AUXILIARY FUNCTION UNIT C (for LP-1a)

Use of this compact 19" x 3½" unit adds significantly to the utility of the Panoramic Sonic Analyzer, Model LP-1a.

The Auxiliary Function Unit C provides in addition to normal LP-1a specifications

- 10 second scan interval
- Continuously adjustable IF bandwidth, 10 cps-1 kc.
- Step adjustable IF bandwidths of 10, 30, 100, 300 and 1000 cps.
- Continuously adjustable linear sweep width up to maximum of 5 kc.
- Adjustable smoothing (low pass output) filter.
- Voltage calibration reset.

Random signal spectrum analysis is made more convenient when IF filter bandwidth, gain, and smoothing are variable. Generally, the Auxiliary Function Unit is designed for applications involving a high degree of frequency resolution or measurements of noise waveforms. The added controls are valuable when LP-1a is employed with the

Model PDA-1—Power Spectral Density Analyzer

Model RC-3a—Panoramic Recorder

Model TFA-1—Panoramic Time Frequency Analyzer

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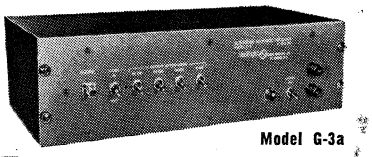
PANORAMIC
RADIO PRODUCTS, INC.
THE PIONEER IS THE LEADER

UNIQUE FREQUENCY RESPONSE CURVE TRACING SYSTEMS

0.5 cps-15 mc . . . Amplitude • Phase



Model G-3a

- Automatic plot of amplitude response vs. frequency (linear or decibel).
- Systems all employ a Panoramic Spectrum Analyzer and companion sweep frequency generator.
- Ideal for acoustic devices, filters (particularly band stop), transmission lines, shaker table excitation, amplifiers, hearing aids, etc., and where measurements through large dynamic ranges must be made.
- Controls on analyzer select frequency excursions.

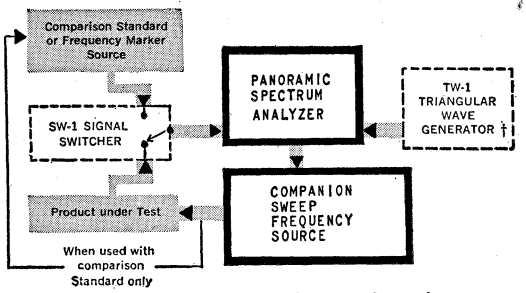
Triangular Wave Generator, Model TW-1, overcomes problems of time delays and ringing of sharply attenuating networks. Signal Alternator, SW-1, completes the broad scope of the system by making possible comparison of characteristic being analyzed vs. a standard unit or implementing insertion of frequency marker pips from a signal generator.

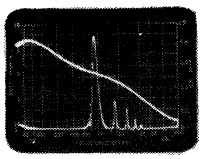
Advantages of the Panoramic Systems are:

- Response to fundamental frequency only.
- Discrimination against noise and hum.
- Virtually unlimited dynamic range.
- Single line presentation.

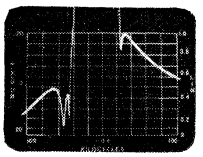
†The Model TW-1 is used only with Models LP-1a, SB-7bz, and SB-15.

See the Panoramic Analyzer Vol. 1, No. 2 for additional information.





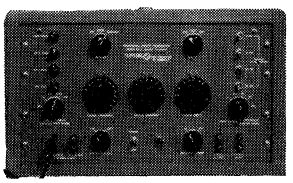
Harmonic analysis and response curve of poorly adjusted high fidelity preamplifier and amplifier. On one sweep, single tone is injected to show harmonic distortion; on next sweep, varying tone is injected from G-2 to show response curve. SW-1 serves to alternate functions.



Filter Response using Model SB-7bZ Panoramic Ultrasonic Analyzer and Model G-3a. Filter Bandpass 52.5 kc ±15%. Passband is deflected 40 db above full scale permitting precise plot near —80 db region. The great dynamic range of the selective indicator curve tracing system is illustrated vividly.

For use in the frequency range	0.5 cps to 2250 cps	20 cps to 22,500 cps	1 kc to 300 kc	100 cps to 525 kc	200 cps to 15 mc
Model	G-5	G-2	G-3a	G-15	G-6
Panoramic Analyzer Models with which used*	LF-2a LF-2aM	AP-1 LP-1a	SB-7bz	SB-15	SPA-3 SPA-3/25
Output Voltage (into matched load)	0 (nom.) to 5 v	50 μv to 5 v	250 μv to 2.5 v	250 μv to 2.5 v	200 μv to 0.2 v
Output Attenuator	60 db in 20 db steps plus continuous control	100 db in 10 db steps	80 db in 1 db steps	80 db in 1 db steps	60 db in 5 db steps
System Amplitude Response Flatness (combined analyzer and G-unit)	±0.5 db 1 cps to 2250 cps	±1 db	±0.5 db	±1 db 200 cps to 525 kc	±1.5 db
Output Impedance	3000 ohms	100, 500, 3000 ohms selectable	600 ohms	600 ohms	72 ohms
Power Requirements	**	Self-contained power supply requiring 115 v, 50-60 cps line.			
Panel dimensions	5¼" h x 19" w. Panels can be mounted in standard 19-inch electrical equipment rack.				
Cabinet dimensions	6" h x 20" w x 19" d	5¼" h x 19" w x 9" d	5¼" h x 19" w x 9" d	5¼" h x 19" w x 9" d	6" h x 20" w x 19" d

Note: Frequency scale, amplitude scale, and sweep rate determined by analyzer.
*When ordering a G-unit for a previously supplied Panoramic Analyzer, specify the serial number of the Analyzer.
**115 v (nominal), 60 cps, single phase. Internal line regulator included. Provision for other power lines supplied on special order.



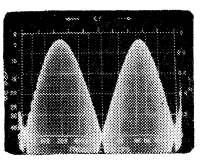
Panoramic SWEEP GENERATOR

Model SG-1

20 to 200,000 cps

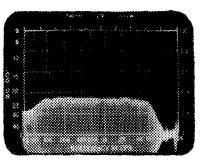
A highly versatile instrument, the Model SG-1 incorporates directly calibrated sonic and ultrasonic sweep ranges in one unit. It is designed to operate with an oscilloscope indicator for broad and narrow band curve tracing from 20-200,000 cps. Panoramic will recommend or furnish suitable oscilloscopes upon request.

Model SG-1R is similar to SG-1 but has an additional output terminal for use primarily in tests of tape, wire, and disk recorders. The signal at this terminal includes an adjustable positive pulse which occurs after each 1 second scan interval. The pulse is used to synchronize the oscilloscope time base during playback of test recordings. SG-1R permits rapid plots of the overall frequency response of recorders in operational checks, maintenance, production alignment, and laboratory use.



SG-1 40 cps to 20 kc log sweep showing internal null markers at 40 cps, 1 kc, and 20 kc.

SG-1R used for response test of tape recorder upon playback of test record. Log sweep (40 cps-20 kc) and linear amplitude used.



SUMMARY OF SPECIFICATIONS

Direct Reading Screens: Frequency and amplitude calibrated for adjunct oscilloscopes, 3" or 5". **Specify model of oscilloscope when ordering.**

Frequency Range and Sweep Widths:
Log—40-20,000 cps or 400-200,000 cps, true decade, selectable.
Linear—Two selectable linear sweep widths calibrated and continuously variable from 20 kc to 100 cps, and 200 kc to 1 kc. Sweep width remains constant as calibrated center frequency control is varied anywhere between 0 to 200 kc.

Amplitude Scales: Linear; and 40 db log using SG-1 log amplifier.

Output Voltage: 2 v rms into open circuit, 1 v into 600 ohms. Uniform within ±5%. 75 db output attenuator in 5 db steps.

Return Signal Amplifier and Attenuator: Covering range of 40 μv to 200 v.

Distortion and Hum: At least 40 db below fundamental output.

Sweep Rates: 1/ sec. internal or 0.05 to 60/ sec. with the TW-1 Panoramic Triangular Wave Generator.

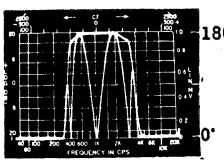
Internal Markers: Passive, fundamental frequency null type. Fixed markers at 40, 1000 and 20,000 cps. Variable markers 20 to 20,000 cps in four decade steps. Separate output for variable markers for use with the SW-1, Panoramic Signal Alternator, for alternate presentation of marker and response characteristic under test.

Power Requirements: 115 v (nominal), 60 cps, single phase. Provision for other power lines supplied on special order. Voltage regulator supplied with all units.

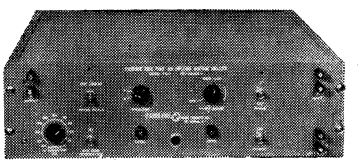
Dimensions: Cabinet—12⅛" h x 22½" w x 20½" d.
Std. Relay Rack Panel—10½" h x 19" w.

Panoramic SONIC PHASE and AMPLITUDE RESPONSE ANALYZER

Model PA-1



Bandpass filter analysis with PA-1 and LP-1a. Both amplitude and phase responses are automatically plotted on same frequency axis.



The Model PA-1, in conjunction with the Model LP-1a, Panoramic Sonic Analyzer, performs automatic curve tracing of attenuation and phase shift vs. frequency. Both curves appear on the same frequency axis facilitating simple correlation between the two characteristics. The Model PA-1 frequency range of 20-22,500 cps makes it ideal for laboratory and production line tests of audio frequency filters, amplifiers, lines, transducers, etc.

The amplitude tracing operation of the Model PA-1 is similar to that with the Model G-2 herein described.

With a single front panel switch, the Model PA-1 becomes a phase shift response tracer over the segment of the spectrum selected on the Model LP-1a. The linear vertical scale of the Model LP-1a then normally corresponds to a 0-180° phase calibration. For greater phase angles, the instrument reads at a baseline for 0, 360°, 720°, etc. and maximum deflection at odd multiples of 180°.

Full scale deflection of 90°, 36°, 18°, 9° or 3.6° are readily selected by front panel attenuators for accurate measurement of smaller angles. A phase reversal switch effectively adds 180° to the phase indication. With this provision, small phase shifts in the region of 180°, 540°, etc. may be magnified as with small angles near 0°.

Lag and lead sense is simply determined by switching in an internally generated lead phase shift and noting the direction of the change in the presentation.

SUMMARY OF SPECIFICATIONS

Frequency Excursion, Amplitude Scales, and Scan Rates: As selected by Model LP-1a and accessories to Model LP-1a.

Output: 5 volts rms into 600 ohms load. Attenuation provided 0-100 db in 10 db steps. Flatness ±1 db.

Vertical Readout Scales:
Amplitude—Linear and two decade log. Virtually unlimited dynamic range.
Phase—0-180 degrees and odd multiples correspond to full scale. Small phase shifts, 90°, 36°, 18°, 9° and 3.6° may be expanded to full scale on Model LP-1a.

Dimensions:
19" w x 5¼" h panel x 19" d cabinet.

Power Requirements:
95-125 volts, 50-60 cps, 125 watts.

Condensed information on standard Panoramic instruments is given in this catalog. For detailed technical data, application notes and prices . . . write . . .

See YELLOW SECTION for Local Offices, Telephones, etc.

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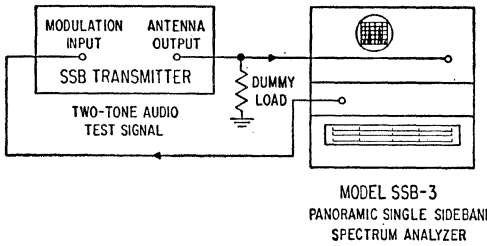
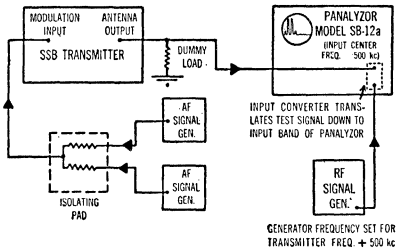
SINGLE SIDEBAND SIGNAL ANALYSIS

dependable CERTIFIED SPECIFICATIONS for accurate data



Block Diagram of Two Tone Test Set-up using Model SSB-3



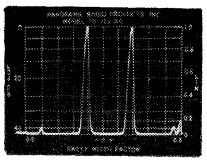
Block Diagram of Two Tone Test Set-up using Model SB-12a

SSB transmitters and exciters must operate with a high degree of linearity in order to realize full bandwith conservation potentialities. Even relatively small distortions cause spurious signals outside the permissible narrow channel used for SSB. An automatically scanning spectrum analyzer is the most convenient means of pinpointing these effects during set-up, maintenance, and operation of such equipments.

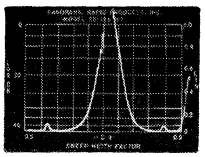
The two-tone test is often used to measure system linearity. See diagrams. Current specifications often require extended range spectrum analysis to —60db. The Panalyzor Model SB-12a (see page 733) and the Model SSB-3 Spectrum Analyzer have been designed to incorporate the needed dynamic measurement range among other important features.

The spectrum analyzer is often utilized in SSB systems for measurement of dynamic transmission bandwidth, residual hum sidebands, vestigial carrier amplitude, out-of-band radiations such as RF harmonics and other spectral properties. Volume 1, No. 3 of the Panoramic Analyzer covers the theoretical and measurement background in some detail.

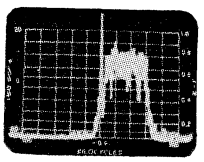
SB-12a and the complete self-checking package, the Model SSB-3 are unsurpassed instruments for meeting unusually severe rf measurement requirements. The Panoramic instruments may be efficiently operated by non-professional personnel. Infrequently needed controls are out of sight. Most settings are taken care of automatically in the 5 preset analysis modes selected by one switch.



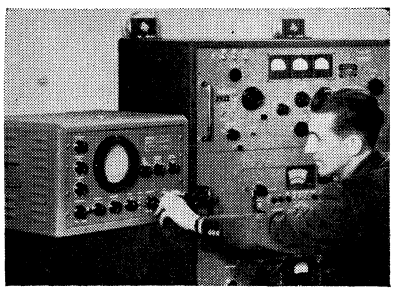
TWO TONE DISTORTION T5ST Preset sweep width: 10 kc. Odd order distortion products are —40 db and —38 db from two test signals. Asymmetry in smaller pips due to slight FM in signal source under analysis.



HUM TEST. Hum sidebands are shown at —59 db and —60 db. Sweep width = 150 cps. Main tone pip is deflected 20 db above full scale.

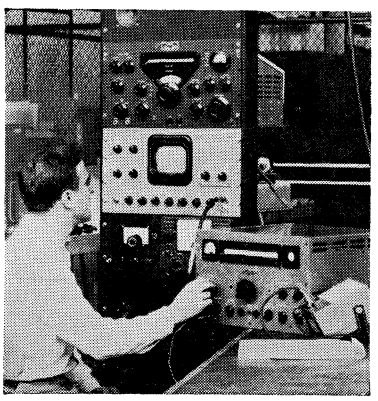


WHITE NOISE MODULATION OF SSB TRANSMITTER without carrier suppression shows spillover effects. Input filter 300 cps to 3000 cps. Sweep width = 8 kc.



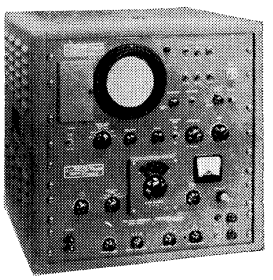
PRECISE ANALYSIS OF COMPONENTS IN OUTPUT SPECTRUM derived from Technical Material Corporation SSB transmitter are displayed automatically by the Panalyzor, Model SB-12a.

Courtesy: Technical Materiel Corporation



TWO TONE TEST on Eldico Model SSB-100F Single-Side Band Exciter using Panalyzor Model SB-8b, Type T-200. A communications receiver front end and mixer is employed here for conversion to 500 kc, the Panalyzor input center frequency. The SB-8b Type T-200 and the SB-12a Panalyzors are well-suited to SSB measurements.

Courtesy: Eldico Corporation



Panoramic SINGLE SIDEBAND SPECTRUM ANALYZER

Model SSB-3

A complete instrument which incorporates all needed facilities to set up, adjust, monitor, and trouble shoot SSB transmissions. The compact SSB-3 incorporates:

- **Panalyzor, Model SB-12aS**
- **Built-in stable tuning head for 2 mc to 40 mc range**
- **Two-Tone Audio Generator**
- **High Impedance Input Probe**
- **Self-Checking Features**

The vast majority of the spectrum tests on single sideband systems can be performed using only the SSB-3. Results are foolproof. Simulated crystal controlled input signals assure, at a glance, the precision of readings. The tuning head is simply tuned and includes a direct reading frequency scale and metered output level.

FEATURES

- Pre-set sweep widths of 150, 500, 2000, 10,000 and 30,000 cps with automatic optimum resolution for fast, easy operation.
- Continuously variable sweep width up to 100 kc for additional flexibility.
- 60 db dynamic range.
- 60 cps hum sidebands measurable to —60 db.
- High order sweep stability through AFC network.
- Precisely calibrated lin and log amplitude scales.
- Standard 5" CRT with camera mount bezel.
- Outputs for chart recorder Model RC-3a or large screen CRT oscilloscope.

SPECIFICATIONS

(For sweep width, sweep rates, resolution, amplitude scales, and other spectrum analyzer parameters, the SB-12a specifications apply. See Page 733.)

Frequency Range (with self-contained tuning head): 2 mc to 40 mc.

Two-Tone Audio Generator consists of:
2 separately adjustable oscillators combined in a highly linear adder.
Generator #1: 700 cps, 1100 cps, 1500 cps and 1900 cps
Generator #2: 1300 cps, 1700 cps, 2100 cps and 2500 cps.
} Output: 2 volts max.
Other frequencies may be ordered.

Input Probe: Cathode follower. Nominal input imped.: 12 meg. shunted by 5$\mu\mu$f.

Internal Self-Checking Features: Two crystal controlled oscillators, separated by approximately 2 kc, are built into the equipment. Their outputs, combined linearly, simulate a two-tone single sideband test signal and may be connected to the analyzer input in place of an external signal. They may be used to check the residual distortion of the analyzer.

Power Consumption: Approximately 300 VA.

Power Sources: 105 to 125 volts, 47.5 to 450 cps. (A line regulator is supplied with the SSB-3 which allows operation from 95 to 125 volts, 60 cycles, with improved stability.) At other power line frequencies, special regulators are available.

Dimensions: Panels suitable for 19" standard relay rack mounting.
Analyzer Panel: 10½" h. **Two-Tone Generator Panel:** 3½" h. **Tuning Head Panel:** 5¼" h. **Overall:** 21⅝" h x 22" w x 21⅛" d (in cabinet).

PANORAMIC RADIO PRODUCTS, Inc., 520 South Fulton Avenue, Mount Vernon, N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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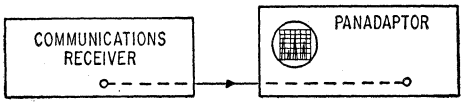
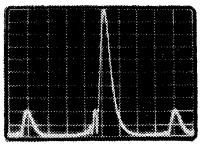
PANORAMIC
RADIO PRODUCTS, INC.
THE PIONEER IS THE LEADER

RF—VHF • UHF SPECTRUM ANALYSIS

PANADAPTORS

Designed to operate with receivers having an IF equal to the Panadaptor center frequency and show signals on either side of the frequency to which the receiver is tuned, Panadaptor response is preshaped to compensate for receiver front end selectivity to give a uniform overall response. Connection is to the output of the receiver converter stage.





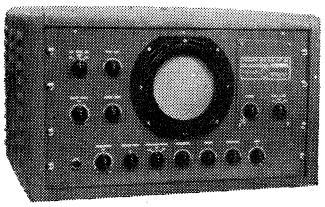
Tone modulated AM spectrum analysis showing carrier and sidebands. Sidebands are 20% of carrier level indicating 40% modulation.

PANADAPTOR equipments are uniquely suited for . . .

- Monitoring communications frequencies at airports and communications centers for possible off-frequency transmissions with minimum chance of message loss.
- Detecting and analyzing interference caused by splatter, improper location of carrier frequencies, spurious modulation, parasitics, etc.
- Instruction in universities and technical schools where their graphic indication of various RF phenomena makes them easy to understand and simple to remember.

Panadaptors are available in 2 models and several types for use with receivers having IF's of 455 kc through 30 mc. Panadaptor responses are optimized for a particular model receiver. Please specify receiver type when ordering. Panadaptors are available to customer specifications for use with receivers with non-standard IF or other unusual properties.

Panoramic PANADAPTOR
Model SA-8b



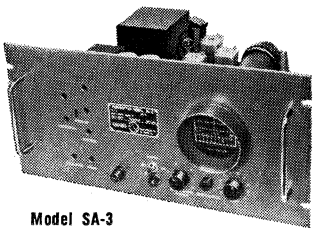
Model SA-8bZ Type T-200

The SA-8b series are equipped with all the circuit features of laboratory grade spectrum analyzers and are intended for use in critical monitoring of receiver input spectra. Adjustable sweep width, sweep rate, and IF bandwidth controls are furnished for convenience in setting up highly resolved displays. Other features of SA-8b include linear, log, and power amplitude scales, a high persistence 5" CRT, and an adjustable Z axis intensifier for pulsed rf studies.

The rapidly scanning **SA-3 Panadaptors** have been found invaluable "eyes for receivers" for almost 20 years in military and commercial applications. They are compact extremely rugged units with 3" CRT. Operationally, they are simple with only sweep width, gain, and center frequency as often used controls. IF bandwidth is fixed. Approximately a 20% improvement in resolution is achieved at a sweep width of 20% of maximum or less.

Rack mount and cabinet styles are available in all types.

PANADAPTOR
Model SA-3



Model SA-3

PANADAPTORS

	Model SA-8b (1)				Model SA-3									
	Type T-100	Type T-200	Type T-1000	Type T-10,000 (7)	Type T-50	Type T-100	Type T-200	Type T-1000	Type T-1000	Type T-2000TDI (2)	Type T-2000NC (3)	Type T-3000	Type T-3000CI (4)	Type T-6000
For receivers with Intermediate frequency	455kc or 500kc (specify)	455kc	5.25mc	30mc	455kc	455kc or 500kc (specify)	455kc	5.25mc	10.2kc or 10.7kc (specify)	30mc	30mc	30mc	21.4mc	30mc
Sweep Width	0-100kc	0-200kc	0-1mc	0-10mc	0-50kc	0-100kc	0-200kc	0-1mc	0-1mc	0-2mc	0-2mc	0-3mc	0-3mc	0-6mc
Direct Sensitivity (5)	1000μv	2000μv	2000μv	150μv	200μv	200μv	200μv	200μv	200μv	500μv	10μv	1mv	50μv	10mv
Ratio of Side Peaks to Ctr. (Min.)	20:1	30:1	5:1	2.5:1	6:1	8:1	30:1	5:1	3:1	1.7:1	1:1	4:1	5:1	4:1
Sweep Rate	1 to 60 sweeps per sec. continuously variable. Sweep may be operated externally synchronized, synchronized to power line, or non-synchronized.				30 sweeps per second, line synchronized. (25 sweeps/sec with 50-cps power line.)									
Amplitude Scales	Linear (calibrated from 0 to 1.0). Logarithmic (from 0 db to —40 db). Power.				Nominally linear									
Resolution Capabilities. Depends upon sweep rate and sweep width.	50cps to 4kc Variable	50cps to 4kc Variable	200cps to 10kc Variable	9kc to 80kc Variable	At maximum sweep width: 2.5kc	3.4kc	4.4kc	11kc	11kc	20kc	20kc	25kc	25kc	50kc
					Approximately 20% improvement at 20% of full sweep width.									
Cathode-ray Tube	5 inch. 5UP7, 5ADP7 (6) optionally available (add Z to model #).				3 inch. Type 3BP1A									
Power Requirements	115v (nominal), 60 cps, single phase. Provision for other power lines supplied on special order. Power line regulators supplied with all equipments.				115/230v, 50-60 cps, single phase. Equipment normally wired for 115v. Specify if 230-v wiring required.									
DIMENSIONS	Analyzer Cabinet—12⅛" h x 22½" w x 20½" d. Analyzer Std. Relay Rack Panel—10½" h x 19" w. Power Supply Cabinet—8¾" h x 16¼" w x 11⅛" d. Power Supply with Std. Relay Rack Panel supplied on special order.				Cabinet—7¼" h x 13¼" w x 13" d. Std. Relay Rack Panel—8¾" h x 19" w availabe on special order (with or without dust cover).									

1. Also available in types T-200CI, T-1000CI, T-2000CI and T-3000CI for use with special purpose receivers having an intermediate frequency of 21.4 mc. Available in type T-2000 for use with special purpose receivers having an intermediate frequency of 30 mc.
2. Designed for Tele-Dynamics Inc. receivers with 30-mc intermediate frequency.
3. Designed for Nems-Clark receivers with 30-mc intermediate frequency.
4. Designed for Nems-Clark receivers with 21.4-mc intermediate frequency.
5. Direct sensitivity, (Model SA-8b) is the maximum voltage at the center frequency required for a full scale deflection on the linear amplitude scale. Direct sensitivity (Model SA-3) is the maximum voltage at the center frequency required for ¼ inch deflection.
6. All equipments furnished with flat-faced type 5ADP7 crt are also provided with edge lit reticule and camera mount bezel.
7. Variable differential frequency calibration markers (100kc to 10mc separation) optionally available (Add letter M to Model number)

Condensed information on standard Panoramic instruments is given in this catalog. For detailed technical data, application notes and prices . . . write . . .

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RF—VHF • UHF SPECTRUM ANALYSIS

dependable CERTIFIED SPECIFICATIONS for accurate data

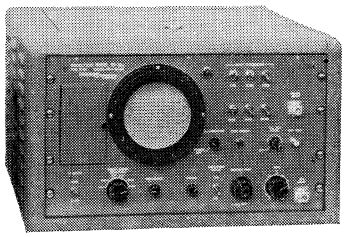
PANALYZORS

PANALYZORS are automatically scanning analyzers which tune through a spectrum of adjustable sweep width about a fixed center frequency. By means of an external signal generator and the broadband input converter in the Panalyzor which translate the spectrum segment to be analyzed down to the input band of the Panalyzor, signals can be observed anywhere in the rf spectrum up to 1,000 mc. Higher frequencies may be analyzed with suitable external mixers.

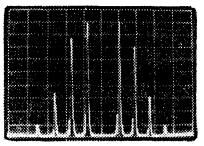
Panoramic Panalyzors can be used to . . .

- Investigate pulsed RF signals
- Analyze AM, FM and SSB transmitters
- Spot spurious oscillations and modulations
- Monitor communications bands, especially for signals very closely adjacent in frequency
- Test industrial RF equipment, diathermy and electrosurgical instruments

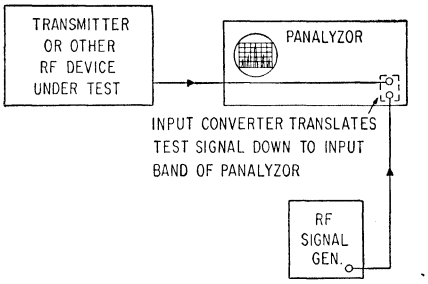
PANALYZORS are offered in 3 models and numerous types. The user may select among the various Panalyzors to attain the requisite maximum sweep width, sensitivity, and resolution capability. It is advisable to specify a Panalyzor with as small a maximum sweep width as practicable because as sweep width capability is reduced in a given series the Panalyzor's resolution capabilities and sweep repeatability on reduced scans are commensurately improved.



Model SB-12a



Panalyzor FM sideband analysis shown at carrier null. Precise deviation checks are readily made. See **Panoramic Analyer,** Vol. 1, No. 4.



Ideal for SSB Analysis—The SB-12a is a critically designed Panalyzor for use especially for RF spectrum analysis with low frequency modulation, intermodulation distortion, hum sideband measurements, etc. SB-12a features which are especially applicable to narrow band analysis of transmitter and exciter spectra as in single sideband systems include . . .

- 60 db linear dynamic range for precise measurement of in-band (odd order) distortion.
- Exceptional selectivity permits analysis of 60 cps hum sideband as far down as 60 db.
- AFC stabilized sweep on narrow scans.
- Internal Frequency Markers and other self checking facilities.
- Tedious setting up of highly resolved analyses is avoided by 5 preset operating modes which automatically select optimized sweep width, sweep rate, IF bandwidth and gain. A push-button speed-up control aids in location of signals in 10 sec. per scan tests.

A permanent, ink-on-paper readout is provided when the RC-3a is employed with the SB-12a. The SB-12a is recommended for general high resolution RF waveform analysis. Applications are found in teletype, oscillator stability studies, complex transmissions, bandwidth measurements, etc. Constructed according to military equipment practice.

Panalyzor Model SB-8b—Important features of these easily operated equipments are sweep width continuously variable from maximum to zero . . . continuously variable resolution . . . continuously variable sweep rate from 1 to 60/sec. with provisions for external and line sweep synch . . . linear, logarithmic and power ampliture scales . . . an adjustable Z axis intensifier for pulse and noise displays . . . 5" CRT.

The SB-8b Type T200 offers 50 cps resolution capability at reduced sweep for precise analysis of adjacent channels and closely spaced sidebands. The **SB-8b Type T10,000,** with 10 mc maximum sweep width is recommended for relatively broad band monitoring. **The Type T1000** characteristics are intermediate between the former two.

As general purpose low cost instruments, the SB-3 Panalyzors have many laboratory and field applications demanding rapid spectrum analysis. The indicator is a medium persistence 3" CRT. Sweep rate is line synchronized to 30 cps. Power source requirements are 115/230 v, 50-60 cps. SB-3 features sweep widths continuously variable from maximum to zero.

Several types are offered and these differ mainly in maximum sweep width and resolution specifications (see table). IF bandwidth is fixed. Approximately a 20% improvement in resolution is achieved at a sweep width of 20% of maximum or less.

PANALYZORS

	Model SB-12a	Model SB-8b			Model SB-3				
	Type T-100	Type T-200	Type T-1000	Type T-10,000 (4)	Type T-50	Type T-200	Type T-1000	Type T-3000	Type T-6000
Sweep Width	Preset: 150, 500 cps; 2, 10, and 30kc Continuously variable: 0 to 100kc.	0 to 200kc	0 to 1mc	0 to 10mc	0 to 50kc	0 to 200kc	0 to 1mc	0 to 3mc	0 to 6mc
Input Center Frenquency	500kc	500kc	5mc	30mc	500kc	500kc	5mc	30mc	30mc
Direct Sensitivity (1)	20μv	100μv	500μv	750μv	20μv	20μv	100μv	1mv	1mv
Conversion Sensitivity (2)	2mv	10mv	50mv	100mv	1mv	1mv	5mv	10mv	10mv
Bandpass Amplitude Response Flatness	±5%	±5%	±7%	±15%	±5%	±5%	±10%	±10%	±12%
Sweep Rate	0.1 to 30 cps continuously variable. Sweep non-synchronized. See also Model RC-3a specification.	1 to 60 sweeps/sec. continuously variable. Sweep may be externally or power line synch'd or non-synch'd.			30 sweeps per sec, line synchronized (25 sweeps/sec with 50-cps power line).				
Amplitude Scales	Linear—calibrated from 1.0 to 0 Logarithmic—calibrated from 0 db to −40 db	Linear—calibrated 1.0 to 0 Log—from 0 db to −40 db. Power.			Nominally linear				
Resolution capabilities depend upon sweep rate (SR) and sweep width (SW). Examples of resolution (Res) listed.	SW = 150cps, SR = 0.1cps; Res = 10cps SW = 10kc, SR = 1cps: Res = 180cps SW = 100kc, SR = 5cps: Res = 1.5kc	50cps to 4kc variable	200cps to 10kc variable	9kc to 80kc variable	At Maximum Sweep Width: 2.5kc | 4.4kc | 11kc | 25kc | 40kc Approximately 20% improvement at 20% of full sweep width.				
Frequency Separation (ΔF) required to measure unequal Signal Amplitudes. Depend upon product of Sweep Rate (SR) and Sweep Width (SW). Examples listed.	SR(cps) x SW(kc) = 0.015: E_2/E_1 = 100, ΔF = 28cps; E_2/E_1 = 1000, ΔF = 60cps SR(cps) x SW(kc) = 10: E_2/E_1 = 100, ΔF = 750cps; E_2/E_1 = 1000, ΔF = 1200cps	SR(cps) x SW(kc) = 0.6: E_2/E_1 = 100, ΔF = 200cps	SR(cps) x SW(kc) = 1: E_2/E_1 = 100, ΔF = 550cps	SR(cps) x SW(mc) = 10: E_2/E_1 = 100, ΔF = 35kc	Not so rated.				
Cathode-ray tube (3)	5 inch. Type 5ADP7	5", Type 5UP7. 5ADP7 optional (add letter Z to model #).			3 inch. Type 3BP1A.				
Power Requirements	115 v (nominal), 60 cps, single phase. Provision for other power lines on special order. Power line regulators supplied with all equipment.				115/230v, 50-60 cps, single phase. Equipment normally wired for 115v. Specify if 230v wiring required				
DIMENSIONS	Analyzer Cabinet—12⅛" h x 22½" w x 20½" d. Analyzer Std. Relay Rack Panel—10½" h x 19" w. Power Supply Cabinet—8¾" h x 16¼" w x 11⅛" d. Power Supply with Std. Relay Rack Panel supplied on special order.				Cabinet—7¼" h x 13¼" w x 13" d. Std. Relay Rack Panel—8¾" h x 19" w available on special order (with or without dust cover).				

1. Direct sensitivity, (Models SB-12a and SB-8b) is the maximum voltage at the center frequency required for a full-scale deflection on the linear amplitude scale.
   Direct sensitivity (Model SB-3) is the maximum voltage at the center frequency required for ¼ inch deflection.
2. Conversion sensitivity (Models SB-12a and SB-8b) is the maximum rms signal needed at one input terminal for a full-scale deflection on the logarithmic-amplitude scale when 0.1 volts rms from an external signal generator is injected into the other input terminal.
   Conversion sensitivity (Model SB-3) is the maximum rms signal needed at one input terminal for ¼ inch deflection when 0.1 volts rms from an external signal generator is injected into the other input terminal.
3. All equipments furnished with flat-faced type 5ADP7 crt are also provided with edge lit reticule and camera mount bezel.
4. Variable differential frequency calibration markers (100kc to 10mc separation) optionally available (Add letter M to Model number)

PANORAMIC RADIO PRODUCTS, Inc., 520 South Fulton Avenue, Mount Vernon, N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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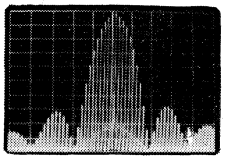
PANORAMIC
RADIO PRODUCTS, INC.
THE PIONEER IS THE LEADER

PANORAMIC MICROWAVE SPECTRUM ANALYZERS



Pulsed rf spectrum analysis

With two direct reading instruments, Panoramic offers simply obtained analysis of microwave signals up to 44000 mc. The Models SPA-1 and SPA-4 are used for

- Visual sideband analysis of AM, FM, or pulsed signals with provisions for setting optimum resolution.
- Measurement of energy distributions on direct reading power amplitude scale.
- Accurate frequency determination of nulls and power points with frequency deviation markers.
- A rapid means for finding parasitic oscillations, unwanted modulations, hum and noise effects on transmission systems.
- Visual indication of frequency instability under shock, non-linear modulations, varying loads, etc.
- Observation of pulse spike "dropouts" with easily synchronized stationary displays.
- Radiation measurements.
- Observation of noise spectra.

SPA-1 and SPA-4 each include tuning head(s) and an automatically scanning rf receiver. Their individual frequency ranges, dispersion, sensitivity, and other specifications are shown below.

Each incorporates continuously adjustable IF bandwidth, sweep rate (1 cps to 60 cps, free running, line synchronized or externally synchronized), highly stabilized swept local oscillators, DC heaters for freedom from hum modulation, direct-calibrated frequency markers, DC coupled vertical deflection amplifiers, 3 amplitude scales (linear, 40 db log, and power), shielded construction, and 5" CRT indicator.

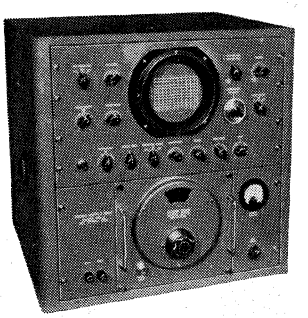
SPECIFICATIONS FOR MICROWAVE SPECTRUM ANALYZERS

	Model SPA-1	Model SPA-4
Frequency Range	50 mc to 4000 mc	10 mc to 44,000 mc
Number of Tuning Heads	2 interchangeable	1
Frequency Range of Tuning Head(s)	RF-2: 50 mc to 250 mc RF-3: 220 mc to 4000 mc in 5 ranges	10 mc to 44,000 mc in 8 bands (selected by band switch)
Sweep Width (Dispersion)	0 to 10 mc continuously variable	0 to 70 mc (wide band) 0 to 5 mc (narrow band) both continuously variable
Resolution Capabilities (Depends upon sweep width and sweep rate.)	9 kc to 80 kc continuously variable See also SB-8b T-10,000 Specifications	1 kc to 80 kc continuously variable
Sensitivity (Minimum discernible signal)	With RF-2: 50-250 mc: —89 dbm without PRA-1 preamplifier —100 dbm with PRA-1 preamplifier With RF-3: 220-950 mc: —100 dbm with PRA-1 preamplifier 470-1870 mc: —94 dbm with PRA-1 preamplifier 720-2790 mc: —88 dbm with PRA-1 preamplifier 970-3710 mc: —82 dbm with PRA-1 preamplifier 1220-4000 mc: —76 dbm with PRA-1 preamplifier	10-420 mc: —100 dbm 350-1000 mc: —94 dbm 910-2200 mc: —90 dbm 1980-4560 mc: —84 dbm 4500-10,880 mc: —83 dbm 10,880-18,000 mc: —76 dbm 18,000-26,400 mc: —62 dbm 26,400-44,000 mc: —54 dbm
Amplitude Scales	Linear (calibrated from 1.0 to 0) Logarithmic (calibrated from 0 db to —40 db) Power	
Sweep Rate	1 to 60 cps. May be synchronized to either external source or power line or non-synchronized.	
Dispersion Marker	Continuously variable differential marker, ±50 kc to ±5 mc.	Continuously variable marker, 0 to 70 mc. Vernier provided. External modulation jack provided for precise narrow band sweep width calibration
Input Impedance (nominal)	50 ohms	50 ohms
RF Input Connector	Type N	10 mc—10880 mc: Type N 10880 mc-18000 mc: UG-419/U 18000 mc-26400 mc: UG-425/U 26400 mc-44000 mc: UG-381/U Note: Coaxial to wave guide adapter supplied for 8.2-12.4 kmc (UG-39/U flange) Waveguide to waveguide adapter supplied for 8.2-12.4 kmc to 12.4-18.0 kmc (UG-39/U to UG-419/U flange)
Visual Indicator* 5-inch crt.	5ADP7 or 5UP7 (See available styles)	5ADP1 (other phosphors on request).
Available Styles	A: Analyzer equipped with curved-face crt, type 5UP7 B: Analyzer equipped with flat-face crt, type 5ADP7 C: Same as Style A + PRA-1 preamplifier D: Same as Style B + PRA-1 preamplifier	
Power Requirements	115v (nominal), 60 cps, single phase. Provision for other power lines supplied on special order. Equipment supplied with constant voltage transformer.	115/230v single phase. Equipment normally wired for 115 v. Specify if 230 v wiring is required.
Panel Dimensions	Analyzer: 10½" h x 19" w†. Power Supply with tuning head: 8¾" h x 19" w†	Indicator Unit: 7" h x 19" w§ Tuning Head: 14" h x 19"w§
Cabinet Dimensions	21⅛" h x 22½" w x 21" d	22" h x 20" w x 23" d§

*All equipments furnished with flat-faced type 5ADP7 or 5ADP1 crt are also provided with edgelit reticule and camera mounting bezel.

†Panel can be mounted in standard 19-inch electrical-equipment rack.

§Equipment can be supplied mounted in a common cabinet or for mounting in a standard 19-inch electrical-equipment rack.



Panoramic SPECTRUM ANALYZER

Model SPA-1

50 MC-4000 MC with 2 PLUG-IN TUNING HEADS

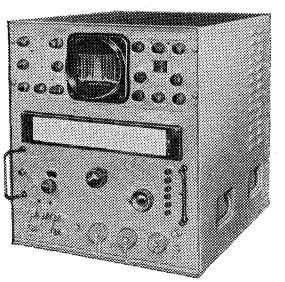
For rf measurements through S Band, the SPA-1 provides for reliable and sensitive spectrum analysis at very low cost. Dispersion is adjustable from 0-10 mc. IF filter bandwidth is variable from 9 kc-100 kc. Differential frequency markers are calibrated from 100 kc-10 mc dispersion.

The SPA-1 consists of Panoramic Indicator Model SC-8b, Type T-10,000 and precise direct reading interchangeable tuning heads which include a wide band crystal mixer. Tuning Head RF-2 covers the range from 50 to 250 mc on fundamentals, while the RF-3 covers 220-4000 mc in five ranges. Both heads have a single frequency control dial with an accuracy of ±1%. Low frequency swept oscillator provides high inherent stability and reliability. Freedom from hum modulation increases utility at low sweep widths. Optional features include preamplifier (Model PRA-1) for sensitivities as high as —100 dbm and a flat face cathode ray tube to photograph screen displays.

Panoramic SPECTRUM ANALYZER

Model SPA-4

10 MC-44,000 MC with ONE Tuning Head



SPA-4's advanced design permits use of one spectrum analyzer where several were needed previously. It combines in a compact package extended range, 10 mc-44 kmc; wide dispersion, 70 mc-0 mc; extreme sensitivity, to —100 dbm; adjustable IF filter width, 1 kc-80 kc; and other features which recommend SPA-4 for versatile and reliable measurements. A frequency marker calibrates dispersion directly.

The single tuning head is calibrated in terms of center frequency of analysis along 8 individually illuminated slide rule calibrations. Mixer level as well as other important voltages are metered.

SPA-4 includes a narrow dispersion mode of operation for studies of signals covering up to a 5 mc spectrum segment from 10-44,000 mc. Improved sweep stability, lower residual FM hum, and better supurious rejection are obtained on the "narrow" scans.

Construction is of highest quality. Non-contacting "shorts" used on klystrons oscillators for low noise.

A 0-100 db variable attenuator is incorporated for all coax inputs. Attenuators are available on request for waveguide inputs.

Condensed information on standard Panoramic instruments is given in this catalog. For detailed technical data, application notes and prices... write...

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PANORAMIC TELEMETERING TEST INSTRUMENTS

dependable CERTIFIED SPECIFICATIONS for accurate data

In the widely used IRIG FM/FM telemetering system, Panoramic's specialized test equipments have been found indispensable for rapid subcarrier spectrum tests, checkout, discriminator and subcarrier oscillator calibration, and as precise frequency reference sources in data reduction. They are used in laboratories, land stations, and data reduction centers. The TMI-1a and TMC-1 are improved versions of instruments developed as per Air Force specifications. Construction of all Panoramic Telemetry Instruments is of the finest quality with no effort spared to make them reliable even under rugged mobile field environments. Operation and maintenance procedures are simple and straightforward.

Guide to Panoramic TELEMETERING TEST INSTRUMENTS

MEASUREMENT NEED	APPLICABLE INSTRUMENTS
Monitoring of RF Signal for Interference and Proper Deviation	PANADAPTOR SA-3 and SA-8b for Receiver Used
Composite Signal Analysis Set-up of Subcarrier Pre-Emphasis Check for Interaction Between Channels, Noise, Hum, etc.	TMI-1a (with TMC-1 or CHS-1 for single channel analyses)
Subcarrier Oscillator Calibrations Individual Channel Deviation Checks Over-Deviation Analysis	TMI-1a used with a. TMC-1 or b. CHS-1 plus TMC-307a or other calibration source
Discriminator Calibration Data Reduction Frequency Reference	TMC-1 3 point Calibrator TMC-307a 7 point Calibrator

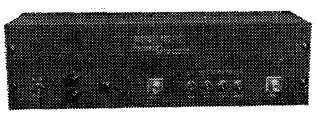
Panoramic INDICATOR

Model SC-8b

The Model SC-8b is the swept rf receiver portion of the Model SPA-1 Panoramic Spectrum Analyzer. Used with an external signal generator and mixer, it forms the basis of a versatile microwave spectrum analyzer at a very low cost. The frequency range is limited only by the availability of a suitable VFO and mixer. The VFO is set 30 mc above the center of the spectrum to be analyzed. The SC-8b is tuned to 30 mc with a maximum excursion of ±5 mc about the center frequency. Its sensitivity at 30 mc is 75μv full scale. Flatness over the 10 mc input band is better than ±1½ db. For other specifications please refer to the Panadaptor Model SA-8b Type T10,000.

Panoramic BANDPASS AMPLIFIER

Model DA-1



25-35 MC

The DA-1 is designed as a preamplifier to increase the direct sensitivity of equipments having a bandpass between 25 mc and 35 mc, such as, the SC-8b, Type T-10,000, Panoramic Indicator, to facilitate spectrum analysis of signals as weak as 1 μV.

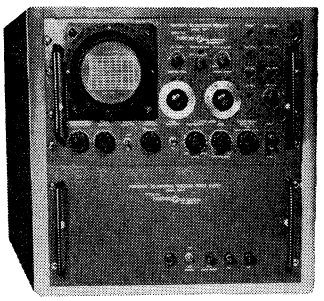
SUMMARY OF SPECIFICATIONS

Gain: 50 db flat to within ±1 db.

Attenuation: 45 db in 3 db steps.

Power Requirements: Self-contained requiring 115 v, 50-60 cps.

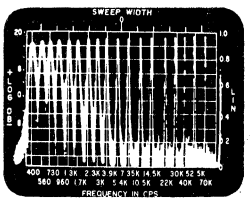
Dimensions:
Cabinet—5½" h x 19" w x 6" d.
Std. Relay Rack Panel—5¼" h x 19" w



Panoramic TELEMETERING INDICATOR

Model TMI-1a

350 cps to 85 kc



Presentation of all 18 channels with slight pre-emphasis. Distortion evident in region of higher channels. Log scan, log amplitude.

Specifically designed for checking FM/FM telemetering systems, the TMI-1a is used to rapidly . . .

- Monitor entire subcarrier spectrum.
- Set up subcarrier pre-emphasis.
- Measure and analyze subcarrier distortions.
- Detect channel spillover.
- Investigate hum, noise, microphonics and interference.
- Monitor magnetic tape re-recordings.
- Calibrate subcarrier oscillator deviations and linearity by comparing input frequencies with precise markers generated by Panoramic Telemetering Frequency Calibrators.

In just one second the TMI-1a automatically provides a visual display of the frequency and amplitude of composite signal components. It scans the spectrum logarithmically from 350 cps to 85 kc, or linearly analyzes any 100 cps to 20 kc segment centered anywhere between 400 cps and 75,000 cps. Permits measurement of spurious products down 40 db. Features linear and 40 db log amplitude scales; 2 mv full scale sensitivity; automatic optimum resolution on all modes.

SUMMARY OF SPECIFICATIONS

Frequency Scan Ranges:
Log—350 cps through 85 kc.
Lin—Any 100 cps to 20 kc segment with a selectable center frequency between 400 cps and 75 kc.
Cal—Any one of the IRIG approved FM/FM telemetry subcarrier channels having a ±7.5% deviation and ±15% for upper five. This range is operable only when the TMI-1a is used with the TMC-1, Panoramic Three Point Frequency Calibrator or with the CHS-1, Panoramic Telemetering Channel Selector.

Visual Indicator: Flat-face 5ADP7 CRT, edgelit reticule and camera mount bezel supplied.

Screen Calibrations: Two calibrated screens are furnished.
Frequency (Horizontal Axis)—Log, 350 cps to 85 kc on one screen and in subcarrier center frequencies on second screen. Linear, 10 linear divisions each corresponding to 1/10 of selected sweep width.
Amplitude (Vertical Axis)—Linear or 40 db log selectable with front panel control.

Internal Frequency Markers: 350 cps, 5 kc and 85 kc with respective harmonics.

Dial Calibrations:
Center Frequency—0-75 kc.
Sweep Width—100 cps to 20 kc.

Resolution: Automatic optimum in all modes. Some particular values follow. On Log sweep, the frequency resolution is 75 cps at the low end, 350 cps; is 380 cps at 5 kc; and is 2.5 kc at the upper end, 85 kc. On Lin sweep, the resolution at 100 cps sweep width is 30 cps; at 1.5 kc sweep width is 78 cps; at 20 kc sweep width is 205 cps.

Sweep Rate: 1 cps for Log and Lin scan ranges. 2 cps for Cal scan range.

Voltage Accuracy:
Lin Amplitude—±10% throughout the frequency range.
Log Amplitude—±1.5 db throughout the frequency range.
Residual harmonic products (except the second harmonic of 50 kc) suppressed 46 db, second harmonic of 50 kc down 35 db, residual hum down 40 db, residual cross modulation of 2 equal amplitude signals down 46 db.

Input Impedance: 50,000 ohms.

Input Voltage Range: Adjustable for full scale deflections for input voltages between 2 mv to 10 v on linear amplitude scale.

Power Requirements: TMI-1a furnished complete with companion TMP-1a Power Supply and ower line regulator. 95-125 v, 60 cps, 225 watts. Provision for other power lines available on special order.

Dimensions:
Indicator Panel and Chassis—10½" h x 19" w x 16¾" d.
Power Supply Panel and Chassis—8¾" h x 19" w x 12" d.
Both suitable for mounting in standard 19-inch electrical-equipment rack.

Slides: Pivot type with 45° and 90° tilt.

SEE FOLLOWING PAGE FOR ADDITIONAL TELEMETERING EQUIPMENT

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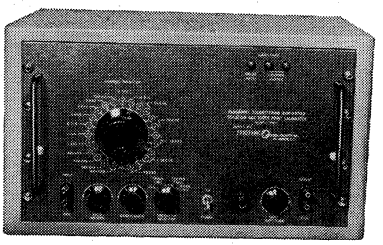
PANORAMIC TELEMETERING TEST INSTRUMENTS (Cont.)

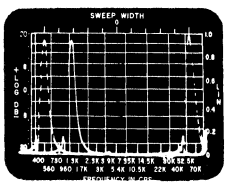
Panoramic TELEMETERING SUBCARRIER DEVIATION and THREE POINT CALIBRATOR Model TMC-1



The TMC-1 is a dual purpose instrument, its two modes of operation being controlled by an operation selector switch on the front panel.

In its first mode of operation, the TMC-1 sequentially furnishes upper limit, center and lower limit frequencies channel by channel for all IRIG channels as outputs for discriminator calibration. Limits are ±7.5% for all channels and ±15% for upper five. **Other limits optional.** Frequency accuracy is 0.02%. Channel switching can be either manual or by option automatic (Optional, add M to description of TMC-1). On automatic, the three calibration points are furnished sequentially with a dwell period of approximately 6 seconds for each frequency, 20 seconds for each channel in rotation. The automatic switching action can be stopped to permit extended observations or measurements within a given channel.

In its second mode of operation, the TMC-1 is used with the TMI-1a, Panoramic Telemetering Indicator, to establish maximum deviation limits and center frequency of subcarrier oscillators. A built-in channel selector in the TMC-1 automatically establishes proper center frequency and sweep width to display the selected channel on the TMI-1a. An internal signal switcher permits alternate display of subcarrier vs. calibrating marker from the TMC-1 for visual comparison of deviation or spread of subcarrier. In one scan of the TMI-1a the upper and lower frequency markers of the selected channel are presented and in the next scan the subcarrier oscillator signal is presented. Similarly, the center frequency marker may be compared with the subcarrier oscillator signal.



Upper and lower limit markers vs. subcarrier indication. When subcarrier frequency is identical to marker frequency corresponding pips are superimposed.

SUMMARY OF SPECIFICATIONS

Marker Accuracy: ±0.02%.

Marker Output Level: 1 v nominal.

Marker Output Wave Shape: Square (approx.).

Output Impedance: Low, cathode follower.

Signal Input: Composite signal for comparison with markers on TMI-1a from 20 mv to 10 v.

Input Impedance: 50,000 ohms.

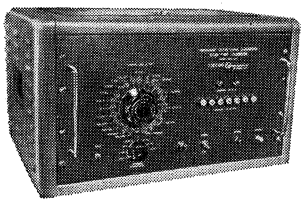
Power Requirements: Self-contained power supply requiring 150 watts at 95-125 volts, 60 cps. External constant voltage transformer supplied. Provision for other power lines available on special order.

Dimensions: Panel and Chassis—10½" h x 19" w x 17 1/16" d. Can be mounted in standard 19-inch electrical-equipment rack.

Slides: Pivot type with 45° and 90° tilt.

Panoramic SEVEN POINT TELEMETERING FREQUENCY CALIBRATOR

Model TMC-307a



The TMC-307a sequentially furnishes seven equally spaced frequencies for all IRIG channels singly, as outputs for discriminator calibration. Limit frequencies are ±7.5% of the center frequency for each channel and ±15% for the upper five channels. Other end limits and spacings can be furnished as required. Frequency accuracy is 0.02%.

Manual and automatic sequencing of frequencies are provided. On automatic, electronic switching permits minimum dwell time per channel of 2.5 seconds with each deviation frequency on for a ¼ second. Complete check-out of 18 channels is thus accomplished in approximately 45 seconds. Longer dwell intervals up to 3 sec per deviation may be selected.

For multipoint calibration of subcarrier oscillators, the TMC-307a can be used together with the TMI-1a, Panoramic Telemetering Indicator, and the CHS-1 Panoramic Telemetering Channel Selector.

Only 10½" high, the TMC-307a is ideal for miniaturized ground station equipment.

SUMMARY OF SPECIFICATIONS

MARKER FREQUENCIES:

Accuracy: ±0.02% or better.

Waveshape: Square (approx.). (See BF-18 description below for sine wave output).

Amplitude: 0-1.5v rms (fundamental).

Output Impedance: Low (cathode follower).

OPERATION MODES:

Manual: Independent selection of channel and deviation.

Automatic: Sequential selection of channels and 7 deviation frequencies per channel. Dwell per frequency adjustable 0.25-3 sec.

Power Requirements: 190 watts, 115 volts (nominal), 60 cps. Provision for other power lines available on special order.

Dimensions:

Panel and chassis — 10½" h x 19" w x 16½" d. Can be mounted in standard 19-inch electrical-equipment rack.

Slides: Pivot type with 45° and 90° tilt.

BAND SELECTOR FILTER ASSEMBLY MODEL BF-18 (Optional):

Contains 18 low pass filters to provide sine wave outputs from TMC-307a on each of the IRIG channels. A common output terminal delivers adjustable 0-1 volt rms signals with harmonic distortion down better than —40 db.

Power Requirements: None.

Dimensions: Panel—19" w x 5¼" h.

Panoramic TELEMETERING CHANNEL SELECTOR

Model CHS-1

A companion instrument to the TMI-1a, Panoramic Telemetering Indicator, the CHS-1 automatically establishes in the TMI-1a the correct center frequency, sweep width and resolution for any IRIG channel selected for display on the screen of the TMI-1a. An internal signal switcher permits alternate display of subcarriers vs external calibrating markers, available from the TMC-307a, or other source, for visual comparison of linearity or spread of subcarrier. Precise subcarrier oscillator calibration is obtained by simple overlay comparison technique.

SUMMARY OF SPECIFICATIONS

Switching Modes:

Manual—Marker or signal selected independently.

Calibration—Marker and signal automatically alternated.

Marker Input Level:
20 mv—10 v.

Marker Input Impedance:
50,000 ohms.

Signal Input Level:
10 mv—1 volt.

Signal Input Impedance:
50,000 ohms.

Power Requirements: 95-125 volts, 60 cps. External constant voltage transformer supplied. Provision for other power lines available on special order.

Dimensions: Panel and Chassis—10½" h x 19" w x 15¾" d. Can be mounted in standard 19-inch electrical-equipment rack.

Slides: Pivot type with 45° and 90° tilt.

dependable CERTIFIED SPECIFICATIONS for accurate data

Specifications may be changed from time to time, to incorporate engineering advances.

PANORAMIC RADIO PRODUCTS, INC. 520 South Fulton Avenue Mount Vernon, N. Y.

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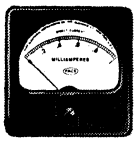
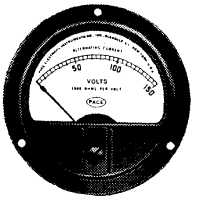
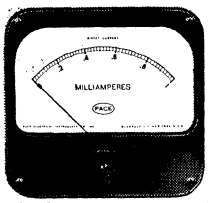


Model 25-L .....2⅜"
Model 35-L .....3"
Rectangular — Phenolic

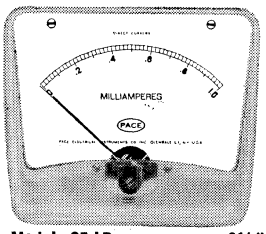


Model 25-R .....2½"
Model 35-R .....3½"
Round — Phenolic

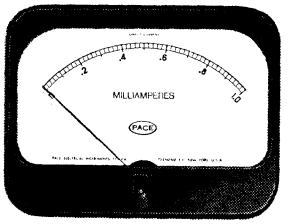


Model 42-W .....4¼"
Rectangular — Phenolic

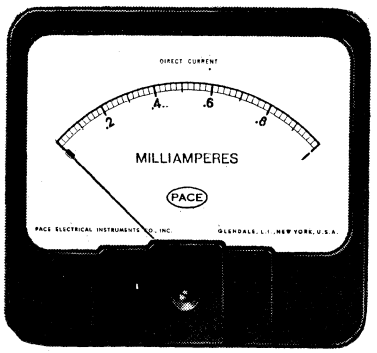
Model 45-L .....4⅝"
Rectangular — Phenolic



Model 25-LP .....2½"
Model 35-LP .....3"
Model 45-P .....4⅞"
Rectangular — Acrylic



Model 55 .....5¼"
Rectangular — Phenolic



Model 75 .....7"
Rectangular — Phenolic

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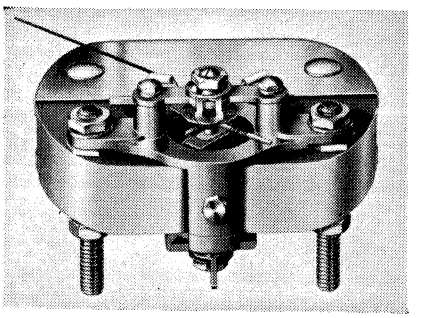
THE METER OF PRECISION

PANEL INSTRUMENTS



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- OPTIMUM TORQUE TO MASS RATIO
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THE METER OF PRECISION

PANEL METERS

PACE Electrical Instruments Co., Inc., is the meter manufacturing division of *PRECISION* Apparatus Co.

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PACE meters are custom manufactured to meet individualized purchaser specifications such as: Sensitivity, Terminal Resistance, Damping, Terminal Posts, Pointer, Illumination, Scaleplate Design and Color, Case Color . . . etc.

PACE calibre meters are available in both Direct Current and rectifier type Alternating Current Models.

Whatever your requirement . . . Communications, Industrial Control, Production Test, Laboratory Investigation . . . **PACE** can provide the instrument you need in large or small production quantities.

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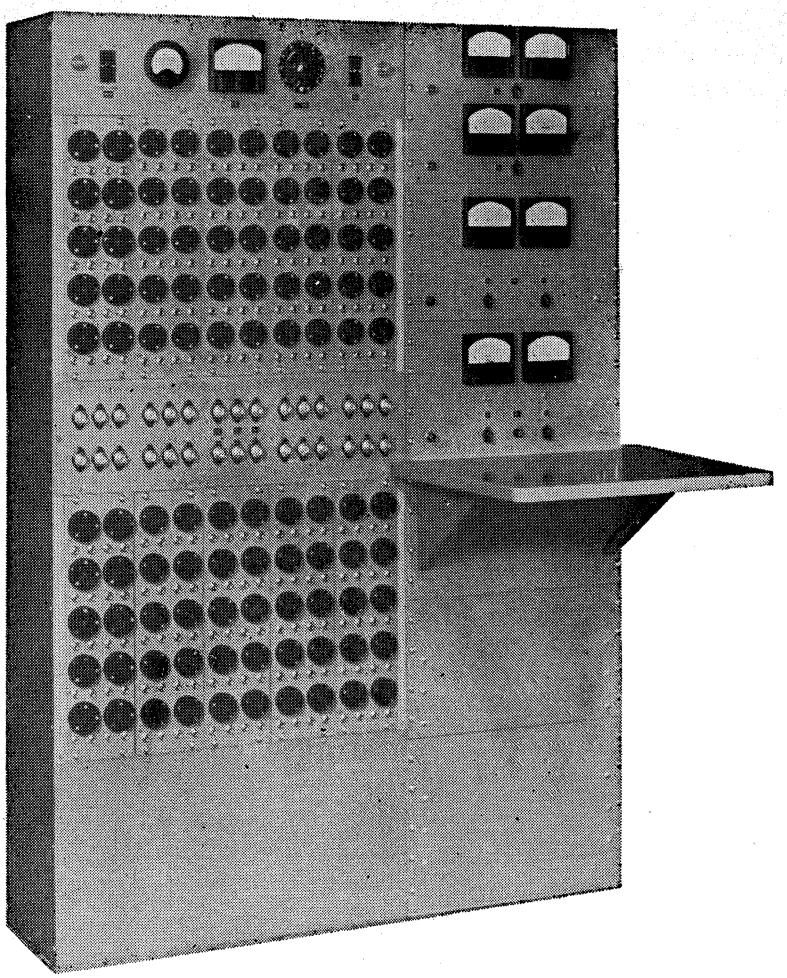


TYPE 242
VACUUM TUBE and TRANSISTOR AGING RACK

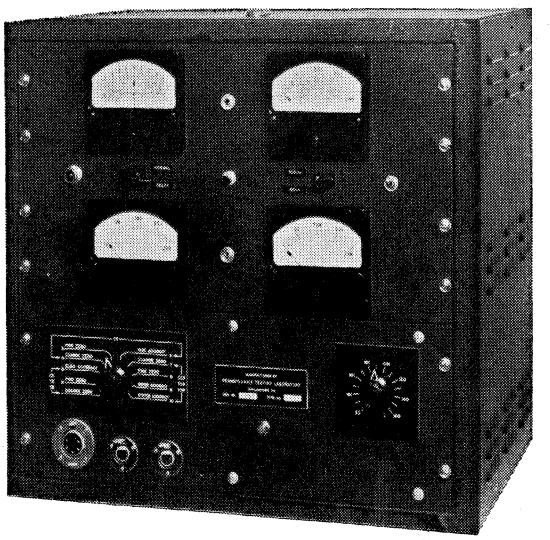
This equipment is designed in building-block form so that any number of tubes of any type base can be aged with all voltages applied to the tube elements, with or without loads or dynamic operation. A selection of 10 socketed panels of various style tube bases are available fixed wired for patch cord hook-up of any voltage to any element in series with any load. Voltages may cycle at will and after a predetermined time the entire rack can be shut down. 100 tubes can be hooked up or completely changed from one type to another in 15 minutes with only two types of patching cords. Heavy duty power supplies, regulated or unregulated, are available in a wide range of power and voltages. Overall design permits a nominal starter unit which can be added to as requirements vary or volume increases.

50 Racks now in daily service.

TYPE 226
SYNCHRO ERROR TEST SET

Tests all sizes of 60 and 400 cycle, 26 and 115 Volt control or torque transmitters, receivers and transformers for electrical accuracy, fundamental null voltage and total harmonic null voltage. Accurate to ±10 seconds of angle for every 10 degrees setting. Zero resolution ±2 seconds; stable to better than 1 second of angle with internal regulated power supply. Complies with MIL-S-2335, MIL-S-16892, MIL-S-12472 for synchro testing and includes all test switching required in these specifications. Suitable for laboratory calibrations, production or incoming material inspection.

Used by RCA, G.E., G.M., Bendix, Navy, F.A. and others.



TYPE 254 SYNCHRO STANDARDS

Precision mounted synchros with direct reading dials accurate to ±2 minutes of angle; resolution of readings, 1 minute. Supplied in heavy oak cabinet for shop or laboratory use.

TYPE 275 SYNCHRO DELTA NETWORK

This network, a component part of the type 226 Synchro Error Test Set, is used for determining electrical position by the proportional voltage method. 10,000 ohm arms are accurate to ±5 seconds of angle for every 10° rotation.

PENNSYLVANIA TESTING LABORATORY, INC.

DOYLESTOWN, PENNSYLVANIA

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INDUCTANCE MEASUREMENTS

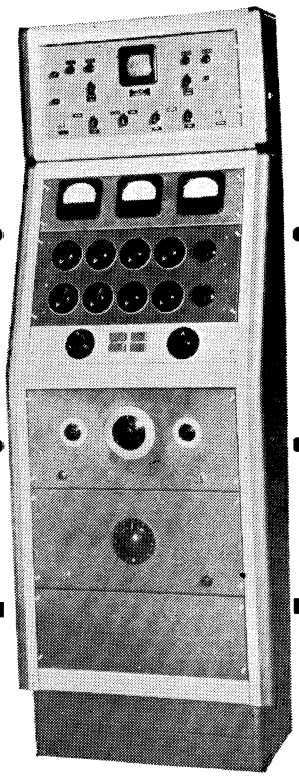
WITH SUPERIMPOSED DC AND HIGH VOLTAGE AC

TYPE 239 AMPLIFIER and BRIDGE NULL INDICATOR

Provides a stable voltage gain of two million or 20 microvolts/inch deflection of vertical. Tunable from 20 c/s to 20 Kc/s in 9 bands with 20 db or more attenuation one octave removed from mid-band frequency. Horizontal amplifier is phase shifted ±90 degrees, simultaneously switched with vertical ranges. Excellent for bridge null indication separating real and quadrature balances. At full gain hum and noise is less than 5 microvolts.

The 239-A is the same as the 239 except that plug-in networks are used in place of the band switching for feed-back control and horizontal phase shift ranges.

Type 320 Test Stand



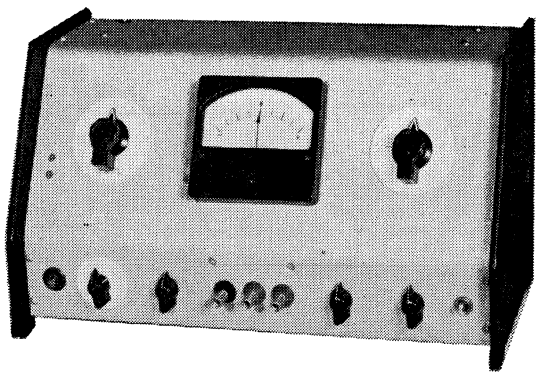
TYPE 277 IMPEDANCE BRIDGE

Inductance Range:	1 Micro H. to 1000 H. in 6 ranges
Effective Res.:	.001 ohm to 1 megohm in 6 ranges
Superimposed DC:	0.250 volts up to 10 amperes
Applied AC:	0-250 volts 10 c/s to 20 Kc/s

Ratio Arms dissipate 2500 watts and hold to an accuracy of .25%.

TYPE 200W POWER SUPPLY

0-250 V or 0-450 V DC 300 to 3000 watts; 115 V, 60 c/s input; metered for E_o and I_o



TYPE 201 RF COMPARATOR

RF INDUCTANCE AND FERRITE CORE TEST SET

Set Frequencies:	.5, 1, 2, 4, 8 and 16 MC.
Capacity Range:	60 to 360 MMF.
Full Scale Deviations:	± 1 or 2%

Internal calibration means accurate to ±0.1%.

Production comparisons against standard component can be made at 1000 tests per hour. Regulated power supply is incorporated.

TYPE 205 RF COMPARATOR

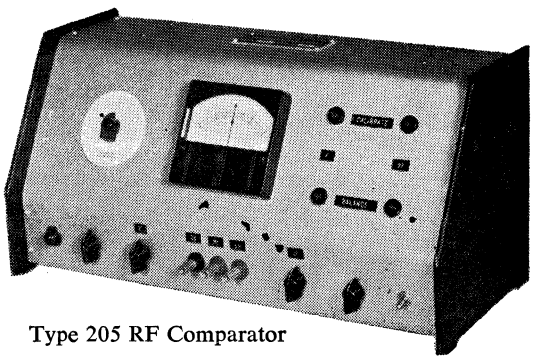
RF INDUCTANCE AND C_d TEST SET

Same as type 201 except indicators show composite error in percent at F and 2F in the same RF frequency range. No operator adjustments required for either reading other than a foot switch operation.

TYPE 291 IMPEDANCE COMPARATOR

C, L, R, AND G MEASUREMENTS 20 c/s TO 200 Kc/s

Hybrid coil accurate to .1% with .01% resolution when used with a suitable Null Indicator such as type 239 or 239-A which will independently show real and quadrature balances.



Type 205 RF Comparator

PENNSYLVANIA TESTING LABORATORY, INC.

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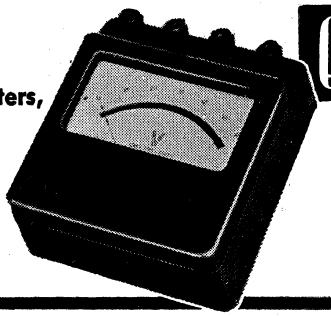
MOVING COIL INSTRUMENTS FOR A.C. AND D.C.

- A wide range of millivoltmeters, voltmeters, microammeters, ammeters for D.C.
- Voltmeters and milliammeters for A.C.
- Accuracy for D.C. instruments 0.5%; for A.C. 1.5%.
- Mirror scales on D.C.
- Accessories to extend ranges.



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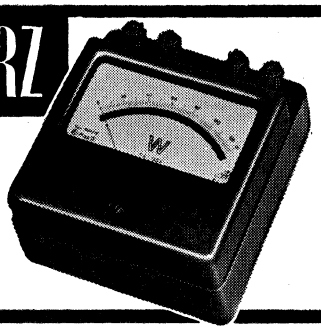


PRECISION MOVING IRON INSTRUMENTS FOR A.C. AND D.C.

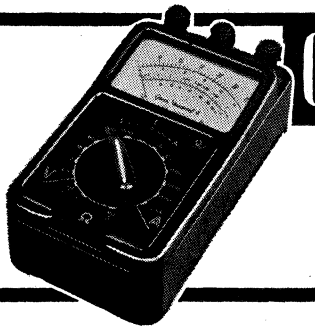
- Voltmeters, milliammeters, ammeters. • Mirror scales.
- Accuracy: for A.C., 0.5%; for D.C., 1.0%.
- All instruments for use on both A.C. and D.C.
- Some models measure frequencies up to 500 c.p.s. and 1000 c.p.s.

PRECISION ELECTRODYNAMOMETER WATTMETERS

- Single phase and three-phase, 3 wire and 4 wire.
- Frequency to 1000 cps on some models • Accuracy 0.5%.

UNIVERSAL MULTI-RANGE INSTRUMENTS

- Famous Goerz AC/DC voltage - current instruments.
- Accuracies as high as 1.0% on D.C.
- Cut-out overload protection on Universal 1.
- Accessories to extend ranges.
- Dust-proof, moisture-proof.



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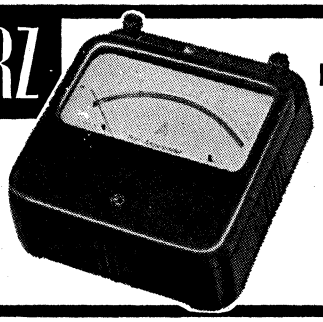
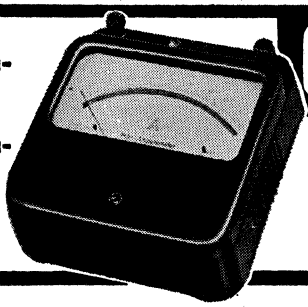


PRECISION AMMETERS AND VOLTMETERS FOR A.C. AND D.C.

- Wide selection of ammeters and voltmeters. • Mirror scale.
- All instruments for both A.C. and D.C.
- Accuracies of 0.2% on A.C.; 0.5% D.C.
- Range selection switch.
- Calibration certificate with each instrument.
- Up to 1500 volts with accessories.

MOVING COIL D.C. STANDARDS

- Wide selection of voltmeters, millivoltmeters, microammeters, milliammeters.
- Accuracy of 0.2%.
- Special 12-range millivolt-voltmeter and 11-range milliammeter-ammeter, also 0.2%.
- Accessories to extend ranges.
- Mirror scale.
- Calibration certificate with each instrument.



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ELECTRODYNAMIC PRECISION STANDARDS

- Voltmeters, ammeters, milliammeters, wattmeters, power-factor meters.
- Accuracy 0.2% on all but power-factor meters.
- Mirror scale.
- Frequencies to 1000 c.p.s., 1600 c.p.s., and 2500 c.p.s. on some models.
- Calibration certificate with each instrument.

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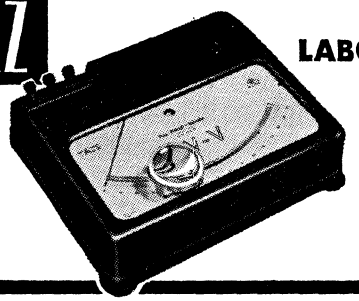


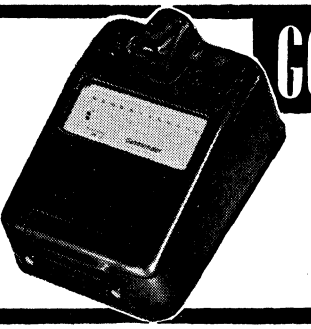
LABORATORY PRECISION D.C. STANDARD

- Millivoltmeter, millivolt-voltmeter, voltmeter.
- Up to 1500 volts with accessories, up to 300 amperes with accessories.
- Accuracy of 0.1%.
- Transverse scale with mirror.
- Calibration certificate.

HIGH SENSITIVITY GALVANOMETERS, MILLIVOLTMETERS AND MICROAMMETERS

- Famous Goerz double-light spot galvanometers.
- 21-range light spot DC universal instrument.
- Negligible consumption.
- Ranges as low as 5×10^{-7} ampere with measurements to 5×10^{-9} ampere and to 10 microvolts.

GOERZ



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PRECISION MULTI-RANGE A.C. AMMETER

- 8 ranges: 0.2 - 0.5 - 1 - 2 - 5 - 10 - 20 - 50 amperes.
- Accuracy of 0.2% • Mirror scale.
- Range selector switch.
- Shielded against stray fields.
- Calibration certificate.

MEGOHMMETERS

- 5 models, up to 10,000 megohms.
- Accuracy 1.0%.
- Completely self-contained.
- Instructions on front plate.

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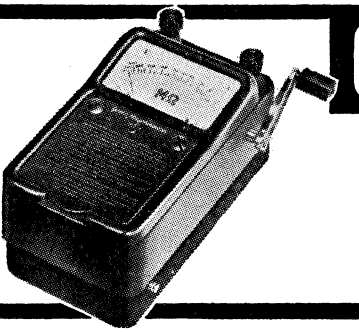

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MINIATURE WHEATSTONE BRIDGE

- 1.0 to 150,000 ohms.
- Accuracy of 1.0%.
- Folds into package 5" x 4" x 3", has own carrying strap.
- 2.5×10^{-6} ampere galvanometer.
- Range up to 1.0 megohm with external resistor.

POWER CIRCUIT ANALYZER

- 9 current ranges from 150 ma to 60 amp., may be extended up to 13 with plier-type transformer.
- 4 voltage ranges, up to 600 volts.
- Active power; 9 watts to 900 KW (with transformer.)
- Reactive power; 9 VAR to 900 KVAR (with transformer.)
- Power factor; 0-1, capacitive and inductive.
- Frequency; 57-63 c.p.s.
- Light weight.

EMA

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HIGH VOLTAGE TEST EQUIPMENT

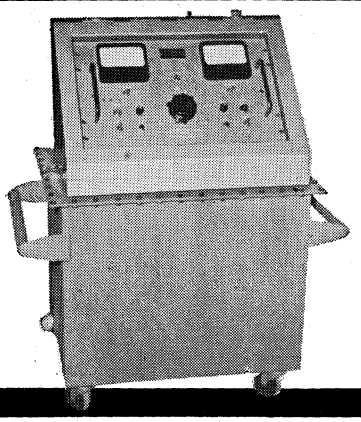
DC OVERPOTENTIAL TESTERS

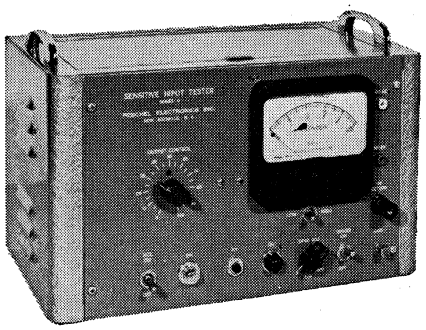
MODEL S50 DC 0-50 KV, 5 ma.
MODEL S100 DC 0-100 KV, 5 ma.
MODEL S120 DC 0-120 KV, 5 ma.
MODEL S150 DC 0-150 KV, 5 ma.
MODEL S200 DC 0-200 KV, 5 ma.

Features:

- Non-destructive testing
- Small, light weight units
- Rugged design for industrial use
- Use of selinium rectifiers
- Plug-in type HV output shielded cable
- Control cabinet stacks on top of HV tank (May be separated for remote control)

— Also available in heavier current models —





SENSITIVE HIPOT TESTERS, DELUXE SERIES "H"

H2 AC/DC 0-2 KV Peak AC/DC, 1 ma.
H5 AC/DC 0-5 KV Peak AC/DC, 1 ma.

Features:

- 5 microamp circuit breaker (adjustable to 1000) deenergizes HV
- Non-destructive testing
- Dual output, AC and DC
- Dual scale KV meter, directly at output
- Portable, safe
- Guarded or straight ground return

Also available in larger cabinets with 19" panel in 10 KV, 20 KV, and 30 KV models, with two meters, plus other extra features. (See general catalog.)

INSULATION CONTINUITY TESTER, MODEL P-1

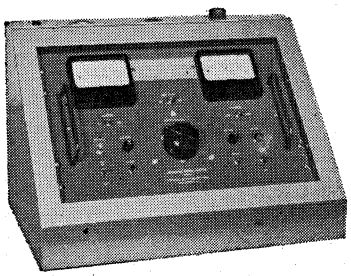
(PINHOLE DETECTOR/COUNTER FOR PRODUCTION USE)

Counts and records pinholes during continuous production of enamel or coated wire, or insulating tape. Used also by users of wire, tape, etc., for continuous quality control in winding coils, meter movements, etc.

Features:

- Continuous display of number of pinholes
- Continuously adjustable voltage control and meter, 0-250V DC output (Also available in higher voltage units)
- Small moist sponge electrode — non-destructive testing
- High sensitivity electronic detector sounds buzzer and operates magnetic counter
- 10 microamp test current enables use of high resistance electrode, assures reliable operation, promotes safety (no shock hazard)
- High sensitivity permits checking of long lengths of fine wire, including coated resistance wire up to 10 megohms

(Also available in dual channel units which discriminate between pinhole and thin spot of good insulation during continuous production)



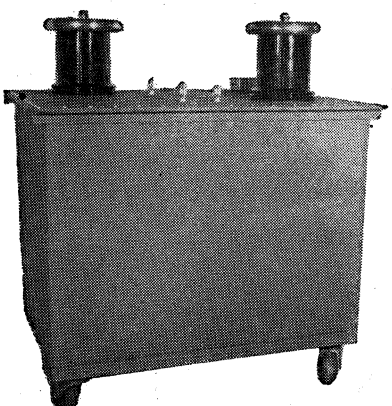
HIGH VOLTAGE TEST SETS, SERIES "K" HIGH CAPACITY AC, or DC

Many sizes: 2 KV to 200 KV and 1 to 100 KVA or KW

For dielectric tests on: Insulating materials, motors and generators, transformers, wire and cable, HV bushings and other apparatus.

Features:

- High current capacity to meet ASTM, IPCEA Standards
- Metering at output for greatest accuracy
- Complete safety and convenience controls, including external interlock
- 4" meters with dual scales
- Motorized output control optionally available
- Separate control section for remote control



PESCHEL ELECTRONICS, INC.

Towners, R.F.D. 1, Patterson, New York TRinity 8-3251

See YELLOW SECTION for Local Offices, Telephone, etc.

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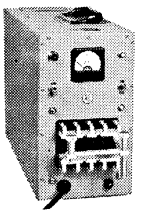
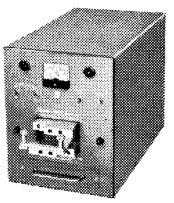
RFL Test and Service Products

For MAGNET CHARGING, TREATING and CALIBRATION

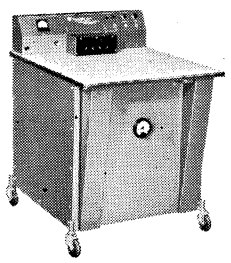
MODEL 1221 is used for small magnets. Its 10,000 ampere-turn output will saturate about 2" of Alnico V. Operates by condenser discharge method thru plug-in fixtures. Uses only 30 watts at 115 v. For continuous duty; charging cycle averages 3 sec. Price $180.



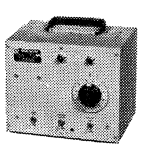
MODEL 107A is a versatile, condenser discharge magnetizer for most medium size magnets of either simple or complex pole configuration. It provides ranges of 12,000 and 24,000 ampere-turns and is capable of saturating most instrument magnets, including the core type mechanisms, using the standard flat bar, adapters or wire-wound fixtures. Can be used for continuous duty production magnetizing; average charging cycle is under 5 sec. Weight is 75 lbs. Size 12 x 7 x 17. Operates from 115-volt, 60-cycle line. Price $530.



MODEL 1500 is designed for production, research and instrument repair work. It will magnetize the new cobalt platinum and barium ferrite materials as well as all the Alnicos. It will saturate large switchboard meter assemblies and all panel type instruments and uses most existing adapters designed for the Model 107A. Wire-wound fixtures are plugged into the front panel through a safety interlock system providing maximum operator protection. Operates from 115-volt, 60-cycle line. Size 11 x 20 x 15; weight 125 lbs. Price $945.



MODEL 942 will saturate Alnico magnets weighing up to 34 lbs. and high flux ceramic magnets of any shape or pole configuration. Operates on condenser discharge principle from regular 115-volt, 60-cycle line. Produces charging outputs (depending on number of 100 μf condensers employed) from 100,000 to 200,000 ampere-turns through plug-in transformers, up to 3600 watt-seconds using wire-wound fixtures. Adapters for multi-pole rotors, rod, bar, ring and various other shapes available. Equipped with extensive system of safety interlocks for complete operator protection. Designed for continuous production use with low power consumption. Price of basic unit is less than $2100.

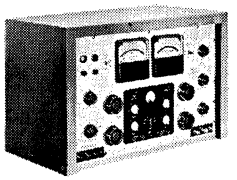


MODEL 889A de-magnetizes saturated magnets to any desired level of flux. Provides a precision method for rapidly treating permanent magnets, including the new core type instrument mechanisms. Used with Model 206A Booster or Model 107A Charger. Price $247.

MODEL 1295 is a stable, all transistorized Gaussmeter which provides a conservative accuracy of 3% over nine full-scale ranges: 0-100, 200, 500, 1 K, 2 K, 5 K, 10 K, 20 K and 20 K + gausses, using a single probe. Two standard reference magnets having ¾% accuracy are supplied. Weight is 12 lbs. Operates from battery or 115-volt, 50-400 cycle line. Price $420.

For ELECTRICAL INSTRUMENT CALIBRATION

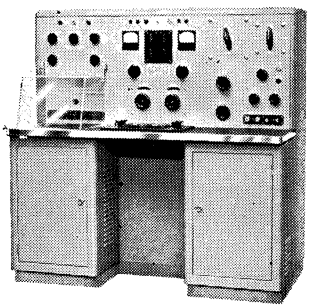
A Model for Every Purpose and Price Range



MODEL 829 checks AC and DC meters of all types and ranges. Compact cabinet contains power supply, special Weston standard meters, Wheatstone Bridge and all circuits for quick, convenient instrument calibration to 0.5% accuracy by non-technical personnel. Automatic protection for both operator and instrument under test is provided by interlocks and high voltage discharge circuits. Net price $2650.

DUAL POTENTIOMETER DC STANDARD

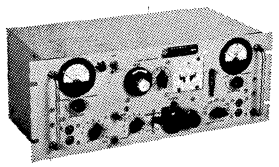
Model 262B

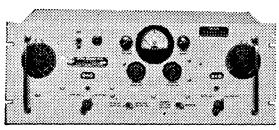


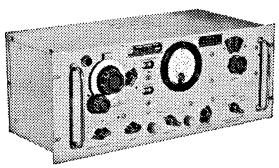
MODEL 262B Dual Potentiometer Standards for calibrating meters to 0.1% through a range of 1 millivolt to 1500 volts and 1 microampere to 150 amperes. Uses L & N Brooks Mod. 7 pot. and Weston Mod. 5 standard cells. Voltage and current ranges are separate for the calibration of wattmeters. Operates on 105/125 volts, 50/1600 cycles, 350 watts, with internal voltage regulator. Operator is protected by interlocks. Price $15,600.

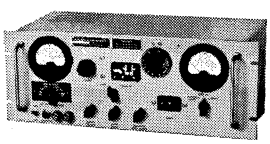
Also available are MODELS 261B and 454 Standards for calibrating AC meters to 0.5% through ranges of 10 millivolts to 1500 volts and 1 microampere to 200 amperes; MODEL 260C Standards for DC meters to 0.5% over ranges of 1 millivolt to 1500 volts and 1 microampere to 150 amperes. Accuracy of 0.25% using charts. These standards have been used for 8 years by the government services and leading industrial organizations.

For CRYSTAL TESTING









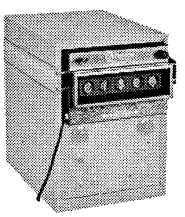
FOUR MODELS developed for Signal Corps under national crystal testing standardization program to measure resonance and anti-resonance resistance of quartz crystals including those covered by MIL-C-3098B. Capacitance, inductance and PI of crystal can be determined.

MODEL 459A (Improved TS-330/TSM) covers 800 kc to 15 mc, for 0.002% crystals, 0-9900 ohms. Operates from 115/230 v, 50-1000 cps. Price $1125.

MODEL 531 (TS-683/TSM) Crystal Impedance Meter covers range of 10-140 mc for 10-150 ohm crystals. Twelve fixed calibrating resistors of 10, 22, 30, 40, 51, 60, 68, 82, 91, 100, 120 and 150 ohms, plus a 100-ohm var. resistor for determining crystal resistance. Anti-resonance adapter also provided. Operates from 115/230 v, 50-1000 cps source. Price $590.

MODEL 541A (TS-710/TSM) for 10-1100 kc range crystals with resistances from 200 ohms to 0.5 megohms. An internal load capacitance is calibrated from 15 to 105 mmf with accuracy better than ±0.5 mmf. Power dissipated in crystal measured by built-in VTVM and ohmmeter. For 115/230 v, 50-1000 cps operation. Price $860.

MODEL 1207 (AN/TSM-15) covers range of 75-200 mc for 10-125 ohm crystals. Crystal voltage at series resonance is measured within 10%, effective resistance within ±5 ohms, and the power calculated. 18 C_0 cancellation inductances and 1 uncompensated var. resistor supplied; 5 compensated var. resistors available. 115/230 v, 50-1000 cps. Price $1050.



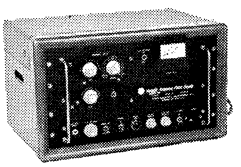
DIGIVERTER

DIRECT READING, digital converter fits all vertical DCU system counters; changes random vertical numerals to easy reading "in-line" display. No modifications to counter. Remote readout also available.

DIGIDEC

DIGITAL CONVERTER for individual decade counter units provides "in-line" reading for OEM installation, or in special purpose test and computing equipment. DIGIDEC mounts over neon strip; replaces mask.

Variable Frequency Power Supplies



MODEL 150 is a stable, single phase, 150 VA power source of laboratory quality. Output frequency is continuously adjustable between 380 and 2400 cps with stability of 0.1% ±2 cycles. Price $575.

Prices are FOB Boonton, N.J. & subject to change without notice. *Send for product literature.*

Radio Frequency Laboratories, Inc. BOONTON N.J., U.S.A.

Designers and Manufacturers of Electronic Equipment since 1922

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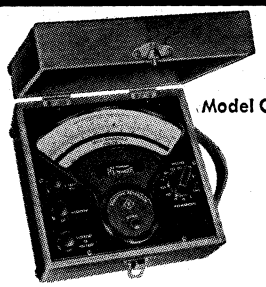
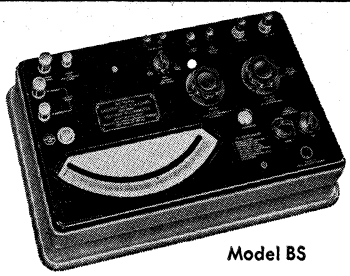
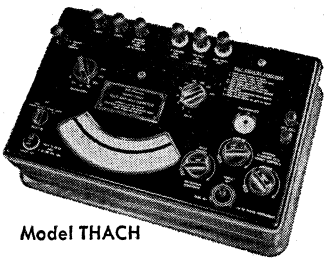
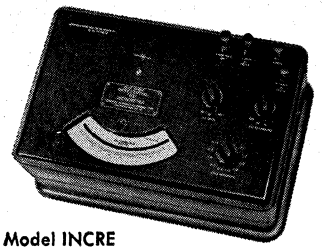
Electrical Indicating Instruments by
SENSITIVE RESEARCH INSTRUMENT CORPORATION


Model C


Model BS


Model THACH


Model INCRE

POLYRANGERS

Multirange DC Reference Standard .25% accurate current and voltage measuring instrument. 14 ranges from 1.5 ma. and 3 V. to 3 amps. and 750 V. 6.3" scale length. Other Polyrangers with as many as 88 ranges self-contained available for AC or AC-DC use.

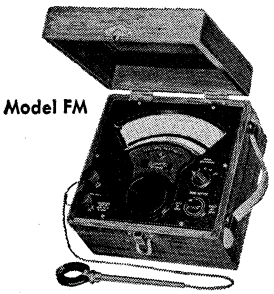
LABORATORY STANDARDS

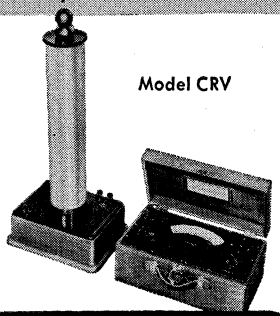
"Self Checking" DC Volt-Amp-Milliammeter. .05% accurate. 12" vernier scale. 25 full scale ranges from 1.5 ma. and .3 V. to 15 amps. and 1500 V. Internal standard cell. Other DC laboratory standards available with an accuracy of .1% and full scale ranges starting from 30 microamps or 50 mv.

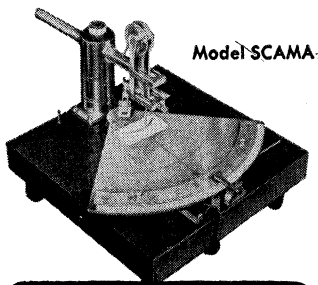
"Self Checking" Volt-Amp-Milliammeter. Accuracy .2% DC and AC 7 cps — 4 kcps. 6.3" scale length. 19 full scale ranges from 10 ma. and 1 volt to 5 amps. and 1000 V. Internal standard cell. Other AC standards available with an accuracy of .1% with full scale ranges from 10 ma. and 10V.

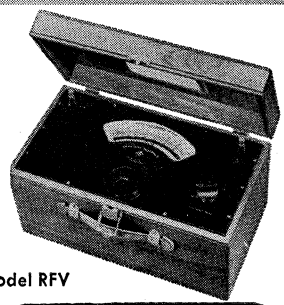
INCREMETER

Direct reading DC electrical indicating instrument. Effective scale length of 63". Accuracy .05%. Each 10% of the instrument's range is expanded over its actual 6.3" full scale length. Single or multirange from 200 mv. to 1000 v. and 200 microamps. to 10 amps., in either portable or panel mounted models.


Model FM


Model CRV


Model SCAMA


Model RFV

FLUXMETERS

Single or multirange. Basic sensitivity 10,000 maxwells per division using a single turn search coil. Accuracy .5%. 5.2" scale length. Available with general purpose 10 turn search coil with a mean area of 8 square centimeters.

CREST VOLTMETERS

Measures RMS, positive and negative peaks of 10 per second or faster. Basic instrument is electrostatic voltmeter with accuracy of 1%. Ranges up to 100 KV. full scale. Input impedance 10,000 megohms. For AC or repetitive pulsed DC.

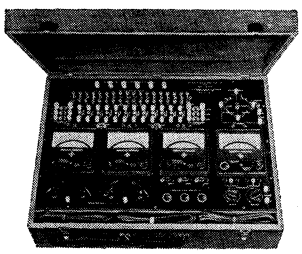
SCALE MACHINE

For the accurate drawing or redrawing of any laboratory standard electrical indicating instrument's scale whose arc is no greater than 110 degrees. Adapter to 270 degrees available for circular-scale instruments.

VOLTMETERS

True RMS responding. Full scale ranges from 1 V. to 300 V. Accuracy .5% on DC to 1 megacycle. Usable up to 10 megacycles. Other thermocouple instruments available for all current and voltage measurements.

Model UTS



Model UPP

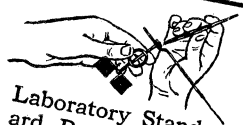
Type EW

TEST SETS

Replaces over 200 individual DC current, voltage and resistance measuring instruments. Accuracy .5%. Contains 3 instruments that may either be a millivoltmeter, voltmeter, milliammeter, or ammeter, and 1 microammeter. Portable. Other test sets available for AC and magnetic testing.

PANEL INSTRUMENTS

AC and/or DC edgewise panel instruments with the same electrical specifications as Reference Standard portable models. Accuracies to .25%. Scale lengths to 7". Up to eight ranges switch controlled and self-contained. Full scale ranges start from 1 microamp or 1 mv. DC and 1 ma. or 200 mv. AC.



TRADITIONAL DEPENDABILITY

Laboratory Standard and Reference Standard Portable and Panel Instruments that have earned Sensitive Research the reputation of *"Those Standards People."* All instruments have individually calibrated, hand drawn mirrored scales. Available with the now world famous SRIC *"Diamond Pivot"* and *"Shock Mounted Jewel."* Not pictured above, but available, are a complete line of: Wattmeters • Thermocouple Instruments • Electrostatic Voltmeters • Differential Galvanometers • Ratiometers • Corrosion Instruments. *Write for Catalog No. 70.*

SENSITIVE RESEARCH INSTRUMENT CORPORATION

NEW ROCHELLE, N. Y.

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Symbol of Quality

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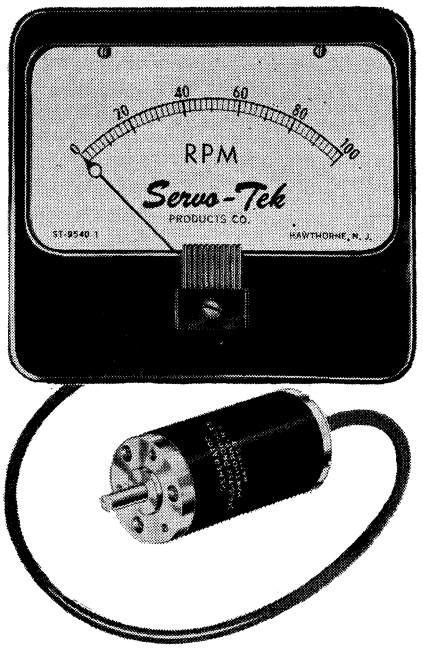

Know Your Speed with the Accurate SERVO-TEK SPEED INDICATING SYSTEM

A truly versatile "package" provides accurate speed indication for almost anything that moves. Nearly every industrial process or machine can benefit by the economy and safety of continuous speed indication.

FEATURES

- **SELF-POWERED** No batteries or external power required.
- **LOW VOLTAGE** Connecting cable can be as long as 500 ft. for remote readings.
- **PERMANENTLY LUBRICATED BALL BEARINGS** Sealed against foreign particles and harmful vapors.
- **EASILY READ 4½" INDICATOR** Damped to withstand vibration and shock.
- **STANDARD RANGES** 0 to 100, 500, 1000, 2000, 3000, 4000, 6000, 8000, 10,000 and 12,000 RPM. These speeds can also be provided to read "Percent of Full Speed" or "Percent of Capacity."
- **STANDARD (SAE) AUTOMOTIVE AND AIRCRAFT MOUNTS,** as well as special scales, also available.

$87.00 includes generator, indicator (specify range), mounting base, coupling, and 15 ft. of electrical cable. Delivery from stock. Quantity discounts. Data on request.

See additional advertisement Section 4900.

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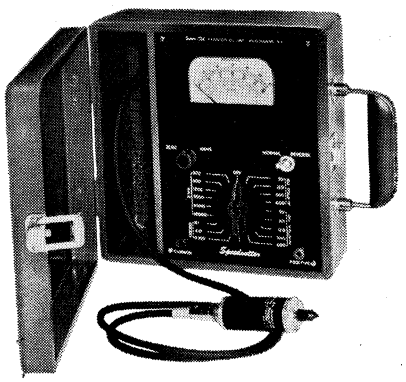

Speedvolter

TACHOMETER • VOLT-OHMMETER

A rugged instrument for accurate measurement of speed as well as AC-DC volts and resistance.

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- Five D-C VOLT Ranges
- Four A-C VOLT Ranges
- Three OHMS Ranges
- 0-12,000 RPM
- 0-600 D-C Volts
- 0-600 A-C Volts
- 0-200,000 ohms
- "Burn-out" Proof
- Single Function Switching
- Shielded Meter
- Polarity-Reversing Switch

Catalog with additional data available upon request.

See additional advertisements Sections 3500 and 4900.

$147.00
Complete with case and accessories

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14736 Arminta Street, Van Nuys, Calif.

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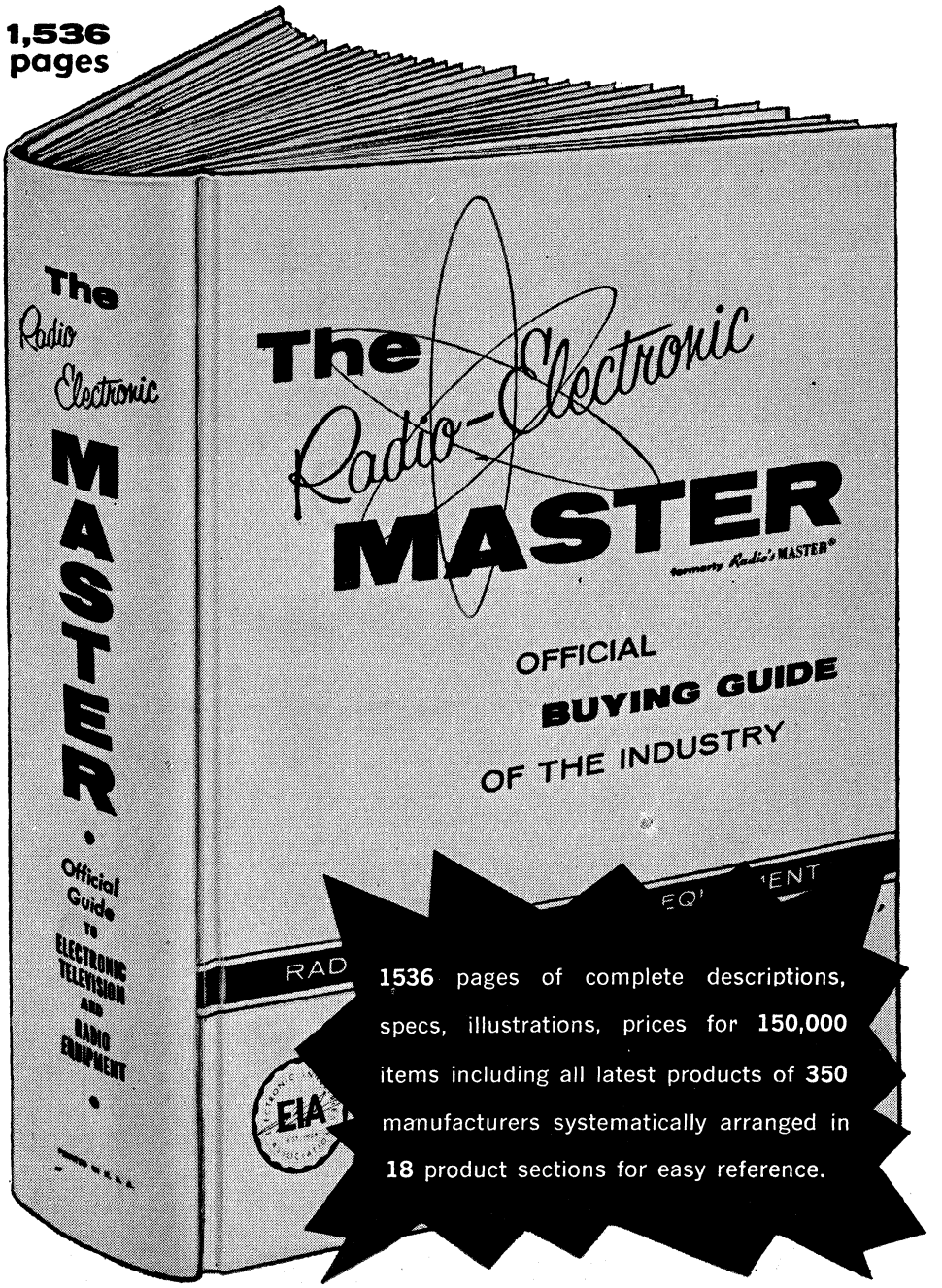

WHEN YOU SPECIFY OR BUY THESE PRODUCTS

Tubes • Recording and Phono Equipment • Rectifiers
Fuses • Dial Lights
Amplifiers • Sound Systems • Intercoms
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Microphones • Headphones • Test & Measuring Equipment • Books
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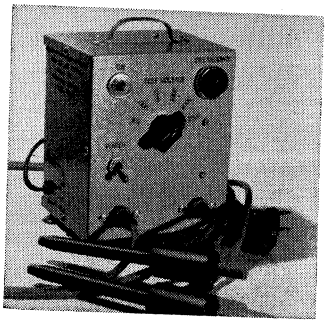
Test with confidence

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

SLAUGHTER CO.
PIQUA 3, OHIO

High-Voltage Insulation Tester
with buzzer signal on breakdowns
. . . grounds
. . . shorts



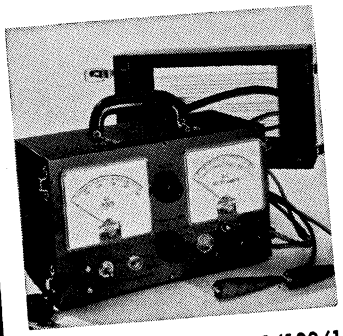
MODEL **101**

Watch what you are doing . . . not the tester

SIX TEST VOLTAGES . . . 500 to 2500 V.A.C. PRICED SO YOU CAN AFFORD TO SPOT A FEW ALONG YOUR ASSEMBLY LINES.

FOR SAFETY

High-Voltage Leakage Tester
checks insulation for leakage
. . . grounds
. . . arcing

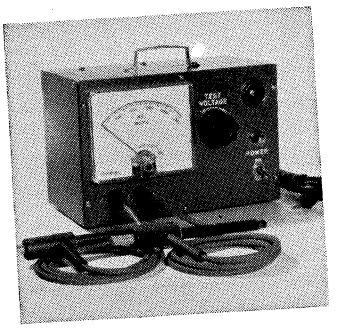


MODEL **122**

16 lb. Portable for lab and field work

0/2100 V.A.C. . . . . 0/100/1000 MICROAMPS CAPACITY COMPENSATION . . . MEASURES A.C. RESISTANCE, CAPACITY, AND POWER FACTOR.

Adjustable High-Voltage Tester
with buzzer signal on breakdowns
. . . grounds
. . . shorts



MODEL **106**

Voltmeter shows actual Test Voltage

ADJUSTABLE VOLTAGES TO 2500 V.A.C. RECOMMENDED FOR BREAKDOWN TESTING AT FINAL ASSEMBLY AND INSPECTION.

Precision Stroboscope
with high intensity daylight lamp
. . . stable
. . . accurate

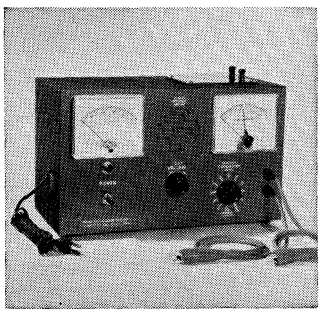
MODEL **162**

Interchangeable Heads . . . 0.1% accuracy

FOR SPEED MEASUREMENTS TO 30,000 RPM FOR MOTION STUDIES . . . CAN BE SYNCHRONIZED WITH EXTERNAL SIGNALS . . . CAN BE TRIGGERED WITH EXTERNAL CONTACTS . . . CAN BE COUPLED TO COUNTER, SCOPE, OR OTHER EQUIPMENT.

SLAUGHTER CO. • PIQUA 3, OHIO

High-Voltage Leakage Tester
audibly signals excess leakage
. . . grounds
. . . arcing



MODEL **103**

Measures Leakage . . . not capacity current

TEST VOLTAGE ADJUSTABLE TO 2100 V.A.C. LEAKAGE LIMIT ADJUSTABLE . . . 0 TO 5 MA. DETECTS 20 MICROAMPERE ARCS . . . CANCELS CHARGING CURRENT CAUSED BY INHERENT CAPACITY. USED AT FINAL INSPECTION FOR BREAKDOWN AND LEAKAGE TESTS.

SLAUGHTER CO. • PIQUA 3, OHIO

Order from Local Electronic Parts Distributors or Write for List.

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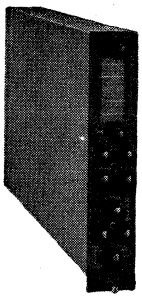
sierra

TRADE MARK

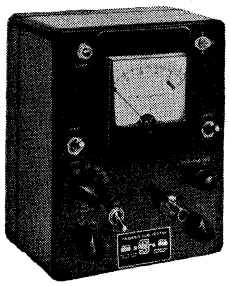
NEW MONITOR OSCILLOSCOPES



Sierra 218
Monitor Oscilloscope

The new Sierra Oscilloscopes, Model 218 Series are especially designed for continuous function monitoring of as many as seven channels simultaneously in one rack unit. Rugged and compact, the Scopes provide, in the smallest possible package, a convenient means for viewing and evaluating complex voltages. Designed primarily for tape recording and data handling systems, the Scopes are particularly ideal for measuring and analyzing mechanical quantities through a transducer, such as stress, strain and vibration, pressure, displacement and acceleration.

NEW IN-CIRCUIT TRANSISTOR TESTER



Sierra 219A
Transistor Tester

The new Sierra Model 219A Transistor Tester provides a technical breakthrough —a means for in-circuit transistor testing, saving hours of trouble shooting and service time. Designed with a unique combination of transistor circuits, using low impedance methods, the Tester will measure the Beta parameter of a transistor while it is connected in a circuit. Beta and Collector Current parameters may be measured with the transistor removed from the circuit. Request Bulletin.

WAVE ANALYZERS

Model	Frequency Range—kc	Selectivity		Accuracy		Direct Reading in dbm	
		Down 3 db	Down 45 db	Frequency	Measuring	Balanced	Unbalanced
121A	15 KC-500 KC	± 100 cps	± 1000 cps	± 3 KC	± 2 db	Note D	600 ohms
158A	500 KC- 10 MC	± 2000 cps	± 5000 cps	± 0.08 MC	± 2 db	—	600 ohms
CARRIER FREQUENCY VOLTMETERS							
101C	20-500	± 550 cps	± 2900 cps	Note A	± 3 db	Note D	600 ohms
103B†	3- 40	± 400 cps	± 3000 cps	± 0.5 KC	± 3 db	Note D	600 ohms
104A	5-150	± 300 cps	± 1500 cps	± 1 KC	± 3 db	Note D	600 ohms
108B	15-500	± 550 cps	± 2900 cps	± 3 KC Note B	± 2 db Note C	135 ohms Note D	600 ohms
114A	100-800	± 550 cps	± 2900 cps	Note A	± 3 db	Note D	600 ohms
121Y	15-500	± 100 cps	± 1000 cps	± 3 KC	± 2 db	135,600Ω	—

All Sierra Carrier Frequency Voltmeters feature built-in calibration oscillators and circuits for level calibration, have aural monitoring jacks, and (except 103B) are furnished with Sierra Model 149A Precision Spiral Scale Dials. New Sierra 121Y CFVM, similar to Model 121A Analyzer but has special 20-pin connectors and selector switch for rapid patching to carrier racks.

†Contains carrier re-insertion oscillator for monitoring suppressed carrier systems. Furnished with planetary drive dial. Note A. Ranges from ± 2 KC at low end of dial to ± 3 KC at upper end. Note B. ± 1 KC in the 48 KC to 256 KC region. Note C. ± 1 db for + 30 db to —40 db attenuator steps on 135 ohm balanced measurements. Note D. All models may be converted for 135 and 600 ohm balanced line measurements by convenient plug-in bridging transformer, Model 130D.

WIDEBAND DIRECTIONAL COUPLERS

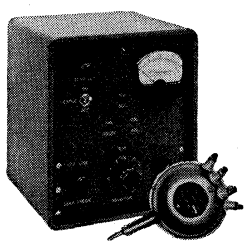
Model	10 KC	3 MC	10 MC	30 MC	100 MC	300 MC	1000 MC	2000 MC	Primary Line Connectors
137, 137A				73	63	53	43	37	Type N
138, 138A				59	49	39	29		Type N
145		52	42	32	22	12			Type N
150				53	43	33	23		Type N
212A				50	40				Type LC Female
213A				68	58	48			Type LC Female
214A					81	71			Type LC Female
139B	50	50							None

Directivity: 12 db ± 3 db greater than coupling factor at each frequency. e.g.: Model 145 at 100 MC has directivity of 34 db (22 + 12).

Impedance: Models 137 and 138 are 51.5 ohms. Models 137A, 138A, 145, 150, 212A, 213A and 214A are 50.0 ohms. Model 139B may be matched to most impedances encountered on open wire lines.

Power: Models 137, 137A, 138, 138A, 145, and 150 usable to 1000 watts. Models 212A, 213A and 214A usable to 150 KW peak. Model 139B usable to 50 KW or higher under certain conditions. See Bulletin 101.

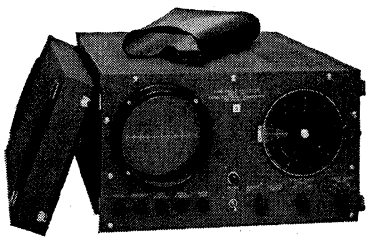
Connectors: See table for primary line. Secondary line, type N, male, except 139B. Model 139B for open wire transmission lines.



Sierra 193A Ionization Gauge and 192A Amplifier

IONIZATION GAUGE & AMPLIFIER

Model 193A Ionization Gauge and Model 192A Ionization Gauge Amplifier provide convenient, dependable and accurate monitoring of pressures during processing from 10^{-4} to 10^{-7} mm Hg. Monel encased Phillips type ion gauges operate for months without attention; amplifier includes high voltage rf power supply, VTVM, heater transformer and low voltage supply. Request Bulletin 118.



Sierra 124A Line Fault Analyzer

LINE FAULT ANALYZER

Designed for rapid location of faults on cables, transmission lines. Instantly pin-points shorts, opens, grounds; indicates nature of fault as well as exact location. Easy to use, high resolution.

Model 124A Line Fault Analyzer operates on most OPEN WIRE power, communications lines. Direct reading, range ½ to 200 miles. Sweep marker continuously adjustable from 5 to 100 miles, locates faults with accuracy of ¼ mile. Request Bulletin 102.

IMPEDANCE METER

For high noise carrier measurements 30 KC to 300 KC. Measures on "hot" lines. Request Bulletin 112.

COAXIAL READOUT DEVICES

Increase Directional Coupler sensitivity, low VSWR, operates to 1,200 MC. 50 ohm impedance, filtered output. Request Bulletin

DOUBLE STUB TUNERS

Match 50 ohm line to loads having 2:1 VSWR. To 1.5 Kw peak; three models covering, collectively, 155 MC to 1,750 MC. Request Bulletin 110.

LINE BRIDGING TRANSFORMER

Converts voltmeter and wave analyzer inputs from single-ended to balanced operation. Model 130D bridges both 135 and 600 ohm balanced lines. Frequency range 3 KC to 500 KC. Write for details.

THERMOPILE

Converts differential temperatures in flowing liquids to electrical energy. Output approx. 1 mv/°C. Request Bulletin 119.

LOW PASS FILTERS

Model 184 Series Low Pass Filters have an insertion loss of not more than 0.4 db in pass band, sharp cut-off, 1.5 VSWR or less, and rejection greater than 60 db from 1.25 to 10 times cut-off frequency. Five models: for cut-off frequencies of 44, 76, 135, 230, 400 MC. Power range 250 watts in pass band, 25 watts in rejection band. Request Bulletin 115. *(Also higher frequency models. Request Bulletin M-23.)*

SIERRA ELECTRONIC CORPORATION

A Subsidiary of Philco Corporation

See YELLOW SECTION for Local Offices, Telephone, etc.

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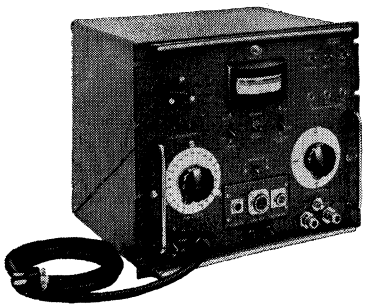
Sierra

TRADE MARK

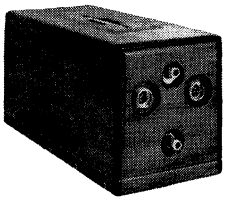


Sierra 290A Calorimeter

CALORIMETERS, WATER LOADS

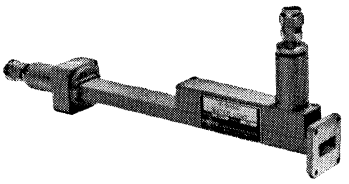
Now Sierra offers two groups of Calorimeters and mating Water Loads for both waveguide and coaxial service.

Model 190 Calorimeter and Sierra XB187A/B Water Loads constitute a complete system for calorimetric power measurements in the SL, S, XB and X bands. Model 187 Water Loads are available with power measuring ranges of, respectively, 20 Kw, 10 Kw, 1 Kw and 2 Kw average. Request Bulletin M24. Model 190 Calorimeter has ranges of 300, 600, 1,500 and 3,000 watts max. A Coaxial Liquid Cooled Load, Sierra 186A-Z (not shown) can be used with 190 Calorimeters to measure dc to 4 MC. Request Bulletins.



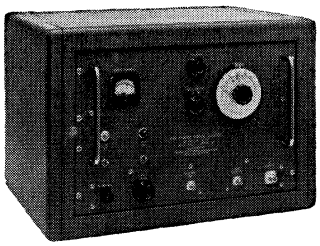
Sierra X287A Water Load

New Model 290A Calorimeter includes liquid flow controls, calibration sources and metering circuits. The calorimeter is self-calibrating and permits accuracies up to 1%. A closed loop circulating system with fluid pump and heat exchanger is available as an accessory. Request Bulletin.



Sierra X187B Water Load

New Model 287 Series Dual Water Loads provide balanced measurements when used with Model 290A. 287 series loads are offered in SL, S, XB and X bands and, in conjunction with Model 290A, comprise a complete power measuring system. An unusual feature of the 287 series is that the thermopile is a part of the load, resulting in materially improved accuracy. Request Bulletin.

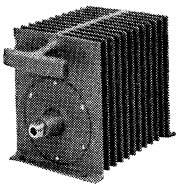


Sierra 215A Power Source

NEW POWER SOURCES— 25 MC TO 1,000 MC

New Model 215 Power Sources permit fast, accurate calibration of Bi-Directional Power Monitors and Termination Wattmeters. Output power is adjustable from 20% to 100% of rated power, and tuning is continuous over frequency ranges. Units are self-contained including power supply, and are supplied in sturdy bench cabinets or can be rack mounted. Four models cover, respectively, 25 MC to 50 MC, 50 MC to 150 MC, 150 MC to 470 MC and 470 MC to 1,000 MC. All models have an output of 50 watts ± 1.5 db; use Type N connectors and operate from a 115 v, 60 cps input. Request Bulletin M19.

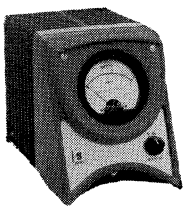
50 OHM COAXIAL TERMINATIONS



New compact, light weight Model 160 series coaxial terminations feature stable operation over a wide frequency range and up to high ambient temperatures. High surface to volume ratio provide a very low VSWR from dc to 4,000 MC. Model 160—1: 1 watt; Model 160—5: 5 watts; Model 160—20: 20 watts; Model 160—100: 100 watts; Model 160—500: 500 watts. Request Bulletin 114.

FIELD, LAB POWER MEASURING INSTRUMENTS

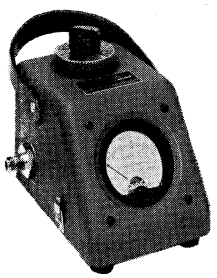
TERMINATION WATTMETERS



Sierra 185A-15FN Termination Wattmeter

Sierra 185A Series Average-Reading Termination Wattmeters are broadly useful, dependable instruments for terminating rf coaxial transmission systems and measuring rf powers. They are ruggedly built, conservatively rated, and ideal as dummy loads for testing and adjusting transmitters and oscillators. Three models offer, respectively, power ranges of 0 to 5/15, 0 to 30/100 and 0 to 150/500 watts. Other specifications (all models): frequency range 20 to 1,000 MC, accuracy ±5%, maximum VSWR 1.2, female N connectors. Request Bulletin 120. (Sierra also offers Model 195A Peak Reading Wattmeters; request Bulletin 121.)

BI-DIRECTIONAL POWER MONITORS



Sierra 164 Power Monitor

Sierra offers Power Monitors whose collective frequency ranges provide coverage from 2 MC to 1,000 MC.

Model 164 Series (shown). Two plug-in elements cover 25 MC to 1,000 MC, measure incident and reflected power of 10, 50, 100 and 500 watts full scale. Another plug-in is similar but covers 2 MC to 30 MC. Also available are four lower power elements covering same range at 1, 5, 10 and 50 watts full scale. Power is read direct on linear scale accurate within ±5%. Insertion VSWR less than 1.08 (Type N connectors) except on 1 watt ranges where VSWR is 1.15. 50 ohm impedance. Model 164 with Type N or UHF connectors, male or female. Request Bulletin 111.

Model 194A-A Peak-Reading Power Monitor (not shown) measures incident and reflected peak power directly, 200 MC to 1,215 MC. 1, 3, 10 and 30 Kw peak, ±5% full scale. From 1μsec, 400 pps up. Request Bulletin 122.

PLUG-IN ELEMENTS FOR MODEL 164

(Note: Model 164 does not include plug-ins. Order separately as needed.)

180 Series—1, 5, 10, 50 watts full scale
180–52: 25 MC to 52 MC
180–148: 50 MC to 148 MC
180–470: 144 MC to 470 MC
180–1000: 460 MC to 1,000 MC

270 Series—50, 100, 500, 1,000 Watts full scale
270–75: 10 MC to 75 MC
270–30: 2 MC to 30 MC

181 Series—10, 50, 100, 500 watts full scale

181–250: 25 MC to 250 MC
181–1000: 200 MC to 1000 MC

Accessories Available: Model 164-LS Equivalent Transmission Line Section; Model 164-CC Carrying Case.

Model 194A-A Peak-Reading Power Monitor. Model 194A-A quickly measures incident and reflected powers on radar and other pulsed systems. Measures peak power directly, independently of duty cycle. 200 MC to 1,215 MC. 1, 3, 10 and 30 Kw peak. ±5% full scale. From 1 μsec pulses, 400 pps up. HN connectors. Request Bulletin 122.

Data subject to change without notice.

5442 E. BOHANNON DRIVE, MENLO PARK, CALIFORNIA, U. S. A.

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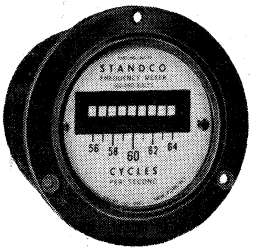
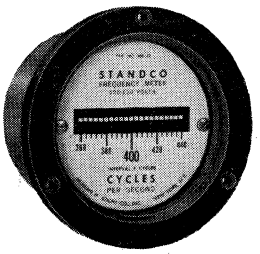
STICHT INSTRUMENTS

"STANDCO" VIBRATING REED FREQUENCY METERS





PANEL MOUNTING

3½" Bakelite Case

- Rugged
- Dependable
- Accuracy ±0.5%
- Reeds aged

HERMETICALLY SEALED

2½" and 3½"

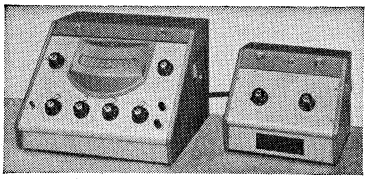
All MIL-Specs. Also Ruggedized Types.

Cat. No.	No. Reeds	Interv. CPS	Range CPS
351	5	1	48-52
352	7	1	47-53
353	11	0.5	47.5-52.5
354	5	0.5	59-61
355	7	0.5	58.5-61.5
356	9	0.5	58-62
357	11	0.5	57.5-62.5
358	21	0.5	55-65
359	5	1	58-62
360	7	1	57-63
361	9	1	56-64
362	11	1	55-65
363	21	1	50-70

Cat. No.	No. Reeds	Interv. CPS	Range CPS
DOUBLE RANGE			
369	5	1	48-52
	5	1	58-62
400 CYCLES			
374	5	10	380-420
364	9	5	380-420
365	11	5	375-425
366	11	4	380-420
376	11	2	390-410
370	11	1	395-405
375	17	2.5	380-420
367	21	2	380-420
368	21	4	360-440
377	21	1	390-410

SPECIAL RANGES UP TO 1500 CYCLES PER SECOND

ELECTRONIC INSTRUMENTS



VHR MEGOHMMETER

MODEL 31

A high resistance, high precision bridge with null balance for:

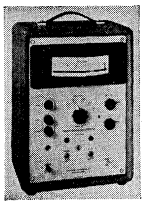
Measurements at 10 volts from 10^7 to 10^{13} ohms

Measurements at 100 volts to 10^{14} ohms

External 1 to 100 volts with a 10:1 ratio

Accuracy: ±1% from 10^7 to 10^{12} ohms
±2% from 10^{12} to 10^{14} ohms

BULLETIN NO. 1036



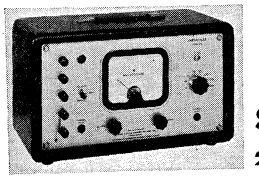
MODEL 29A

20 MILLION MEGOHMMETER

DIRECT READING

Unusual stability.
Fast in operation.
11 Ranges . . .
from 300,000 ohms
to 20,000,000 megohms.
Test Potential—85 to 500 volts.
Power Supply:
115 Volts 60 cycle.

BULLETIN NO. 1029A

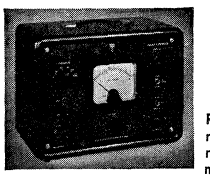


CHRONOTEST

MILLI- MICRO-SECOND METER

2 Models: 25E and 25C

With 8 time ranges covering short time intervals from 1 microsecond up to 10 milliseconds. Direct reading on 5-inch scale. Accuracy 1%, 2% on shortest ranges. BULLETIN NO. 1031.

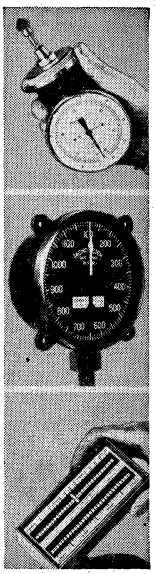


ELECTROMETER

MODEL 33B

Resistance Range—10^{16} ohms. Current measurements to 10^{-15} amps. Input range; 10, 30, 100, 300, 1000 millivolts. Zero stability: ±100 microvolts for 12-hour period. Accuracy: ±2% on 10 millivolt range—±0.3% on 1000 millivolt range. BULLETIN NO. 1033.

"STANDCO" TACHOMETERS



FOR EVERY NEED... EVERY SPEED

CENTRIFUGAL HAND TACHOMETERS

Universal Type UO with 5 ranges in one instrument. With overspeed protection.

CAT. NO. 303, 30-12,000 RPM
CAT. NO. 314, 45-18,000 RPM
CAT. NO. 322, 60-24,000 RPM
CAT. NO. 346, 120-48,000 RPM

Many other models with one, three or five ranges.

CENTRIFUGAL STATIONARY TACHOMETERS

For permanent mounting on machines. Model J. Sizes 3 in., 4 in., 5½ in., 8 in., 10 in. and 20 in. dial diameters. Flexible cable driven. Many standard ranges reading RPM, FPM, YPM, etc.

VIBRATING REED TACHOMETERS

PORTABLE AND STATIONARY

Measure speed by touch. Many different ranges from 600-600,000 RPM.

"MEGOHMER" INSULATION TESTERS

GENERATOR, HAND CRANKING TYPES

MINOR — Dwarf Size, 500 Volts DC
Cat. No. 710, 0-50 Megohms

MAJOR — Small Size, 500 Volts DC, Constant Voltage
Cat. No. 717 — 0-100 Megohms / 0-10,000 Ohms

STANDARD — Heavy Duty
Cat. No. 724A — 0-1000/100 Megohms, 500 Volts DC
Cat. No. 726 — 0-2000 Megohms, 0-10,000 Ohms, 1000 Volts DC

BATTERY VIBRATOR TYPES

NON-CRANKING

MODEL B-6 — 0-200 Megohms at 500 Volts DC
0-2000 Ohms 0-150/600 Volts AC
0-150/300 Volts DC

MODEL B-7 — 0-200/20 Megohms at 250/500 Volts DC
0-200/20,000 Ohms

PLUG IN TYPES

FOR PRODUCTION TESTING

MODEL P-1 — 115 Volts AC Line Operated
Cat. No. 740 — 0-100 Megs. 500 Volts
Cat. No. 742 — 0-1000 Megs. 500 Volts
Cat. No. 744 — 0-2000/200 Megs. 1000 Volts

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

Order from Local Electronic Parts Distributor or Write for List.

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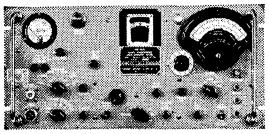
STODDART RADIO INTERFERENCE

AND FIELD INTENSITY MEASURING EQUIPMENT

covering a frequency range of 30 cps to 1000 mc



NM-40A (AN/URM-41)

30 cps to 15 kc

SELECTIVE OPERATION/Specifications

Sensitivity: For a one-to-one signal-to-noise ratio, the sensitivity of the NM-40A is better than 0.15 microvolt from 1000 to 15,000 cps, 0.25 microvolt from 300 to 1000 cps and 1.0 microvolt from 30 to 300 cps, when used as a selective two-terminal voltmeter with its narrowest bandwidth and an input impedance of 100,000 ohms.

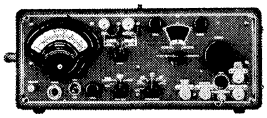
Spurious Responses:

$2\ F_0' >$ 60db down from F_0
$3\ F_0' >$ 55db down from F_0
All others > 75 db down
} where F_0 is any input signal using selective operation

WIDEBAND OPERATION/Specifications

Frequency Response: 30 cps to 15 kcs, ±0.5 db.

Sensitivity: 15 microvolts sensitivity at input impedance of 100,000 ohms.
Input Impedance: 50, 600, 10,000 and 100,000 ohms.
The NM-40A may also be used as an ultra-sensitive AUDIO frequency WAVE ANALYZER.



NM-10A (AN/URM-6B)

14 kc to 250 kc

GENERAL SPECIFICATIONS:

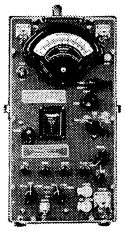
Sensitivity: Electrostatic pickup using rod antennas, one microvolt-per-meter to 2 volts-per-meter. Electro-magnetic pickup using shielded loop antennas, 10 microvolts-per-meter to 100 volts-per-meter. As a two-terminal voltmeter, either balanced or unbalanced, one microvolt to one volt.

Effective Random Noise Bandwidth: Varies from approximately 55 cps to 400 cps over the frequency range. Calibration charts give exact figures for each frequency.

Image Rejection: Better than 50 db.

I.F. Rejection: Greater than 60 db.

The equipment is of sturdy drip-proof construction and may be operated for prolonged periods in driving rain or snow with no deleterious effects.



NM-20B (AN/PRM-1A)

150 kc to 25 mc

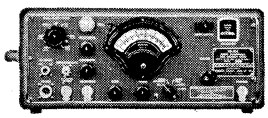
GENERAL SPECIFICATIONS:

Sensitivity: As a two-terminal voltmeter, either balanced or unbalanced, one μv to one volt. Electrostatic pick-up using rod antenna, 2 μv/meter to 2 volts-per-meter. Electro-magnetic pick-up using shielded loop antenna: SMALL LOOP, 10 to 30 μv/meter min. to 10,000 to 30,000 μv/meter max.; LARGE LOOP, 2 to 6 μv/meter min. to 20,000 to 60,000 μv/meter max.

Image Rejection: Better than 50 db.

I.F. Rejection: >45 db.

BFO is provided for **C. W.** reception.



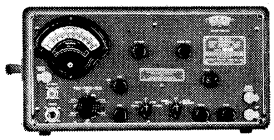
NM-30A (AN-URM-47)

20 mc to 400 mc

Sensitivity: Radiated pick-up using a calibrated, tuned dipole (without reflector), 0.6 to 60 μv/meter, depending on frequency. Conducted pick-up via 50-ohm matched coaxial line, 0.5 to 1 μv from 20 to 240 mc, less than 6 μv from 240 to 400 mc.

Spurious Response Rejection: Better than 40 db.

I.F. Rejection: >60 db.



NM-50A (AN/URM-17)

375 mc to 1000 mc

Sensitivity: Radiated pick-up using a calibrated, tuned dipole (without reflector) 35 to 160 μv/meter, depending on frequency. Conducted pick-up via 50-ohm matched coaxial line, 2 to 5 μv.

Impulse Bandwidth: Approximately 600 kc over frequency range.

Image Rejection: Better than 40 db.

Spurious Response Rejection: Better than 40 db.

I.F. Rejection: >80 db.

APPROVAL DATA CHART

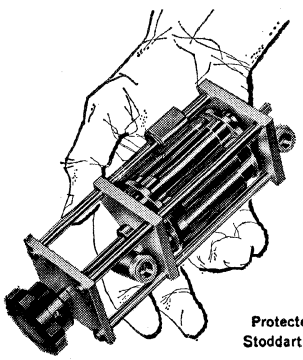
STODDART & MILITARY TYPE	FREQUENCY	MIL-I-16910 (Ships) Amend. #2	MIL-I-26600 (U.S.A.F.)& MIL-I-6181	S.A.E.	A.S.A.	C.I.S.P.R.
NM-40A (AN/URM-41)	30cps-15Kc	CLASS '1'	Not Req'd	Not Req'd	Not Req'd	Not Req'd
NM-10A (AN/URM-6B)	14Kc-250Kc	CLASS '1'	Not Req'd	Not Req'd	C63.2 (Proposed)	Not Req'd
NM-20B (AN/PRM-1A)	150Kc-25Mc	CLASS '1'	CLASS '1' *CATEGORY 'A'	Not Req'd	C63.2 (Proposed)	**
NM-30A (AN/URM-47)	20Mc-400Mc	CLASS '1'	CLASS '1' *CATEGORY 'A'	APPROVED	C63.3 (Proposed)	**
NM-50A (AN/URM-17)	375Mc-1000Mc	CLASS '1'	CLASS '1' *CATEGORY 'A'	Not Req'd	C63.3 (Proposed)	Not Req'd

* MIL-I-26600 (U.S.A.F.)
** Can be supplied with C.I.S.P.R. Recommended detector time constants.
S.A.E. (Society of Automotive Engineers)
A.S.A. (American Standards Association)
C.I.S.P.R (Comite International Special des Perturbations Radioelectriques) (International Special Committee on Radio Interference)

All items immediately available from stock

STODDART COAXIAL ATTENUATORS AND TERMINATIONS

made with exclusive Stoddart Filmistors for highly accurate and stable resistive values from dc to 3000 mc.

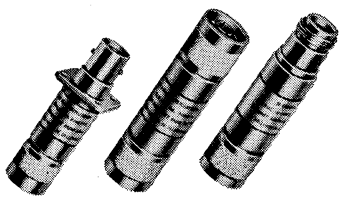


Protected under Stoddart Patents

2, 6 AND 10-POSITION TURRET ATTENUATORS

WITH SIMPLE "PULL-TURN-PUSH" OPERATION, SMALL AND RUGGED

ATTENUATOR PADS



Available in any conceivable combination of male and female Type C and Type N connectors. Maximum length of 3″ for any attenuation value.

GENERAL SPECIFICATIONS:
VSWR: <1.2 to 3000 mc for values from 10 to 60 db; as value decreases below 10 db, VSWR increases to not over 1.5.
Characteristic Impedance: 50 ohms.
Attenuation Value: Any value from 0 db to 60 db including fractional values.
Accuracy: ±0.5 db; values above 50 db have rated accuracy of attenuation through 1000 mc only.
Power Rating: 1.0 watt sine wave.

COAXIAL TERMINATIONS

Small-stable-50 or 70 ohms

½-Watt: 50 ohms impedance, TNC or BNC connectors, dc to 1000 mc, VSWR less than 1.2.

1-Watt: 50 ohms impedance, dc to 3000 mc or dc to 7000 mc, Type N or Type C connectors, male or female; VSWR less than 1.2, 70 ohm, Type N, male or female terminations available.

Fast delivery on all items/Send for complete literature

STODDART

AIRCRAFT RADIO CO., INC.

6644 Santa Monica Blvd., Hollywood 38, Calif. HO 4-9292

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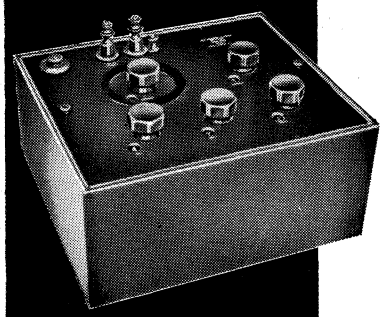
B.I.C. ENDORSED QUALITY

H. W. SULLIVAN LTD.



Model AC440 Direct-Reading, Non-Reactive Decade Resistance. 11,111 ohms. 5 dials, 0.1 ohm increments, 0.01% Accuracy.

2355

World's most accurate Laboratory Standards

Resistance—Inductance—Capacitance

H. W. SULLIVAN LTD., *Makers of the World's finest Electrical Standards and Instruments for Physical Studies, for Electronic Engineering, for Electrical Research, and for Industrial use...present a few of their outstanding achievements.*

NON-REACTIVE DECADE RESISTORS 0.01% ACCURACY, DC to 50 kc.

H. W. Sullivan decades and slidewires are guaranteed accurate to 0.01% from DC to at least 50 kc, **direct reading** without corrections of any kind and without reference to calibration certificates. Units are available from 100 to 100,000 ohms, with 1 to 5 dials. A patented method of reactance compensation permits choice of minimum inductance error, minimum resistance error, or best compromise. The effect of shielding capacity is entirely eliminated. These are the most stable alternating current standards known, and they may be used with equal success on DC. Sullivan DC Resistance Standards are available with accuracies as high as 0.001%. Kelvin and Wheatstone Bridges may be had covering the range of 0.0000001 ohms to 10 megohms, with accuracies of 0.01% to 0.05%.

STANDARDS OF SELF AND MUTUAL INDUCTANCE 0.01% ACCURACY

H. W. Sullivan air cored standards of self and mutual inductance are available in fixed values, in single or multiple decades, and continuously variable. They range in values from 1 μH to 1 H with an accuracy of 0.01%—direct reading. They have a stability of 1 part in 10^5 over long periods and a temperature coefficient less than 5 parts in 10^6 per degree C due to a novel method of geometrical compensation, with high "Q" values and good and known frequency characteristics. **These inductances are integral parts of the SULLIVAN Inductance Bridge which covers the range of 1 μH to 100 H with an overall accuracy of measurement better than 0.1% over most of the range.**

STANDARDS OF CAPACITANCE 0.01% Accuracy

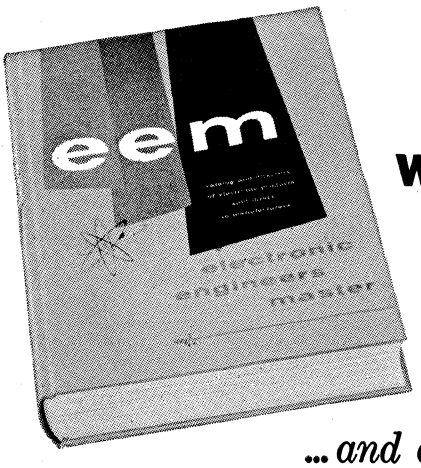
H. W. Sullivan produces a complete range of capacitors and capacitor decades, fixed or variable, air and mica dielectric, from a few $\mu\mu$F up to 5 μF in value. The guaranteed accuracy of most of these is 1 part in 10^4 and their stability is 1 part in 10^5. Temperature coefficients of less than 10 parts in 10^6 per degree C are obtained and are cyclic to 1 part in 10^6. Power factors of 0.00001 (as two terminal capacitances) are maintained up to 10^5 or 10^6 cps. Low residual inductance and high insulation resistance are features of all. **These capacitors are integral parts of the SULLIVAN Capacitance Bridge which covers the range of 0.1 $\mu\mu$F to 100 μF, accurate to 0.01% over part of the range.**

Sullivan Standards of Inductance, Capacitance and Resistance are known throughout the world for unequalled accuracy and stability. We invite inquiries regarding your specific requirements.

Address Dept. ZY1299, Special Instruments Division

BRITISH INDUSTRIES CORPORATION, 80 SHORE RD., PORT WASHINGTON, N. Y.

Order from Local Electronic Parts Distributor or Write for List.



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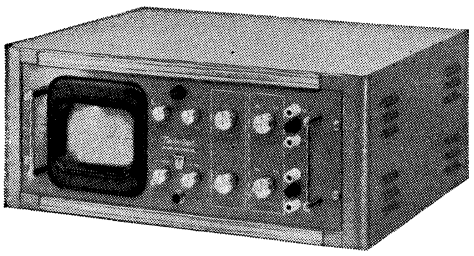
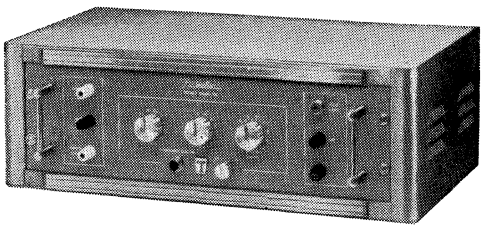
Technitrol Test Instruments



PRICE $375.00

CATHODE RAY INDICATOR
MODEL 1002

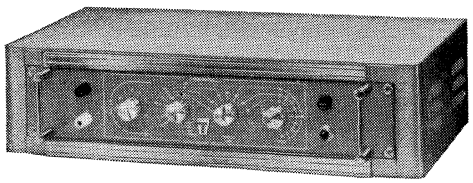
Sensitivity.....X axis: 18 mv per inch, Y axis: 13 mv per inch
Frequency response.....DC to 110 kc (3db); 200 kc (6db)
Input:
  Single-ended or balanced
  Impedance: 100k, shunted by 60 $\mu\mu$f
  Attenuator (single-ended only) 1:1 and 10:1
  Continuous gain control
Z axis input available
Cathode ray tube.....5UPL (Other phosphors available on special order)
Power requirements..... 115 volts, 60 cycles, 70 watts
Over-all dimensions.....8¾" high, 21¾" wide, 18" deep
Weight.....48 lbs.



PRICE $450.00

VARIABLE PULSER
MODEL 1010

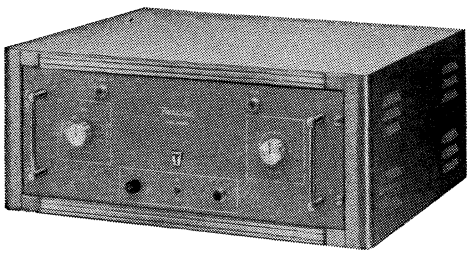
Pulse repetition rate.....10 cps to 5 mc
Pulse duration.....0.1 μ sec to 5.0 μ sec; in 0.1 μ sec steps
Rise time.....at 40 volts out, 0.04 μ sec; at 20 volts out, 0.025 μ sec
Fall time.....at 40 volts out, 0.05 μ sec; at 20 volts out, 0.04 μ sec
Output amplitude..2 to 40 volts across 1000 ohms, continuously variable
Output impedance.....100 ohms in series with 0.5 mfd
Trigger output.....10 volts (precedes output pulse by 0.1μ sec)
Over-all dimensions.....7" high, 21¾" wide, 12" deep
Weight.....34 lbs.



PRICE $172.00

VARIABLE FREQUENCY OSCILLATOR
MODEL 1011

Frequency range.....100 cps to 5 mc
Output voltage.....0-10 volts, peak to peak
Power requirements.....105-125 volts, 60 cycles, 25 watts
Over-all dimensions.....5¼" high, 21¾" wide, 12" deep
Weight.....26 lbs.



PRICE $495.00

POWER AMPLIFIER
PULSE OR CW
MODEL 1012

Input impedance.....50k shunted by 40 $\mu\mu$f.
Output impedance.....approximately 50 ohms
Output
  Linear dynamic range,
    1,000 ohm load..... + 30 to − 30 volts
    50 ohm load..... + 20 to − 20 volts
  Voltage gain,
    1000 ohm load..... 2.0
    50 ohm load..... 1.0
Available output current..... up to 0.75 amperes
Rise time.....0.032 microseconds
Frequency response.....DC to 6 db down at 12.5 megacycles
Input-step attenuator.....0, 0.25, 0.50, 0.75, and 1.00 step attenuation.
DC level control.....+20 to −20 volts.
Power requirements.....105-125 volts, 60 cycles, 300 watts
Over-all dimensions.....8¾" high, 21¾" wide, 18" deep
Weight.....85 lbs.

Technitrol Incorporated

1952 EAST ALLEGHENY AVE., PHILADELPHIA 34, PENNSYLVANIA

NEW ENGLAND: 456 MAIN STREET, WAKEFIELD, MASSACHUSETTS
WEST COAST: 252 NORTH IRVING BOULEVARD, LOS ANGELES 4, CALIFORNIA

See YELLOW SECTION for Local Offices, Telephone, etc.

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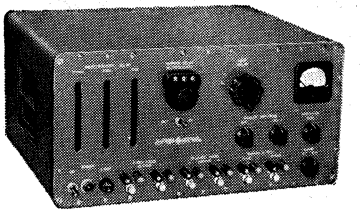
Precision Electronic Test Equipment

LABORATORY INSTRUMENTS

PULSE TIMER — MODEL PT-244

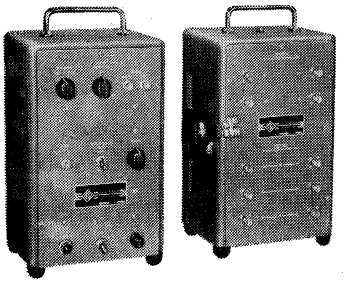


The TLI Model PT-244 is a paired trigger generator which provides a fixed and a delayed pulse. Delays up to 10,000 microseconds are provided with an accuracy of ±0.01 microseconds read directly from a combination of decade counters and a digital dial. Mechanically, the instrument is a full size module of the TLI Modular Instrumentation System and therefore may be used with modular system Stack Pedestal for bench mounting or may be rack-mounted with the Modular Rack Adapter.

SPECIFICATIONS

Accuracy	±0.01 microseconds
Delay Range	0-10,000 microseconds
Marker Output	10, 1 and 0.1 microseconds
Jitter	Less than .001 microseconds
PRF	30-2500 PPS
Fixed Pulse Amplitude	±25 volts open circuit
Delayed Pulse Amplitude	±55 volts open circuit
Output Impedance	1500 ohms minus 700 ohms plus

PRICE Model PT-244 Pulse Timer—$1,895.00



PULSE GENERATOR — MODEL PG-215

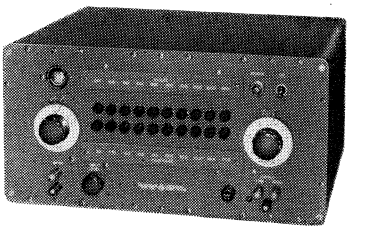
Model PG-215 Pulse Generator is a mercury-relay plus pulse-forming-line type of generator having rise, duration and decay times in the millimicrosecond range. Time parameters are determined by sections of standard coaxial cable supplied by the user or contained in the Model PGA-220 Width and Delay Unit available as an accessory.

SPECIFICATIONS

Rectangular pulses at recurrence rates of 60 or 120 pulses per second.
Rise and decay times down to 1.2 mus, minimum width 1.2 mus, maximum duration unlimited.
Amplitude 0 to 35 volts with 93 ohms load.
Sync. output signal isolated from the main output with provisions for delaying the main pulse.

Model PG-215 Pulse Generator.....$245.00
Model PGA-220 Width and Delay Unit.....$195.00

TEST OSCILLATOR — MODEL TO-258

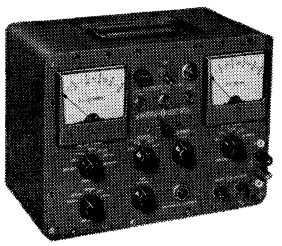


Model TO-258 Test Oscillator urnishes twenty pre-determined frequencies selected by means of push-buttons. A calibrated control permits any selected frequency to be varied ±15% of its nominal value in the telemetering model. It features low distortion and excellent frequency stability over wide ranges of temperature and power input. Features a full sized modular cabinet.

SPECIFICATIONS

Telemetering model furnishes standard FM/FM frequencies from 400 C to 70 KC. Special Models for any 20 frequencies from 20 to 100,000 cycles per second.

Model TO-258 Test Oscillator (FM/FM).....$425.00



DIODE TESTER — MODEL DT-257

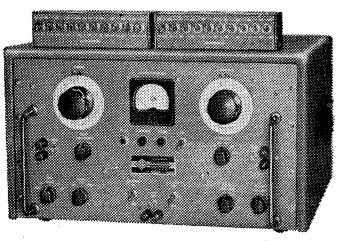
Model DT-257 Diode Tester measures the static characteristics of germanium, silicon and low-power selenium diodes. Separate forward and reverse power supplies, having continuously variable outputs or pre-set regulated reverse potentials permit either complete measurements or checks at selected operating points. Features a 2/3 modular cabinet.

SPECIFICATIONS

Pre-set regulated reverse voltages.
-10, -50, -100, 0-150 volts at 5 ma.
Forward current to 500 ma. at 1.0 volt.
Reversed or shorted diode indications.
Internal meter overload protection.
Test fixture allows quick connections.
Provisions for accessory diode heater.

Model DT-257 Diode Tester.....$295.00
Model OV-120 Diode Oven.....$150.00

PULSE GENERATOR — MODEL PG-200AA

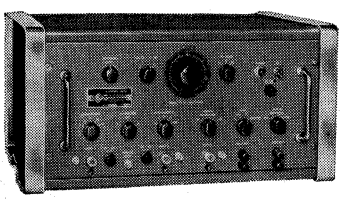


Model PG-200AA Pulse Generator features wide ranges of pulse duration, amplitude, and positioning. It may be operated self-synchronous or driven by an external signal of almost any wave-form. In both cases, it furnishes a fast trigger for synchronizing auxiliary equipment.

SPECIFICATIONS

Duration and position .05 to 50 us, 1000 us with range extenders.
Rise and decay times constant .03 us.
Single pulses to 20,000 per second.
100 volts, 50 ohms driving impedance.
Trigger or sine wave synchronization.
Calibrated width, position and rate.
May be cascaded for dual pulse output.

Model PG-200AA Pulse Generator.....$850.00
Model PGA-210 Range Extender.....$80.00



ELECTRONIC SWITCH — MODEL ES-180A

Model ES-180A Wide-Band Electronic Switch provides presentation of two waveforms on almost any conventional oscilloscope. It also furnishes a movable horizontal index trace for making rapid and accurate amplitude and time measurements without parallax error. The control dial is calibrated both in volts and percentage amplitude and a connector is provided for introducing external time markers.

SPECIFICATIONS

Unity DC gain down 3 db at 15 MC, 6 db at 21 MC; Rise-time .023 microseconds.
Identical stable feedback amplifiers; both DC and heater supplies regulated.
93 ohms output impedance minimizes effect of cable length and load on bandwidth.
Input impedances 1 megohm and 40 mmfd; attenuator divisions 1, 3, 10, 30, 100.
Alternate-sweep or alternate-sample displays, switching rates to 400 KC.

Model ES-180A Electronic Switch.....$595.00

TELETRONICS LABORATORY, INC. 54 KINKEL STREET WESTBURY, L. I., N. Y.

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TEST EQUIPMENT FOR SYNCHRO and RESOLVER SYSTEMS

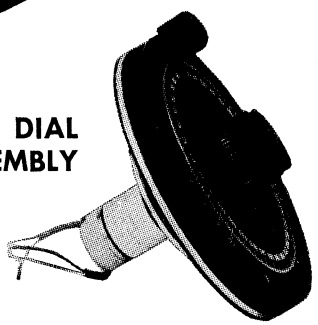
Theta INSTRUMENT CORP.

1959 Catalog sent upon request. See yellow section for the address of our local representative.

Off-The-Shelf delivery on most items.

DIAL ASSEMBLY

MODEL DA



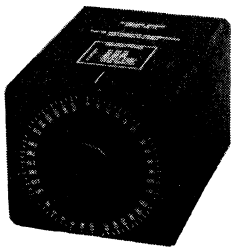
For the angular positioning of synchros and pots, this attractive panel-mounted unit lends itself toward integration into a variety of test equipment. Components are inserted in a spring-loaded collet and held rigidly with synchro clamps.

SPECIFICATIONS:

Accuracy	0.1°
Range	360°
Rotation	Continuous
Max. O.D.	5 in.

Soon to be released: 3¼ O.D. Dial Assembly with digital readout; accuracy, 0.1°; range, 360°.

SYNCHRO and RESOLVER BRIDGES

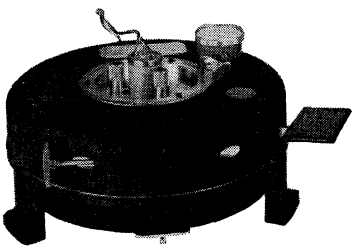


For measurement of angular error of synchro and resolver components and systems in accordance with pertinent military and commercial specifications. Automatic versions are driven in response to an external pulse. All models are panel-mounted.

SPECIFICATIONS:

Angular Intervals:	2½°, 5°, 10°, or 15°
Max. Angular Error	10 sec. of arc
Leg Resistance	10,000 ohms

ANGULAR DIVIDER



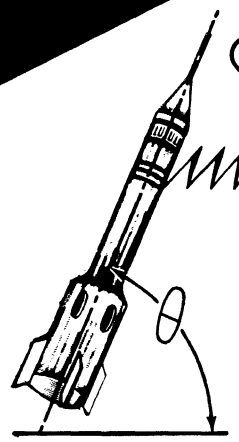
For the exact angular positioning of synchros and pots. Complete accuracy and reproducibility with unskilled operators. Additional fixturing not required. Features a coupling with zero transmission error.

MODEL D-3

SPECIFICATIONS:

Angular Error	20 seconds of arc max. obtained at the synchro shaft. Includes all positioning, coupling and reading errors.
Dimensions	11½ inches O.D. x 5¾ inches high

Number of Notches	72
Notch Spacing	5 degrees
Fine Angle Mechanism	
Range	±2.5 degrees
Full-scale dial reading	±25 min.
Total number of divisions	100
Dial diameter	2½ inches
Adapters	Available in size 8 through size 37.



NEW! THETA BRIDGE 046 • 190°

10 SEC. ACCURACY
RANGE 360°

Angular Measurement Without Optical Or Mechanical Coupling

SYSTEM ERROR BRIDGE

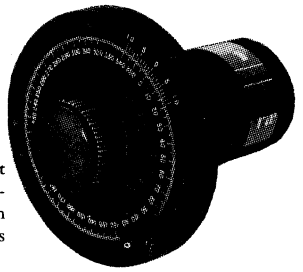
By means of the output voltages from synchros or resolvers inaccessibly located in a complex system, angular data is externally displayed. Passive construction. For standard rack mounting. Size 19" x 7" x 7".

APPLICATIONS:
Determines antenna position. Measures the tilt of an inertial, stable platform. Displays the angular output of a servo. Simulates a perfect synchro or resolver input to a system.

Consult our Engineering Dept. for variations in packaging, accuracy, and automatic readout.

PHASE GENERATOR

MODEL PG-3



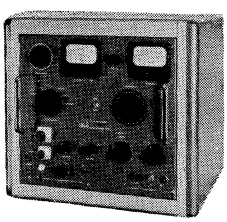
This passive device produces a constant AC voltage whose time phase is continuously controlled by and read from a dial assembly. Phase accuracy is independent of output loading.

SPECIFICATIONS:

MODEL NUMBER	PG-3AT	PG-1AT
Excitation Voltage (Max.)	115	115
Excitation Frequency (CPS)	400	400
Input Impedance (ohms)	8000@45°	8000@45°
Output Voltage (Min.)	30	30
Output Impedance (ohms)	6000	6000
Phase Accuracy	30′	1.5°
Dial Readability	6′	30′
Panel Hole (In.)	2⅝	1 3/32
Dial O.D. (In.)	5	4
Depth Behind Panel (In.)	3⅛	3⅛

Other Models available for single frequency operation between 12 cps and 200 KC. PG's without dials for servo-driven applications.

SYNCHRO and RESOLVER TEST SETS



For the measurement of all electrical parameters of synchros and resolvers. Many models available.

Also: Resolver Function Error Bridge, Electrical Zeroing Meters, Phase Comparators, and Phase Sensitive Volt Meters.

Theta INSTRUMENT CORP.

48 Pine Street • East Paterson, N. J. • SWarthmore 7-7700

See YELLOW SECTION for Local Offices, Telephones, etc.

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THE TIME INDICATOR UNIT
accurate to 1 second in 12 days

CHRONOMETER
MODEL TS-3

Program timer, pulse generator and clock. Timing assemblies, driven by the clock motor, provide momentary contact closings at rate of

• ONCE A SECOND • ONCE A MINUTE • ONCE AN HOUR

also constant frequency or pulse outputs as specified in range between 10 and 1000 cps.

PRICE: $950.00, F.O.B. Factory.

With added constant frequency output, $50 per output frequency.

TIMES FACSIMILE CORPORATION 540 West 58th Street, New York 19, N. Y.

See YELLOW SECTION for local offices, telephones, etc.

NOW

FOR THE FIRST TIME A PRACTICAL FILING SYSTEM FOR NEW PRODUCT INFORMATION

for full details refer to the inside back cover

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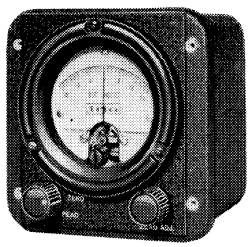
for greater design freedom . . .

PANEL-MOUNTING precision electronic instruments by trio®

The Trio Labs' line of miniature panel-mounting instruments presents a unique, performance-proven approach to measuring or monitoring problems in equipment design. This approach — integrating measuring devices into operational and test equipment — gives new scope to the design engineer's ingenuity.
Simple, efficient, foolproof means for repetitive checks and rapid, sequential or continuous metering of critical circuits can be now provided to improve the reliability and performance of system equipment.

. . . designed for panel-mounting, the Trio Labs' philosophy of engineering. Precision electronic instruments are developed specifically for panel-mounting and are not merely modifications of general laboratory instruments.
Miniaturization techniques and novel packaging result in VTVM's that are ideal for integration into actual operating and test equipment.
. . . designed separately for military and commercial applications. Parallel lines of instruments are each carefully designed to the job. One line is not a rehash of the other, rather the ruggedized instruments are engineered to meet stringent military requirements while the commercial line affords the economy and reliability demanded by industrial equipment.
. . . designed for easy adaptation. All Trio Labs' instruments are capable of widely variable characteristics that can be selected to exact needs. The facilities of the organization are available for the solution of any measuring or monitoring problem.
In addition to the models described below, Trio Labs' offers phase sensitive VTVMs, phase meters, multi-channel VTVMs, etc. ***Write for complete free catalog EEM 59.***

The G Series Single or Multi-Range Ruggedized DC VTVMs

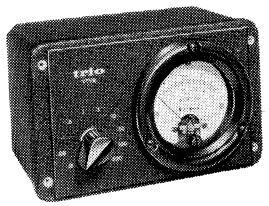


For building into equipment meeting MIL-T-945A and MIL-T-5400A; uses meter meeting MIL-M-10304A. Complete with power supply, size is 4½ x 4½ x 4" deep. Power and signal terminals, available on rear surface, are completely insulated from case and chassis ground. Can incorporate up to 6 ranges, zero-center, special scaleplates. Standard range 1 to 300 V. Accuracy 2% of full scale (3% on multirange). Input Z 10 megs. Needs 115 VAC, 60 or 400 cps, 4w. Weighs 2 lbs., 11 oz. Tubes: 1-5814WA. Temperature: —54° to + 71° C.

Model G Single-Range DC VTVM, Ruggedized — $136.00

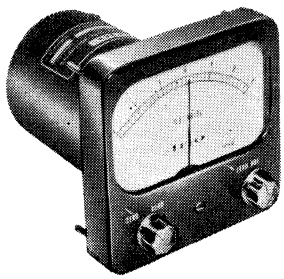
Model D Multi-Range Ruggedized AC VTVM

For building into equipment meeting MIL-T-945A or MIL-E-5400A. Features exceptional stability and reliability under extreme environmental conditions, and isolated signal leads. Contains hermetically sealed MIL components and ruggedized meter. Size 4¼ x 6¾ x 4¼" deep. 10 ranges from 10 MV to 300 V, 3% accuracy full-scale. Input Z 1 meg. Frequency ranges 20-50,000 cps. Needs 115 VAC, 60 or 400 cps, 8 W max. Weighs 3 lbs., 10 oz. Tubes: 2-5751WA. Temperature: —55° to + 71° C. Only 30-second warm-up required. High-gain feedback assures long-term reliability.



Model D AC VTVM, Ruggedized — $272.00

The F Series Single-Range Commercial DC VTVMs

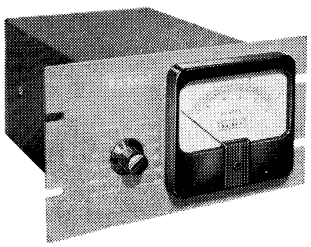


Mountable into commercial operational and test equipment in same area required by standard panel meters. Features higher accuracy, 2% of fullscale; ranges from 0.5V zero-center to 300 v full scale. Input Z 10 megs. Completely self-contained, operates from 60 or 400 cycle 115 VAC, 10 W. Choice of zero-center or zero-left models. Tube: 5814A. Weighs 1 lb., 11 oz. 4¼" rectangular meter, housing extends 4" from rear of meter movement.

Model F DC VTVM, 4" Rectangular — $84.50

Model 109-1 LOW-LEVEL Multi-Range Commercial AC VTVM

Excellent for building into test equipment, reads down to .02 MV on its 1 MV range with 2% full-scale accuracy. Input Z 10 megs. Response 20-80,000 cps. Features signal and power circuits and mounting panel all isolated from each other; extreme stability — wide line variations do not affect accuracy; calibration of gain and frequency response without removal from panel; feedback and printed circuitry for exceptional reliability and simple maintenance; size 5¼" h x 9½" w x 9¾" d — panel fits standard modular-type consoles. Needs 115 VAC, 50-500 cps. Weighs 6 lbs., 6 oz. Tubes: 3-5751, 1-6X4, 1-0A2.



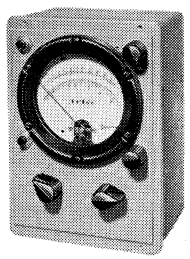
Model 109-1 Low-Level AC VTVM — $199.00

The B Series Single-Range Ruggedized AC VTVMs

For building into equipment meeting MIL-E-5400A and MIL-T-945A; uses ruggedized meter meeting MIL-M-10304A. Can withstand 160° F and greater. Weighs 1 lb., 5 oz. Fits standard 3½" meter space; extends less than 4¾" behind panel. Accuracy 2% full scale. Temperature: —55° C to + 71° C. Input Z 1 meg, frequency range 20-50,000 cps—available in any range from 10 MV to 300 VAC. Power required is 6.3 V and 125-200 VDC (Trio Model CP Auxiliary power supply available). Highly flexible automatic scale selection. Adding extra terminals makes separately available both the 200 ua DC meter and stable, linear, current-feedback amplifier. Special scaleplates, ranges, Z's on request. Tubes: 1-6112; 1-5719. **Model B AC VTVM, 3½" Round — $160.00**

New Miniature LOW-LEVEL AC-DC VOLT-OHMMETER

New general-purpose flexible-design Vacuum Tube Volt-Ohmmeter, Model 111-1, meets MIL specs., has greater sensitivity than conventional units, maintains 3% AC and DC accuracy over extended temperature ranges, has high versatility and dependability in small size (8" x 5½"). Flexible design enables economical tailoring to your special requirements: special scale plates, auxiliary go/no-go operation, AC range reduced to 10 mv, color and mounting varied, etc. AC input Z: 1 meg. DC input R: 11 meg. Frequency Response: 20-5,000 cps. DC zero drift: 0.5% max on 1 v and higher ranges: 1% on .03 v range. Power: 115 V, 400 cps.



Model 111-1 Vacuum Tube Volt-Ohmmeter — $700.00

When ordinary instruments are too big or inadequate . . .

trio®

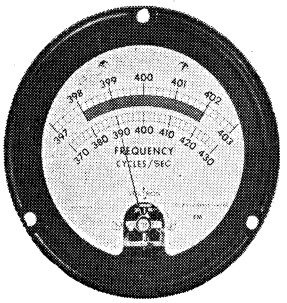
TRIO LABORATORIES, INC.
PLAINVIEW, LONG ISLAND, NEW YORK

See YELLOW SECTION for Local Offices, Telephones, etc.

VOLTRON *Products* / 1010 Mission St., South Pasadena, California

FEATURES

- RELIABILITY UNDER ADVERSE ENVIRONMENTAL CONDITIONS
- LINEAR SCALES
- HIGH ACCURACY
- HERMETICALLY SEALED
- NO THERMAL DRIFTS
- MILITARY DESIGN
- WIDE TEMPERATURE RANGE
- RUGGEDIZED
- NO WARM UP TIME
- NO THERMAL ELEMENTS



FREQUENCY METERS *Tuning Fork Stabilized*

DESCRIPTION

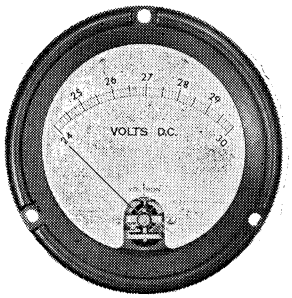
Model FM 404 is a dual scale meter with a coarse frequency range from 360 to 440 cps, and a fine frequency range from 396 to 404 cps.

Model FM 403 is a single scale meter with a frequency range from 397 to 403 cps. Other frequency ranges are available to your specifications.

	SIZE	INDUSTRIAL	MILITARY
Model 403	2½"	$285.00	$300.00
	3½"	285.00	300.00
	4½"	285.00	300.00
	4 x 6"	295.00	N.A.
Model 404	2½"	$360.00	$375.00
	3½"	360.00	375.00
	4½"	360.00	375.00
	4 x 6"	365.00	N.A.

Quantity discounts available

SPECIFICATIONS	FM 404	FM 403
Nominal frequency	400 cps	400 cps
Frequency range (cps)	396/404 & 360/440	397/403
Voltage input range	115 volts ±10%	115 volts ±10%
Ambient temperature range	−55°C to +70°C	−55°C to +70°C
Accuracy (full scale)	±.05% fine freq. ±.5% coarse freq.	±.05%
Total approximate weight	5 lbs.	5 lbs.
Meter sizes	Small AN, Large AN, 2½", 3½", 4½", 4 x 6"	
	The 2½", 3½" and 4½" round meters conform with MIL-M-10304A	
Overload	No damage at any applied frequency between 300 and 800 cps, or at any applied voltage within 25% of nominal.	



EXPANDED SCALE D.C. VOLTMETERS

SIZE	INDUSTRIAL	MILITARY
2½"	$75.00	$92.00
3½"	76.50	91.00
4½"	79.00	95.50
4 x 6"	81.00	N.A.

Quantity discounts available

SPECIFICATIONS

Center scale voltages
12 to 300 volts, self contained. Above 300 volts, with external resistor. Below 12 volts, with additional power source which may be self contained.

Spans available
4% to 20% of the center scale voltage

Temperature range
Military meters: −55°C to +71°C
Industrial meters: 0°C to +40°C

Accuracy, military meters
±0.5% of center scale voltage at room temperature
±1.0% of center scale voltage from −55°C to +71°C

Accuracy, industrial meters
±0.5% of center scale voltage at room temperature
±1.0% of center scale voltage from 0°C to +40°C

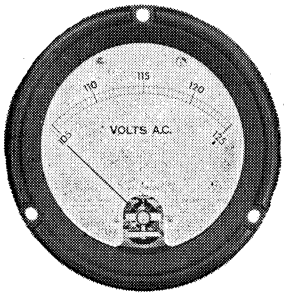
Special accuracy available, military meters
±0.25% of center scale voltage from −55°C to +71°C

Power consumption
Less than 0.5 watts

Multiple scales
Up to 4 scales are available

Standard scales and spans
12.5 ±0.5, 27 ±3, 60 ±5, 150 ±15 volts.
Other scales and spans to your specification.
Color bands are available on all scales.

Sizes available
Small AN, Large AN, 2½", 3½", 4½", 4 x 6". The 2½", 3½", and 4½" round meters conform to MIL-M-10304A.



EXPANDED SCALE A.C. VOLTMETERS

SIZE	INDUSTRIAL	MILITARY
2½"	$83.00	$107.00
3½"	84.50	106.00
4½"	87.00	110.50
4 x 6"	89.00	N.A.

Quantity discounts available

SPECIFICATIONS

Center scale voltages
12 to 300 volts, self contained. Above 300 volts, with external resistor. Below 12 volts, with additional power source which may be self contained.

Spans available
4% to 20% of the center scale voltage

Temperature range
Military meters: −55°C to +71°C
Industrial meters: 0°C to +40°C

Accuracy, military meters
±0.5% of center scale voltage at room temperature
±1.0% of center scale voltage from −55°C to +71°C

Accuracy, industrial meters
±0.5% of center scale voltage at room temperature
±1.0% of center scale voltage from 0°C to +40°C

Special accuracy available, military meters
±0.5% of center scale voltage from −55°C to +71°C

Power consumption
Less than 1.0 watts

Multiple scales
Up to 4 scales are available

Standard scales and spans
115 ±5, 115 ±10, 115 ±15, 230 ±20 volts
Other scales and spans to your specifications
Color bands are available on all scales

Sizes available
Small AN, Large AN, 2½", 3½", 4½", 4 x 6". The 2½", 3½", and 4½" round meters conform to MIL-M-10304A.

See YELLOW SECTION for Local Offices, Telephones, etc.

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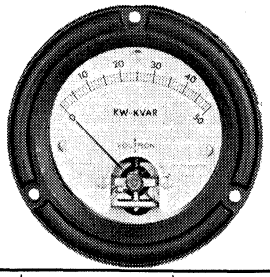
WATT-VAR METERS



SPECIFICATIONS

Accuracy
±2% of full scale at 22°C
±5% of full scale from −55°C to +71°C

Input volts
120/208 ±10%—other input voltages to your specification

Input frequency
400 ±100 cycles. Other input frequencies to your specification

Input current
100 ma to 5 amps, self-contained.
Above 5 amps with external current transformer

VA consumption
1 VA, Max.

Range
25 watts/vars to 100 Kw/Kvar

Voltage coefficient
±1% for ±10% change from rated voltage

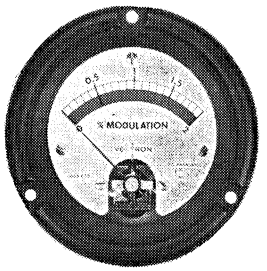
Terminals
Solder lug or screw stud

Sizes available
Small AN, Large AN, 2½", 3½", 4½", 4 x 6". The 2½", 3½", and 4½" round meters meet the vibration, shock, humidity and temperature requirements of MIL-M-10304A.

SIZE	INDUSTRIAL	MILITARY
2½"	$315.00	$410.00
3½"	307.50	402.50
4½"	317.50	412.50
4 x 6"	317.50	N.A.

Quantity discounts available

MODULATION METERS



SPECIFICATIONS

Modulation range
0-2% AM or FM

Accuracy
5% of full scale (0.1% modulation)

Input voltage, nominal
118 ±6 volts

Input frequency, nominal
400 ±10 cps

Cross product effect
2% AM will produce less than 0.1% reading on FM scale
2% FM will produce less than 0.1% reading on AM scale

Modulation definition—with sinusoidal modulation

$$AM = 100\,\frac{E\,max - E\,min}{E\,max + E\,min},\ \text{percent}$$

$$FM = 100\,\frac{F\,max - F\,min}{F\,max + F\,min},\ \text{percent}$$

Temperature range
−35°F to +135°F (wider range on special order)

Modulation frequency response
1 to 75 cps

Recorder or scope output
0.1 V RMS into 0.1 meg or larger

Military specifications
Conforms with MIL-M-10304A

Meter sizes
2½", 3½" and 4½"

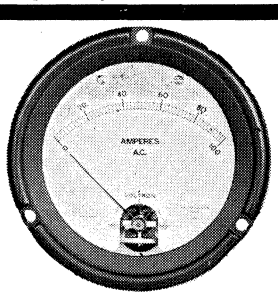
Packaging
1 panel meter, 1 control box

Weight
Panel meter: 1 lb. approx.
Control box: 5 lbs. approx.

SIZE	INDUSTRIAL	MILITARY
2½"	$1000.00	$1075.00
3½"	1000.00	1075.00
4½"	1000.00	1075.00
4 x 6"	1000.00	N.A.

Quantity discounts available

LINEAR AND LOGARITHMIC A.C. AMMETERS



SPECIFICATIONS

Range
10 milliamps to 10 amps self-contained, to 1000 amps with external transformer

Accuracy
±2% over the temperature and frequency range stated below

Frequency range
300 to 2000 cps or to customer's specification

Temperature range
−55°C to +71°C

Current consumption
5 milliamperes for full scale deflection

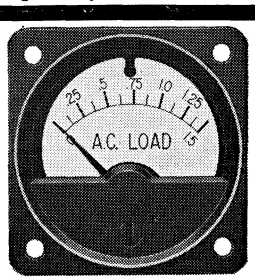
Overload
Not damaged by 100% overload applied continuously, or 1000% overload for 5 seconds

Sizes available
2½", 3½", 4½", 4 x 6", Large AN, Small AN. The 2½", 3½", and 4½" round meters meet the vibration, shock, and humidity requirements of MIL-M-10304A.

SIZE	INDUSTRIAL	MILITARY
2½"	$90.00	$97.50
3½"	82.50	90.00
4½"	92.50	100.00
4 x 6"	92.50	N.A.

Quantity discounts available

LOAD METERS



SPECIFICATIONS

Scale markings
0 to 125% load

Ranges
Self contained for 1 HP, 115 or 230 volts. An external current transformer is required for use at any other HP rating; an external voltage transformer is required for use at any other voltage.

Phase
1 phase; 3 phase, 3 wire; 3 phase, 4 wire
Measure I x Cos ϕ

Frequency
60 cycles, 400 cycles, or to customer's specification

Accuracy
2% load

Overload
Motor-starting currents equal to ten times the normal running current will not damage the meter no matter how often applied.

Sizes available
2½", 3½", 4½", 4 x 6", Large AN, Small AN. The 2½", 3½", and 4½" round meters meet the vibration, shock, and humidity requirements of MIL-M-10304A.

SIZE	INDUSTRIAL	MILITARY
2½"	$95.00	$102.50
3½"	94.00	101.50
4½"	98.00	105.50
4 x 6"	100.00	N.A.

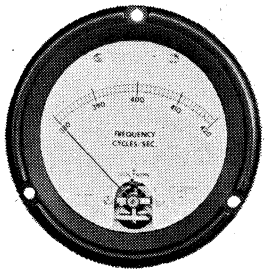
Quantity discounts available

VOLTRON *Products* 1010 Mission St., South Pasadena, California

See YELLOW SECTION for Local Offices, Telephones, etc.

VOLTRON Products

1010 Mission St., South Pasadena, California



PANEL FREQUENCY METERS

SIZE	INDUSTRIAL	MILITARY
2½"	$102.50	$142.50
3½"	100.00	140.00
4½"	105.00	145.00
4 x 6"	115.00	N.A.

Quantity discounts available

SPECIFICATIONS

Nominal frequency
400 cps (50 to 2000 on special order)

Frequency range
380-420; 388-412; standard; other ranges from 2.5% to 10% of nominal frequency on special order.

Input voltage
115 ±15 volts

Accuracy
2% of frequency range +0.3% of nominal frequency

Temperature range
−55°C to +71°C without loss of accuracy

Input power
3 volt-amps Max.

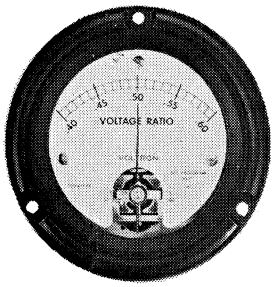
Ambiguous readings
None from 50% to 200% of nominal frequency

Overload
Will withstand continuously, 150% of nominal voltage, 0-200% of nominal frequency.

Waveform error
Not more than 0.1% for 10% distortion

Sizes available
3½", 4½", 4 x 6", Large AN. The 3½" and 4½" round meters meet the vibration, shock, and humidity requirements of MIL-M-10304A.

VOLTAGE RATIO METERS



SIZE	INDUSTRIAL	MILITARY
2½"	$102.50	$142.50
3½"	100.00	140.00
4½"	105.00	145.00
4 x 6"	107.50	N.A.

Quantity discounts available

DESCRIPTION

The Voltage Ratio Meter is used to measure the ratio of any two quantities that are presented in the form of two D.C., or two A.C., voltages. One quantity may be presented as a D.C. voltage and the other as an A.C. voltage. If two A.C. voltages are presented, they need not be of the same frequency or phase.

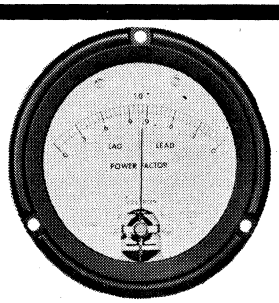
Typical applications: Meter is used for testing motor-driven switches to measure the ratio of time of contact to time of no contact . . . to measure the ratio of the input and output voltages of an amplifier to determine gain . . . to measure the input and output voltages of a transformer to determine transformation ratio. It is also used in a hydraulic system to measure pounds per square inch as a function of temperature, or to measure the ratio of any two quantities that can be reduced to electrical terms.

SPECIFICATIONS

Since each application is unique, standardized specifications for the Voltage Ratio Meter can not be given. Specifications are to be determined by negotiation with the customer. Customer should state the quantities to be measured, the type of transducer used, and the accuracy with which the ratio is desired.

Sizes available: 2½", 3½", 4½", 4 x 6", Large AN, Small AN. The 2½", 3½", and 4½" round meters meet the vibration, shock, and humidity requirements of MIL-M-10304A.

POWER FACTOR METERS



SIZE	INDUSTRIAL	MILITARY
2½"	$315.00	$410.00
3½"	307.50	402.50
4½"	317.50	412.50
4 x 6"	317.50	N.A.

Quantity discounts available

SPECIFICATIONS

Range
0—1—0

Accuracy
0.04 PF at room temperature
0.07 PF from −55°C to +71°C

Nominal frequency
50-2000 cps

Frequency range
Accuracy as specified over a range of ±40% of nominal

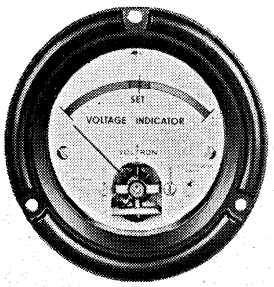
Temperature range
Accuracy as specified from −55°C to +71°C

Voltage & current range
Accuracy as specified with 25% nominal current and 75% nominal voltage

Damping
Damping is accomplished electromagnetically, no dashpots are used. Damping time 2 sec.

Sizes available
2½", 3½", 4½", 4 x 6", Large AN, Small AN. The 2½", 3½", and 4½" round meters meet the vibration, shock, and humidity requirements of MIL-M-10304A. Meter is completely self-contained, no external equipment required.

VOLTAGE INDICATOR METERS



SPECIFICATIONS

Programmable
Can be programmed either manually or automatically by the addition of external resistors

Accuracy
±0.25% for D.C. indicators, ±0.5% for A.C. indicators.

Sensitivity
1000 ohms per volt

Center scale voltage
Minimum 5 volts, maximum, to customer's specification

Frequency range
A.C. indicators maintain accuracy over frequency range from 50 to 5000 cps

Temperature range
Temperature compensated indicators are available. The D.C. indicator will maintain 0.5% accuracy, and the A.C. unit 1.0% accuracy over the temperature range from −55°C to +71°C

Color band optional
A color band can be added to show when applied voltage is within predetermined percentage of the center scale voltage

Sizes available
2½", 3½", 4½", 4 x 6", Large AN, Small AN. The 2½", 3½", and 4½" round meters meet the vibration, shock, and humidity requirements of MIL-M-10304A.

See YELLOW SECTION for Local Offices, Telephones, etc.

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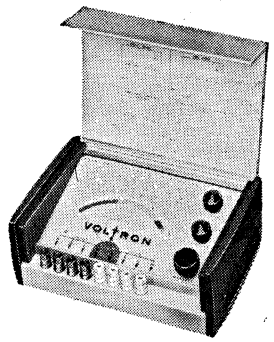
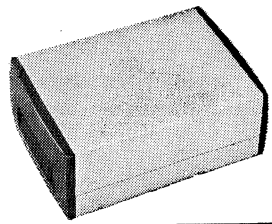
PORTABLE WATTMETERS

DESCRIPTION

This portable wattmeter is designed for refined, low power measurements of gyros, synchros, and servomotors. Unit features taut band suspension, 0-1 watt full scale range, low power factor and unusually low current circuit consumption.





SPECIFICATIONS

Construction
Taut band suspension eliminates the static friction and the delicacy of conventional jewels and pivots. Solid state circuit components are used in the transducer.

Input voltage
26/115 ±10%

Wattage range
26 volt input—1.2/3/12/30
115 volt input—1.2/3/12/30/120

Frequency range
Flat from 50 to 2000 cycles

Accuracy
0.75% of full scale watts

Phase
1, 2, or 3 phase. The 3 phase meter is suitable for 3 phase 3 wire, or 3 phase 4 wire measurements.

Power factor
0.1 to 1.0 Lag or Lead

Wave form factor
Calibrated for use with both sine and square wave. For distorted waveforms the error will be less than 2% for 5% harmonic distortion.

Power consumed
Voltage circuit—less than 0.5 watts per phase
Current circuit—less than 0.02 watts per watt indicated

Overload
Voltage circuit—100% continuous without damage
Current circuit—100% at 0.1 PF continuous without damage

Size
8½" x 12" x 4"

Weight
7 lbs.

MODEL NO.	PW-1	PW-2	PW-3
PHASE	1	1/2	1/2/3
PRICE	$385.00	$485.00	$585.00

Quantity discounts available

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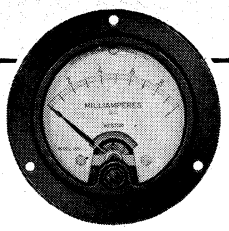
WESTON

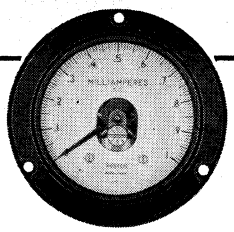
Panel Instruments

A DAYSTROM UNIT



CORMAG® SELF-SHIELDED INSTRUMENTS

Employ exclusive core magnet (self-shielded) mechanism for added dependabilty, ease of mounting, economy. Can be mounted interchangeably on magnetic or non-magnetic panels without intereffect. Available in 3½" size, as d-c and a-c rectifier types, both round and rectangular cases, all required ranges. Also available in rectangular case with extra long scale for increased readability.



LONG-SCALE INSTRUMENTS

Long 250° scales plus self-shielded mechanism with spring backed jewels provide higher accuracies, improved sensitivities and ballistic characteristics, greater ruggedness. Available in d-c, and a-c rectifier types—2½"—3½"—4½" and 5½" sizes. Also "ruggedized" in 3½" size.

STANDARD INSTRUMENTS

The most comprehensive line of panel instruments available, including round, rectangular and fan shapes—sizes 1½"—2½"—3½"—4½"—5½" and 6½"—as a-c, d-c, thermo and rectifier types. Ruggedized instruments available in sizes 1½", 2½", 3½" and 4½", for special requirements.

Catalog describing all Weston panel instruments available by writing . . . WESTON Instruments, Newark 12, N. J.—Division of Daystrom Inc.

Order from Local Electronic Parts Distributor or Write for List.

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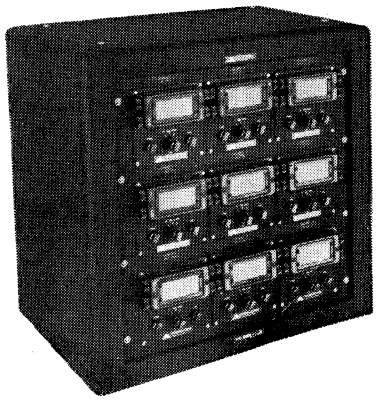
SEE WATERMAN FIRST

FOR YOUR OSCILLOSCOPE NEEDS

SYSTEMATS®

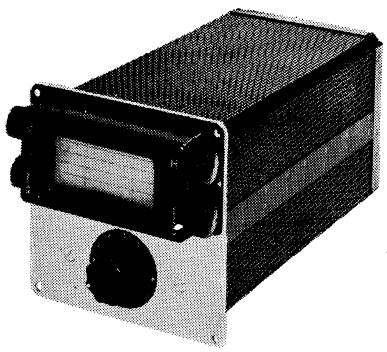


Model P-109-A

The up-to-date approach to multi-function monitoring. Tailor made to individual requirements. Any number of modules may be mixed or matched. Built to industrial or military standards.

In SYSTEMAT illustrated, there are 9 modules in 19" x 19" panel space.

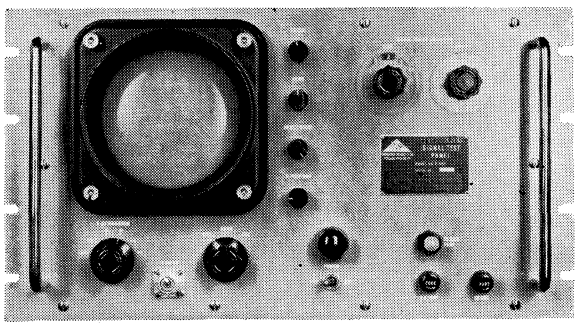
PANELSCOPES®



Panel space 5 3/16" x 5 1/4" Depth 10"

Modular panel mounted oscilloscopes using 1½" x 3" rectangular Cathode Ray Tubes. Custom electrical design may include vertical and horizontal amplifiers from 2½ mv/inch and from DC to 10MC Sweep; trigger, repetitive, or expanded from minutes to microseconds. Controls; from conventional "hunt and peck" to single knob automatic portrayal.

RAKSCOPES®



Model 37090

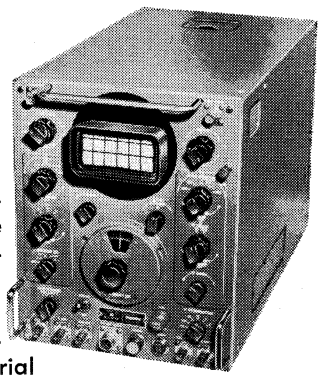
Standard and custom built rack mounted oscilloscopes, using 3" and 5" Cathode Ray Tubes.

Standard RAKSCOPES are built for 19" racks and are limited in depth to 10" and 12½".

Custom built RAKSCOPES to industrial or military specifications. Unit shown has automatic portrayal of 40 separate test points, using two digit decimal selector. Automatic portrayal adaptable to preset programming.

PULSESCOPES® CRAFTSCOPES® POCKETSCOPES®

PULSESCOPE
Model S-4-C
Illustrated



Other industrial oscilloscopes include:

PULSESCOPES — a series of versatile pulse oscilloscopes for laboratory and field use.

CRAFTSCOPES — a series of portable industrial oscilloscopes featuring 5 inch displays, small size (from ½ to ¾ cubic foot), and light weights as low as 18 lbs. DIRECT READING.

POCKETSCOPES — a series of extremely portable industrial oscilloscopes many using space saving rectangular Cathode Ray Tubes, sizes far less than ¼ cubic foot and weight from 8 lbs.

SPECIALISTS IN CATHODE RAY TUBE PRESENTATION AND PIONEERS IN MINIATURIZATION AND AUTOMATIC PORTRAYAL

For any oscilloscope need, check WATERMAN or our local engineering representative first.

Also manufacturers of
RAYONIC® CATHODE RAY TUBES

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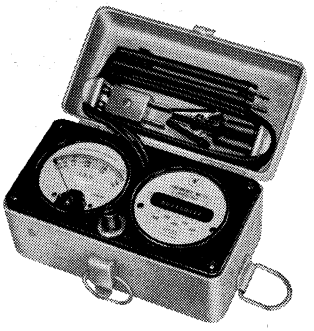
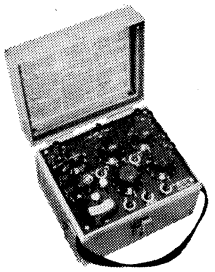
WINSLOW ELECTRICAL MEASURING and TESTING EQUIPMENT



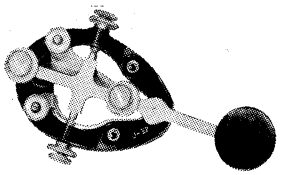
POWER TEST SETS

These instruments feature combinations of Winslow frequency meters and dynamometer voltmeters in portable case with leads and accessories. Model 364 illustrated covers frequency range of 380 to 420 cycles at 150/300 volts. 60 cycle model available. Individual instruments available in wide number of ranges in panel mount cases for OEM use.



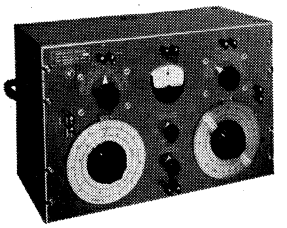
WHEATSTONE BRIDGE TEST SETS

Type 301 illustrated is one of a number of models available. Type 301 consists of 4 decade rheostat of 0.1% resistors (10 resistor decades). Ratio arms are 0.05% and provide all loop tests. Available in wood or military-type aluminum cases.



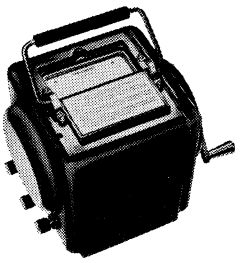
TELEGRAPH KEYS

According to Army-Navy specs. The new KY 116/U and J-12, J-37, J-38, J-40, J-44, J-45, J-47. Also others or to your own specs.



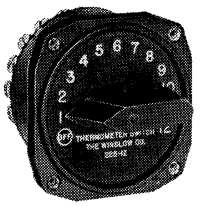
IMPEDANCE BRIDGES

Direct reading, self-contained laboratory instruments measuring AC and DC resistance, capacitance, inductance, and storage and dissipation factor. Internal 1000 cycle source. Power supply and amplifier unit available.



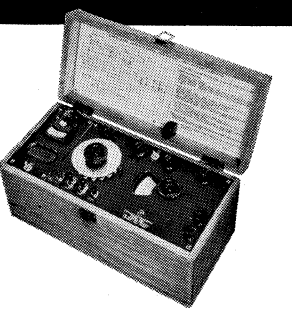
MEGOMETERS

For fast, accurate, direct readings of insulation resistance in megohms. Applies full potential to tests with crosscoil ratiometer. Dependable, independent operation anywhere with hand operated DC generator. Meets all U.S. Military specs. Many types available including multiple range and line operated models.



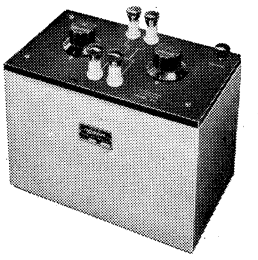
THERMOCOUPLE SELECTOR SWITCHES

2 to 20 position with extremely low contact resistance. Conform to military specs.



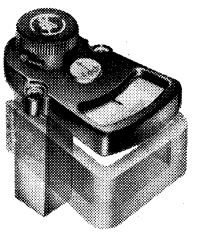
POTENTIOMETERS

Model 1324 illustrated is representative of a large line of portable potentiometers calibrated in either millivolt or temperature ranges.



MEGOHM DECADE RESISTANCE BOXES

Noninductive windings of low temperature co-efficient wire on ceramic forms. Guaranteed accuracy 0.1%. Ceramic insulation throughout. Aluminum cases with anodized aluminum panels provide complete shielding. Available in ranges from 1 megohm to 111 megohms. Conventional low resistance boxes also available from 1 to 6 dial.



GALVANOMETERS

Model illustrated particularly for OEM use. Available in wide variety of sensitivities. New core magnet types effect great savings in weight and usable space. These galvanometers also supplied in portable molded bakelite cases for general laboratory use.

DETAILED INFORMATION ON REQUEST

the WINSLOW company

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NEW INSTRUMENTATION FOR A NEW AGE!

Century PRESSURE SWITCHES

5 Standard Types

ABSOLUTE — Operating Pressure Range
1 to 350 psia. Wt. 4¼ Oz.

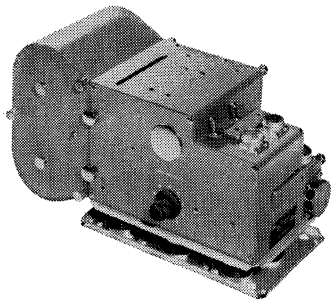
ALTITUDE — Operating Pressure Range
0 to 100,000 Ft. Alt.

DIFFERENTIAL — Operating Pressure Range
4" H20 to 10,000 psig. Weight 5¾ Oz.

GAGE — Operating Pressure Range
4" H20 to 10,000 psig. Weight 5 Oz.

VACUUM — Operating Pressure Range
Atmos. to 1 psia. (27.88" Hg. Vac. Std. Cond.)
Unit Weights 4¼ to 7 Oz.

High Accuracy throughout standard Operating Temperature Range from —67° to 250° F. Higher ranges on special order. SPECIAL AND SUB-MINIATURE PRESSURE SWITCHES Available on special order. Submit your specifications.



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Manufacturers' Catalog Numbers
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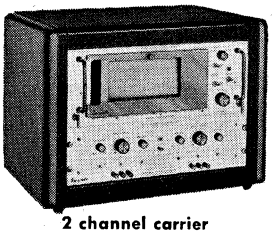
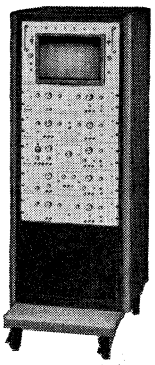
brush ULTRALINEAR RECORDING SYSTEMS

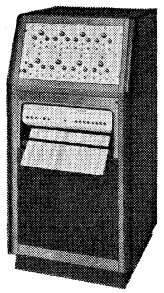
Whatever you want to measure, only Brush gives you freedom of choice: ink, electric or thermal writing—curvilinear or rectilinear trace presentation—configuration. Available in 2, 4, 6 or 8 channels.



2 channel carrier multi-purpose, accepts either resistive or inductive inputs.



6 channel high gain records signals as low as 10 microvolts.



8 channel medium gain wide input range, 10 millivolts to 400v.

Select your OSCILLOGRAPHS

Frequency response . . . D.C. to 100 cps with Brush amplifiers.

Writing methods . . . . Ink, electric curvilinear, or thermal rectilinear.

Chart speeds . . . . . Instantaneous electric selection of up to 16 speeds, remote or on-the-spot control.

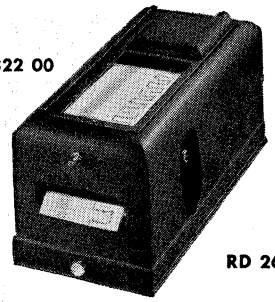
Chart take-up . . . . . External or internal, easy loading.

Mounting . . . . . Rack-mounted, cart-mounted, portable and bench-top models.

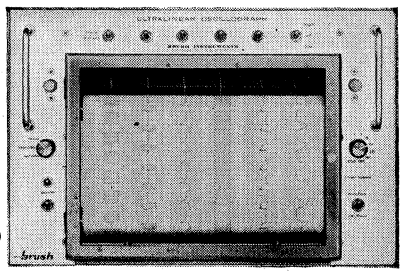
Reliability . . . . . Readily adaptable to MIL specifications.

ENCLOSURES	CHANNELS	WRITING METHOD & WRITING PLANE	MODEL NO.
PORTABLES	2	ink, horizontal	RD 2321 00
	2	ink-electric, horizontal	RD 2322 00
	4	ink, horizontal	RD 2341 00
	4	ink-electric, horizontal	RD 2342 00
	6	ink, horizontal	RD 2361 00
	6	ink-electric, horizontal	RD 2362 00
RACK, CONSOLE CABINET OR CART MOUNTED	2	ink-electric, vertical	RD 2622 00
	2	ink-electric, horizontal	RD 2722 00
	4	ink, vertical	RD 2641 00
	4	ink-electric, vertical	RD 2642 00
	4	thermal, vertical	RD 2644 00
	6	ink, vertical	RD 2661 00
	6	ink-electric, vertical	RD 2662 00
	6	thermal, vertical	RD 2664 00
	6	thermal, horizontal	RD 2664 50
	8	ink-electric, vertical	RD 2682 00
	8	thermal, horizontal	RD 2684 50
CART AND BENCH TOP	6	thermal, horizontal	RD 2764 00
	8	thermal, horizontal	RD 2784 00

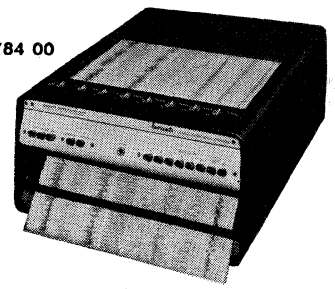
RD 2322 00



RD 2662 00



RD 2784 00

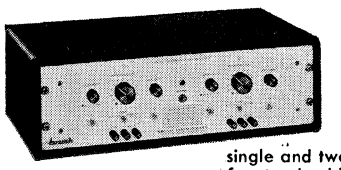


PORTABLE OSCILLOGRAPHS in 2, 4 and 6 channels

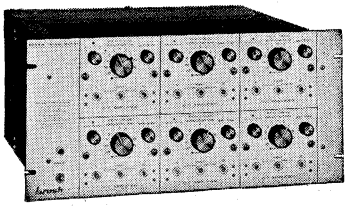
RACK MOUNTING OSCILLOGRAPHS in 2, 4, 6 and 8 channels

CART OR BENCH TOP OSCILLOGRAPHS in 6 or 8 channels

Select your AMPLIFIERS



single and two channel configuration for standard 19″ rack mounting.



six and eight channel configuration for standard 19″ rack.

		SINGLE CHANNEL
UNIVERSAL Model RD 5612 00		multi-purpose carrier type for wide range of measurements. Input box RA 5212 00 for resistive transducers, RA 5222 00 for LVDT's.
HIGH GAIN D.C. Model RD 5615 10		amplifies signals as low as 10 microvolts.
Model RD 5615 00		chopper stabilized, amplifies signals as low as 100 microvolts.
SERVO ANALYZER Model RD 5616 00		monitors any servo system in carrier frequency range of 50 to 10,000 cps.
MEDIUM GAIN		**TWO CHANNEL**
Model No.	**Sensitivity**	**Drift** / **Power Line Frequency**
RD 5621 00	10 mv/line (mm)	less than ½ line (mm) per hr., 1 line 8 hrs. / 60 cps, ± ½ cps
RD 5621 01	10 mv/line (mm)	less than ½ line (mm) per hr., 1 line 8 hrs. / 50-2000 cps
RD 5621 02	50 mv/line (mm)	less than 1/10 line (mm) per hr., ¼ line 8 hrs. / 50-2000 cps
MEDIUM GAIN		**SIX AND EIGHT CHANNEL**
Basic Pen Drive Amplifier System Model RA 5680 00 includes chassis and separate electronic regulated power supply with capacity to operate up to 8 plug-in pen drive amplifiers.		
Plug-in Model RD 5211 03		sensitivity 10 mv/line (mm), less than ½ line (mm) per hr. drift, 1 line 8 hrs., power req. 50-2000 cps.
Plug-in Model RD 5211 04		sensitivity 50 mv/line (mm), less than 1/10 line (mm) per hr. drift, ¼ line 8 hrs., power req. 50-2000 cps.

See YELLOW SECTION for Local Offices, Telephone, etc.

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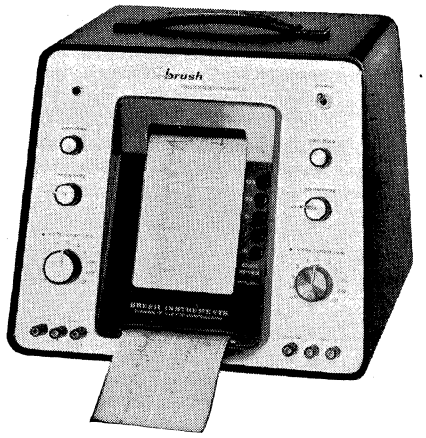
brush ULTRALINEAR RECORDING SYSTEMS

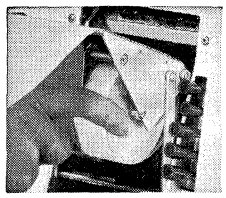
MARK II RECORDER

Completely self-contained recorder, plugs in anywhere for easy recording of electrical and physical phenomena, d.c. to 100 cps . . . in research . . . design and development . . . production . . . servicing . . . field test and installation.

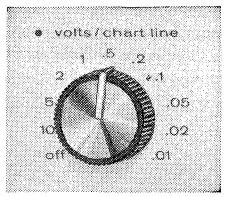


RD 2521 00

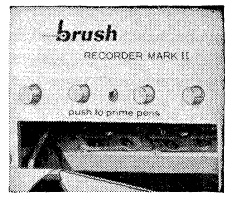
Sensitivity . . . . . 10 mv/line (mm). Full scale deflection from chart center ± 200 mv.
Measurement range . . .010v. to 400v.
Input impedance . . . . 5 megohm single-ended, 10 megohm balanced.
Event channels . . . . 2, 12v. internal power source actuated by external signal.
Chart speeds . . . . . 1, 5, 25, 125 mm/sec.
Power requirements . . 105-125v., 60 cps, 135 watts at 115v.
Net weight . . . . . 32 pounds.



Convenient operation: fast paper loading without threading, pushbutton controls for 4 chart speeds.



Complete recorder with built-in, permanently calibrated amplifiers.



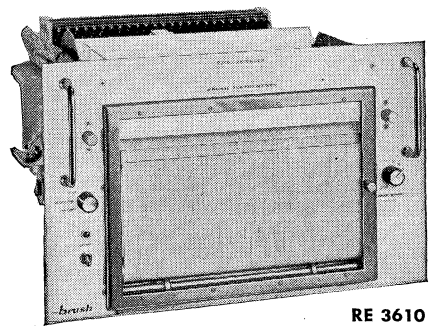
Trouble-free writing system features self-cleaning, self-priming, rugged pens, extra-large ink reservoir.

OPERATIONS MONTHLY

Simplifies complex checkouts . . . monitors 100 channels of data simultaneously.

Simultaneously records 100 channels of sequential or operational information. On-off input data presented provides a record of events, their duration, and their time relationship to each other. Electric writing styli record in less than one millisecond after receiving a signal—handle up to 500 signal changes per second. Remote or on-site chart speed control.

Available in two models, the RE 3610 00 or: Military Model RE 3610 02 which fully complies with MIL-E-4158 A.



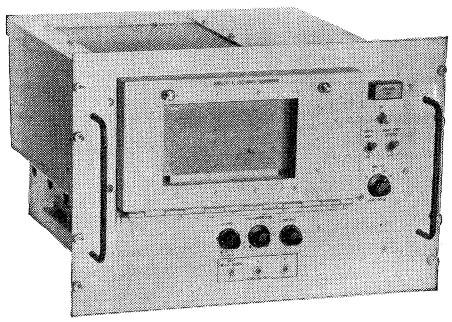
RE 3610 00

Writing method . . . Electric—instantaneous, dry and permanent.
Capacity . . . . . 100 easy-to-identify channels. Records on preprinted chart paper, 12″ wide, 500′ long.
Chart speeds . . . . Instantaneous electric selection of 8 chart speeds, on-site or remote control.
Chart take-up . . . . Provision for both internal chart take-up of entire roll, or external feed.
Mounting . . . . . Mounts in standard 19″ rack.

MILITARIZED

RECORDING SYSTEMS

Fully militarized versions of all equipment are available. Illustrated is the combination Analog and Operations Recorder providing simultaneous analog recording (D. C. to 100 cps) and ten "go and no go" sequential channels. Recording system is complete with oscillograph, amplifier and power supply. Equipment designed to comply with Mil. E-1640 Mil. E-4158, E-4970 and other pertinent specifications as required by user.



WRITE FOR LITERATURE OR, FOR APPLICATION ASSISTANCE, CONTACT YOUR BRUSH FACTORY BRANCH OR REPRESENTATIVE.

Factory branches, service and warehousing at Arlington, Va., Boston, Cleveland, San Francisco and Los Angeles; engineering representatives in all key locations.

brush INSTRUMENTS
DIVISION OF
37th & PERKINS CLEVITE CORPORATION CLEVELAND 14, OHIO

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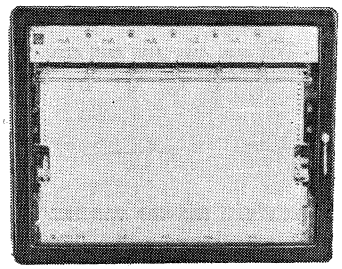
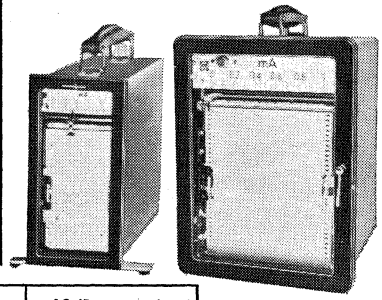
RECORDERS by CURTISS-WRIGHT

FEATURES



1. Moving-coil and dynamometer movements. 2. Up to six channels available. 3. Sensitivity to 250ua d-c; extended by DC amplifier (optional). 4. Accuracy 1% for moving-coil recorders. 5. Inkless and ink recording. 6. Rectilinear recording. 7. Three speed transmission plus 60:1 speed change. 8. Motor or spring drives. 9. Lightweight, compact design. 10. Sealed steel case. 11. Shockproof suspension. 12. Superb workmanship.

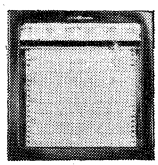
Size	Price	Model	Case Dimensions Width	Hgt.	Depth	Wght. Lbs.	Chart Paper —(72′ length)
Standard Size (1 to 3 pens)	$383 to $890	Model 81—portable Model 82—flush or projecting	7½″	9 13/16″	7⅞″	19	Chart width—5½″ Writing width: 1 pen 4 3/32″ 2 pens 2x2 3/16″ 3 pens 3x1 5/16″
Double Size (2 to 6 pens)	$770 to $1430	Model 83—portable Model 84—flush or projecting	12¾″	9 13/16″	8¾″	26	Chart width 10⅝″ Writing width: 2 pens 2x4 3/32″ 3 pens 3x2¾″ 4 pens 4x2 3/16″ 5 pens 5x1 9/16″ 6 pens 6x1 5/16″
Miniature Square) (Single pen only)	$330 to $408	Model 85—flush mount only	5⅝″	5⅝″	12¾″	16	Chart width 4 5/16″ Writing width: 4″
Miniature Slim (Single pen only)	$295 to $373	Model 86—portable Model 87—flush mount	3¾″	7⅛″	8¾″	9	Chart width 2¾″ Writing width: 4″

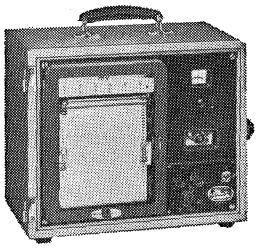


Three speed transmission with choice of:
½-1½-3 in/hr.
1-3-6 in/hr.
2-6-12 in/hr.
4-12-24 in/hr.

Drive mechanisms:
a) Synchronous motor, 60 cps, 115 or 230 V with or without 60:1 speed change
b) Spring drive
c) AC-DC motor with spring*
d) Synchronous motor with spring*
*Power reserve 4-12 hours

	DC	AC (Rect.)	AC (Dynamomteer)
Accuracy of indication	±1% full scale	±1.5% full scale	±1.5% full scale
Accuracy on chart	±2% full scale	±2.5% full scale	±2.5% full scale
Typical electrical characteristics	1 ma, 1500 ohms	1 ma, 40K ohms	10-20 VA consumption
Response time	1.5 or 0.6 sec.	1.5 seconds	1.5 seconds

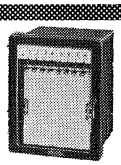




MODEL 6603 MILLIVOLT RECORDER

is a combination of a Cutiss-Wright Recorder and a self-balancing d-c amplifier Model 6601. It is specifically suited for recording of low-level, low-impedance signals. Seven input ranges (2, 5, 10, 20, 50, 100, and 200 mv) can be selected by a front-panel switch. The accuracy is 1.5% except for the 2 mv range where it is 2% of full scale. The preamplifier, has exceptional zero stability due to its self-balancing principle of operation.
Available in portable oak carrying case (13¼″ x 11⅛″ x 11″). Weight 40 lbs. **$645.**

EXPANDED SCALE RECORDERS



are available in the following ranges. Other expanded scales are available on special order.
95 V to 125 V 195 V to 250V 360 V to 480 V
Price $375 to $995

MODEL 804 PORTABLE AC MULTI-RANGE RECORDER

has a total of 9 a-c ranges with a maximum of 15A for direct connection and 600A with current transformer Model 50-001 (not included in price). The recorder has a moving-coil movement and rectifier and therefore is calibrated for sinusoidal a-c signals. Weight: 33 lbs In oak case.
RANGES: 6, 15, 60ma, 1.5, 6, and 15 amp.
60, 150, 600 amp. with current transformer 59-001
150, 300, and 600V
Price $635

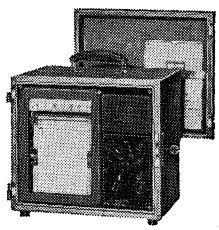
OPERATIONS RECORDERS

provide 4,8 or 16 channels of on-off recording. Ink recording only.
Price $350 to $675.

Three-Range VOLTAGE RECORDERS

(150, 300, 600 V) are available in all four sizes either a-c or d-c. DC or rectifier-type a-c instruments can be supplied. **Price $345 to $1000.**

MODEL 802 PORTABLE UNIVERSAL AC-DC RECORDER



has a total of 23 ranges and is the most versatile recorder available. It consists of a recorder with a moving-coil movement and rectifier plus multipliers and range switches, all built into a portable oak case weighing only 36 lbs. It records up to 15A and up to 600V both d-c and a-c. A clamp-type current transformer is available at extra cost to increase the a-c range from 15A to 300A. A 50mv connection for shunts is also provided. Current transformers with 5A secondary can be connected to the 6A range.

RANGES: 30, 150, 600ma, 1.5, 6, and 15A a-c and d-c
30, 75, 150, 300, and 600V a-c and d-c (33ohms/V)
50mv d-c for use with separate shunts.

Includes a pair of calibrated flexible leads 3 ft. long and standard accessories. 500 ma consumption for the 50mv range.
Portable oak case size: 13¾″ x 11¾″ x 11″. Weight: 36 lbs. **$735**

MODEL 805 PORTABLE UNIVERSAL WATTAGE RECORDER

can be used to record effective power, single-phase or three-phase. It has a three-element dynamometer type movement which enables accurate readings of unbalanced four-wire three-phase systems.

Voltage ranges can be selected by a switch. The following connections can be made:

Unbalanced four-wire three-phase system (with 3 current transformers).
Unbalanced three-wire three-phase system (with 2 current transformers).
Balanced four-wire three-phase system (with 1 current transformer).
Single-phase system (with 1 current transformer).

Frequency range: 15 to 70 cps.
Current circuit: 5 amp.

Voltage	Three-phase ranges
110 V	1 kw
220 V	2 kw
440 V	4 kw
550 V	5 kw

Power consumption: approximately 6.5 VA per current circuit. The recorder including multipliers and switches is mounted in an oak carrying case (13¾″ x 11½″ x 11″) but can also be supplied for panel mounting including separate accessory box. **$800**

CURTISS-WRIGHT
CORPORATION • ELECTRONICS DIVISION
INSTRUMENTS DEPT. • GENEVA 8-4000
631 CENTRAL AVE. • CARLSTADT, N. J.

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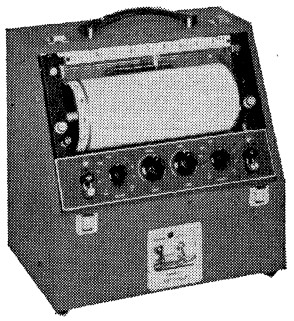
THE MOSELEY

AUTOGRAF

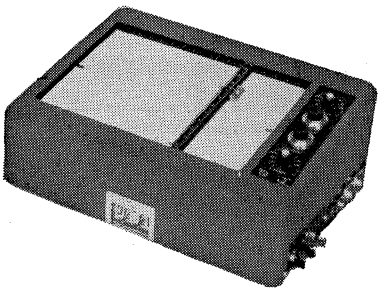
trade mark

X-Y RECORDERS



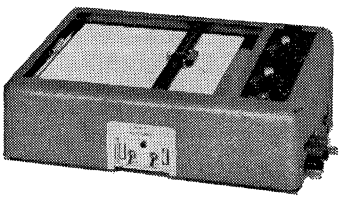
Model 1 AUTOGRAF

Portable drum type X-Y Recorder for 8½" x 11" paper. 5 MV to 100 volts in 10 calibrated steps, each axis. 200,000 ohms/volt; full range zero set; isolated inputs. 1 second recording speed; ±0.25% accuracy and resolution. May be modified for use with Model F-1 Curve Follower Adaptor. $990



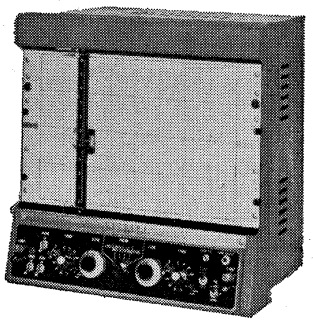
Model 2A or 2S AUTOGRAF

Bench type with 11" x 17" flat-bed recording platen. 5 MV to 150 volts, X-axis; to 100 volts, Y-axis, each in 10 steps. 200,000 ohms/volt; zero offset; vacuum paper hold-down. 1 sec. pen speed, full scale; ±0.25% accuracy and resolution. Model 2S includes X-axis TIME BASE with 5 intervals from 7.5 to 750 secs. for optional use. Mod. 2A $1825. Mod. 2S $1925



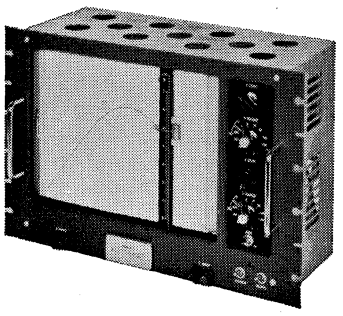
Model 3S AUTOGRAF

Bench type with 8½" x 11" flat-bed recording platen. 5 MV to 500 volts in 11 input ranges, each axis. 200,000 ohms/volt; zero offset; clamp type paper hold-down. ½ second recording speed; ±0.25% accuracy and resolution. X-axis TIME BASE with 5 intervals from 5 to 500 seconds, full scale, for optional use. $1300



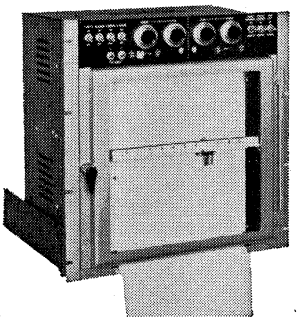
Model 4S AUTOGRAF

Rack mounting X-Y Recorder with 11" x 17" vertical platen. 5 MV to 150 volts, X-axis; to 100 volts, Y-axis, each in 10 steps. 200,000 ohms/volt; zero offset; vacuum paper hold-down. 1 second full scale pen speed; ±0.25% accuracy and resolution. X-axis TIME BASE with 5 intervals from 7.5 to 750 seconds. Input facilities for Curve Follower and other accessories. $2100



Model 5 or 5S AUTOGRAF

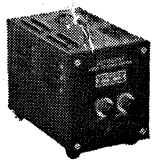
Rack mounting with 8½" x 11" vertical recording platen. 5 MV to 500 volts in 11 input ranges, each axis. 200,000 ohms/volt; zero offset; clamp type paper hold-down. ½ second full scale pen speed; ±0.25% accuracy & resolution. Model 5S includes X-axis TIME BASE with 5 intervals from 5 to 500 seconds for optional use. Mod. 5 $1375. Mod. 5S $1450



Model 6 AUTOGRAF

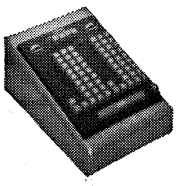
Rack mounting AUTOMATIC FRAME ADVANCE X-Y Recorder. Approx. 10" x 10" plotting area; 120 chart continuous rolls. Single chart tear-off or rolled chart storage. Manual or remote control of chart advance. 5 MV to 100 volts in 10 calibrated steps, each axis. Other electrical specs. same as Mod. 2A. $2750

DATA REDUCTION ACCESSORIES



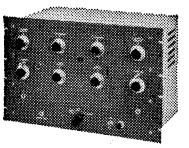
Model F-1 Curve Follower Adaptor

Converts graphic information to voltage or point form from conducting curves. 10 inches per second reproducing rate. Furnished with all necessary installation accessories. $325



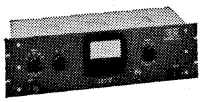
Model 40A and 41 Keyboard

Full keyboard type for direct plug-in use with Model 2 or 4 series AUTOGRAF; plots zero to ±1999, each axis. Model 41 is ten key type, plotting from zero to ±999, each axis. Mod. 40A $875. Mod. 41 $225



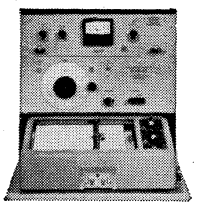
Model 30A Card Translator
Model 50 Tape Translator

Model 30A converts output pulses from IBM Summary Punch to analog voltages for automatic plotting. Model 50 performs same function from standard Tape Reader; latter accepts 1-2-4-8 binary code. Model 30A $1850. Model 50 $2025



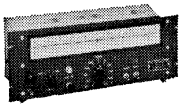
Model 60B Logarithmic Converter

Converts DC or AC inputs to DC voltages proportional to logarithm of input; for use in gain-frequency plotting. 60 db dynamic range, 20-20.000 cps. ±½ db accuracy; 20 db/inch, max. speed. $550



Gain-Frequency Plotting System

Combines Model 3 AUTOGRAF, Model 60B Log. Converter, and Hewlett-Packard 207 Motor driven Oscillator to produce almost instantaneous gain-frequency records of any audio device.



Model 20 DC Voltmeter

A high accuracy servo-actuated DC Voltmeter with eleven calibrated ranges from 3 MV to 300 volts, full scale; 200,000 ohms/volt; internal calibration; ±0.25% accuracy. Available with digitizer output. $595

Prices and specifications subject to change without notice.

F. L. MOSELEY CO.

409 N. FAIR OAKS AVE., PASADENA, CALIFORNIA

See YELLOW SECTION for Local Offices, Telephones, etc.

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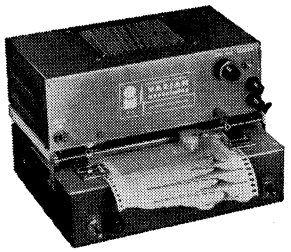
VARIAN STRIP CHART RECORDERS

(POTENTIOMETER TYPE)

Compact, moderate cost recorders using the time-proven potentiometer principle – the same as is used in expensive chart recorders to achieve superior stability, sensitivity, ruggedness and high input impedance. Chart is rectilinear. Pen driving power is ample, even for inkless recording, since it is independent of the source being measured.

VARIAN G-10



Portable for laboratory or bench use where chart's horizontal position and accessibility are of prime importance.

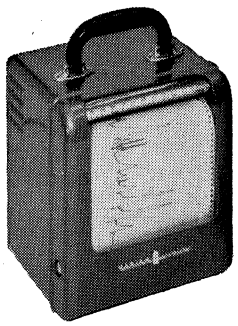
SPECIFICATIONS

MODEL	FIXED-SPAN G-10 (span permanently set)	ADJUSTABLE-SPAN G-10 (continuous adjustment with inside controls)
Base Price (not including options or accessories)	$365.00	$420.00
Span (millivolts across chart)	100 mv., d.c., fixed	As specified within 10-100 mv. d.c. range
Full Scale Standard Balancing Time *Optional*	2½ seconds *1 second*	2½ seconds *1 second*
Limit of Error	1% of span	1% of span
Sensitivity (½ deadband)	¼% of span	¼% of span
Reference System	Mercury cell	Mercury cell
Input & source resistance	See explanation*	See explanation*
Input Circuit	Ungrounded. Signals floating above ground by as much as 200 volts d.c. are permissible with proper considerations.	
Input Polarity—Standard *Optional*	Positive-going signals cause left-to-right pen travel. *Reversed polarity. Positive-going signals cause right-to-left pen travel.*	
Chart Dimensions	Calibrated width nominally 5″; Overall 6⅜″; Length 85′.	
Chart Speeds Single speed is standard *Dual speed is optional*	1, 2, 4, 8, 12, 16″/min, 1, 2, 4, 6, 15, 16, 24, 30, 40, 48″/hr. *Any combination available on dual speed.*	
Power Requirements	110-120 volts, 1 ph, 58-62 cps, 55 volt-amp max, power factor approx 0.7. Also 50-cycle version, 115/230 volts	
Overall Dimensions	7″ high x 10¾″ wide x 10″ deep.	
Weight	Basic recorder 15 lbs. net. Maximum shipping weight 25 lbs.	
Accessories Available	Inkless charts, stylii, card-type charts, chart take-up unit, carrying case, replaceable chart drive motor assemblies.	

***INPUT & SOURCE RESISTANCE (Both G-10 & G-11A)**

With null balance operation, the separately-powered servo system adjusts the measuring voltage until it "bucks out" the measured voltage. Thus the input resistance approaches infinity at balance, is several hundred thousand ohms off balance. The result is that source resistances as high as 50K ohms are permissible with spans in the range of 10-20 mv. Permissible values increase to 75K ohms for 20-50 mv spans and to 100K ohms with spans of 50-100 mv.

VARIAN G-11A



For portable, panel or rack use (two fit side by side in a 19-inch rack mounting); designed for OEM, lab or field for long-term monitoring; interchangeable input chassis as shown in specification chart.

SPECIFICATIONS

MODEL	G-11A with A1 or A2 input chassis	G-11A with B1 input chassis	G-11A with F1 input chassis	G-11A with T2 input chassis
Base Price (not including options or accessories)	A-1 $470.00 A-2 $515.00	$515.00	$470.00	$545.00
Type	Gen. purpose null-balance potentiometer	Gen. purpose potentiometer with input attenuator	Current-type for use as general purpose recording milliammeter	Thermocouple potentiometer with reference junction compensation.
Span	9-100 mv. d.c. as specified	Nine-step adjustable 10 mv. to 100 volts d.c.	1 milliampere, d.c.	0°F to 400, 600, 750, 1100, 1800 or 2200°F. Also −150°F to +250°F
Field Span-Adjust	Continuous, with inside controls	Knob on front panel	Fixed No adjustment	Front-panel plug-in range elements
Full-scale Balancing Time	1 second	1 second	1 second	1 second
Limit of Error	1% of span	1% of span on 10 mv. 2% on all others	1% of span	1% of span
Reference System	A1—Mercury cell A2—Cont. electronic	Mercury cell	Mercury cell	Continuous electronic
Sensitivity (½ deadband)	¼% of span	¼% of span	¼% of span	¼% of span
Input Resistance	See notes above*	100K ohms minimum	1350 ohms	—
Maximum Source Resistance	See notes above*	—	—	—
Input Circuit	Ungrounded. Signals floating above ground by as much as 200 volts d.c. are permissible with proper considerations.			
Chart Dimensions	Calibrated width nominally 5″; Overall width 6⅜″; Length 85′			
Chart Speeds—Standard *Optional* *Optional* *Optional*	Single speed *Dual chart motors* *1:4 chart speed shifter* *Quadruple chart speeds*	1, 2, 4, 6, and 8″/minute; ½, 1, 2, 3, 8, 12, 15, 20, 24 and 30″/hour. *Dual Motors provide most combinations of two speeds.* *Chart speed shifter divides any basic speed by four. Quadruple speeds achieved by two motors plus shifter.*		
Case dimensions	Portable—10½″ high x 8¼″ wide x 7¾″ deep. Panel mounting—10⅜″ high x 8⅝″ wide x 7¾″ deep with 5¼″ behind front panel			
Power Requirement	110-120 volts, 1 phase, 58-62 cps, 55 volt amperes max., power factor approximately 0.7. 50-cycle version available, 110-120 volts only.			
Weight	Basic recorder 15 lbs. net. Maximum shipping weight 25 lbs.			
Accessories Available	Inkless charts, stylii, solenoid-operated event marker pen, extra input chassis, replaceable chart drive motor assemblies.			

SPECIFICATIONS AND PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Varian recorders are sold and serviced by representatives in principal U.S. cities and abroad. Prices are F.O.B. Palo Alto.
For literature and name of representative in your area write to the Instrument Division.

VARIAN associates
PALO ALTO 42, CALIFORNIA

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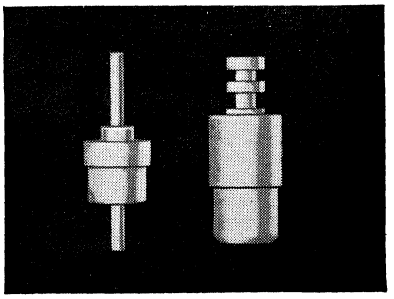
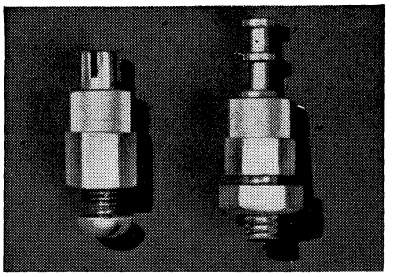
Fluorocarbon Products Inc.

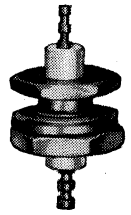
Division of UNITED STATES GASKET CO., Camden 1, New Jersey



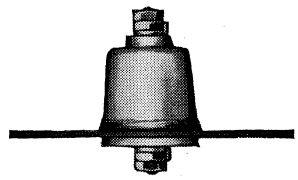


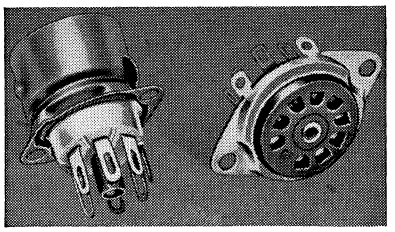
CHEMELEC... THE QUALITY LINE OF TEFLON INSULATED COMPONENTS

Rigid government tests have proven the thermal and mechanical shock and vibration resistance of Chemelec components. That is why they are replacing components of brittle materials in many critical electronic circuits for dependable high temperature, high voltage, high frequency and low loss service. Write for Catalog EC-358, and prices.



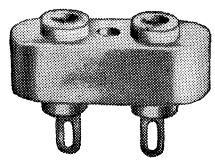
CHEMELEC STAND-OFF AND FEED-THRU INSULATORS A complete line of miniature compression-mounted and metal base types. (Color coded, in 10 standard R.M.A. colors.) Also, Metal Body, Gasket seal and Hermetic solder-seal types.

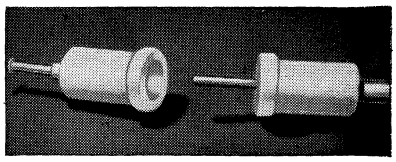




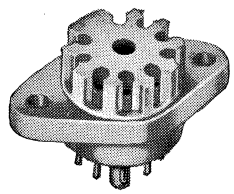
CHEMELEC MINIATURE TUBE SOCKETS (Left)
7 and 9-pin miniatures — shielded base and top and bottom-mounting saddle types. Also — new compression-mounted subminiature tube sockets (not illustrated).

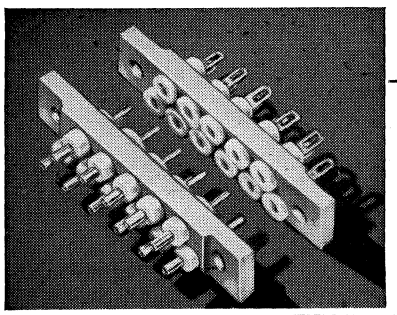
CHEMELEC CRYSTAL SOCKETS (Right)
Single hole screw or rivet mounting. Also — new compression-mounted transistor sockets (not illustrated).



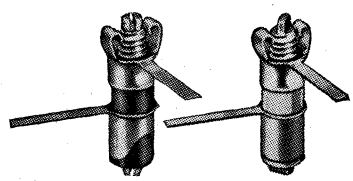


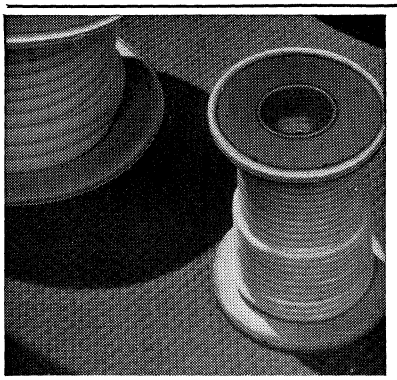
CHEMELEC CONNECTORS
Male and female, 11, 15 and 18-pin connectors, Teflon base and aluminum base types. Male and female 9-pin tube socket-type connectors. Individual connectors and test points, for compression-mounting in chassis. (Individual connectors and Teflon insulated terminals of aluminum base connectors available color-coded with standard R.M.A. colors.)





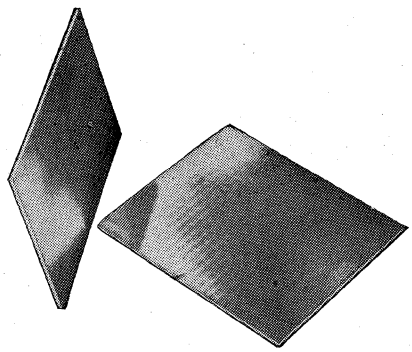
CHEMELEC TRIMMERS (Right)
Miniature tubular design. Low range; low inductance; uniform straight line, noise free adjustment. Special mounting terminal.





TEFLON SPAGHETTI TUBING (Left)
Three grades — thin, standard and heavy wall for wire gauges from 30 to 0. Also specially treated Teflon spaghetti for positive adherence of all potting compounds.

COPPER CLAD TEFLON (Right)
Sheets and tape for printed circuits and cable strips. Bond strength greater than 7 lbs/in. peel back. Unaffected by 500° F solder.



Write for Catalog EC-358 and prices.

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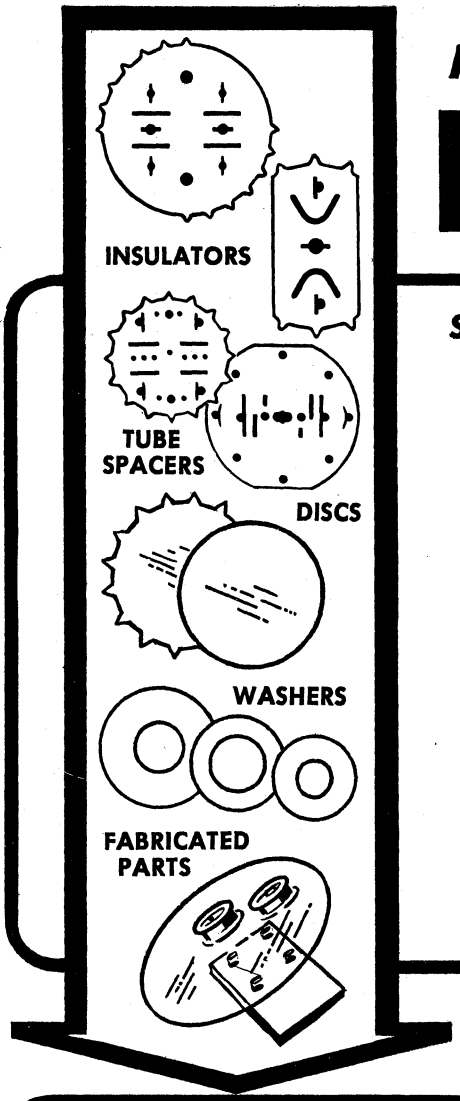

FOR OVER FORTY YEARS...

F.M.C. HAS BEEN STAMPING AND FABRICATING NATURAL MICA INTO PRECISION ELECTRONIC, ELECTRICAL INSULATION

Specify "F.M.C." for

- **MICA EXPERIENCE:** The first electron tube used in commercial radio depended on an **FMC**-fabricated mica part. Since 1917, major tube, radar, microwave and other manufacturers have depended on **FMC** for mica insulation of exceptionally high precision and uniformity.
- **MICA TOLERANCES:** Thicknesses can be held to as low as .00025", with "standard" thicknesses ranging from .001" to .020". Modern punch presses, experienced operators and continuous quality control provide fabrication tolerances of ± .002" and less, if necessary.
- **MICA FACILITIES: FMC** has specialized in mica since 1917. Laboratory and plant personnel and equipment are geared to mica production. Physical, chemical and electrical quality controls, specifically developed for mica, insure consistent quailty of raw materials and fabricated parts.
- **MICA SUPPLY: FMC** maintains probably the largest stockpile of different grades and qualities of mica...providing a free choice of the *right* material for your application.

WRITE or CALL for descriptive technical literature, prices. Quotations given promptly on your requirements.

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PRECISION MICA FABRICATORS SINCE 1917

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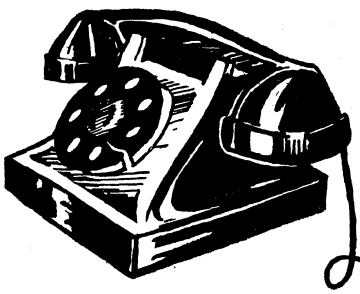
LOCAL SALES OFFICES JUST A PHONE CALL AWAY



Only ELECTRONIC ENGINEERS MASTER—*eem* gives you this comprehensive listing of manufacturers' sales offices and sales representatives... 5,000 manufacturers listed are just a phone call away.

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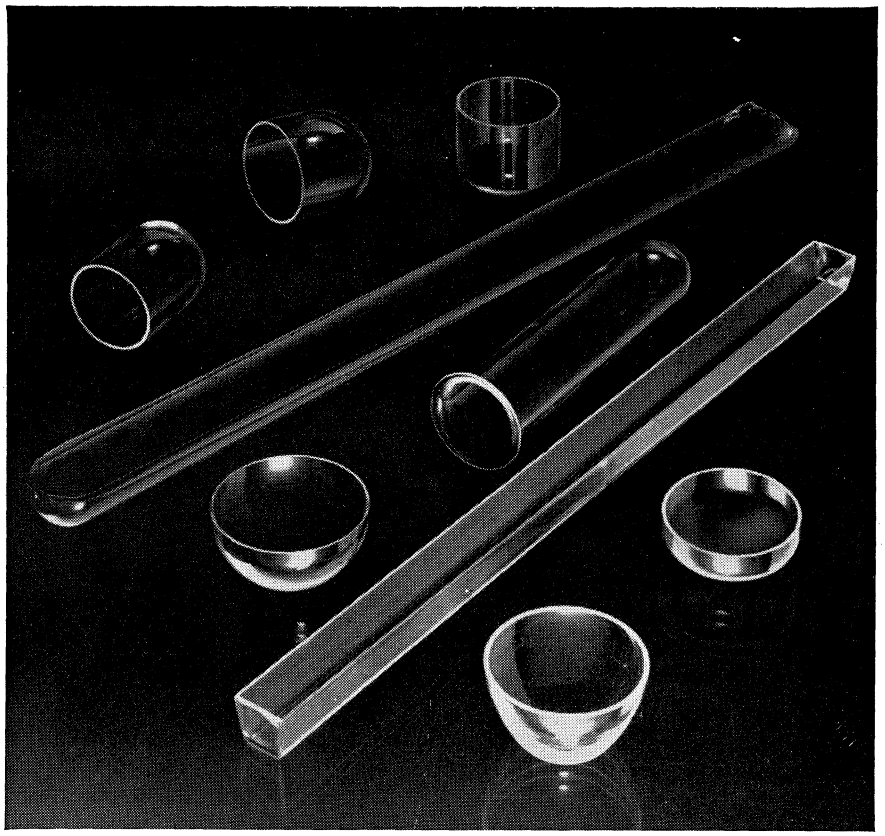
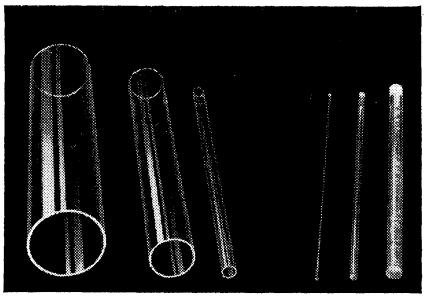
GENERAL ELECTRIC

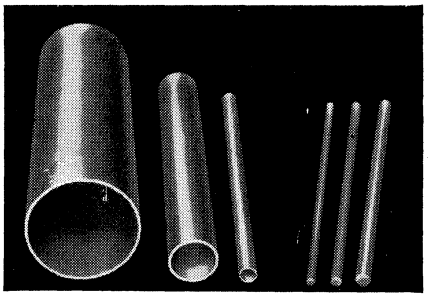
Fused Quartz



FUSED QUARTZ COMPONENTS of high purity—*in stock* from a single source. Wide variety of semi-conductor grade crucibles, boats, test tubes and furnace tubes.



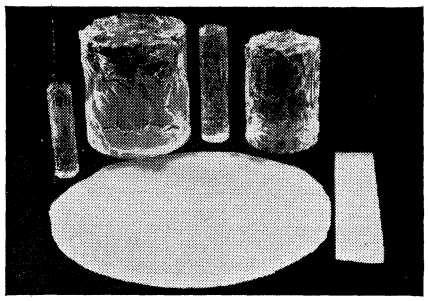
CLEAR TUBING AND ROD—Can be secured from stock in a complete range of sizes—special sizes also available to meet your exact specifications.



TRANSLUCENT TUBING AND ROD—*In stock* for immediate delivery in a wide range of sizes. Available in random or cut lengths to fit your requirements.

GENERAL ELECTRIC MANUFACTURES AND STOCKS A COMPLETE RANGE OF:

- Standard Taper Joints
- Capillary Tubing
- Double Bore Tubing
- Ball and Socket Joints
- Precision Bore Tubing
- Combustion Tubes
- Laboratory Quartzware



INGOTS, PLATES AND DISCS—Rough-cut *or* ground and polished in diameters up to 19″. Lenses, windows, prisms supplied *in a wide range of sizes*—or finished to your needs.

FREE BROCHURE ON G-E FUSED QUARTZ. Newly published brochure is yours for the asking. Contains latest information on physical properties and transmission characteristics plus complete price schedules. For your free copy of this illustrated booklet, write: General Electric Co., Willoughby Quartz Plant, Dept. EEM-39, Willoughby, Ohio.

General Electric invites requests for engineering assistance.

Progress Is Our Most Important Product

GENERAL ELECTRIC

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NATURAL MICA INSULATION HAS...

1000 F resistance
6.2 Kv/mil dielectric strength
Transparency, other desirable properties

Ford Mica CAN SUPPLY YOU WITH UNLIMITED QUANTITIES OF ANY MICA GRADE OR QUALITY FROM STOCK

★ Muscovite or amber
★ Up to 80 sq. in. area
★ Thick sheets or split to as fine as .00025"
★ Trimmed, precision-stamped or fabricated to your specifications

SINCE 1917...**FMC** has supplied the electronics industry with mica and mica parts fabricated to close tolerances. Industry's largest mica stockpile assures you of limitless choice and supply; exclusive **FMC** quality controls insure mica and fabricated part quality and uniformity.

WRITE or CALL for complete data on FMC natural mica, stamped pre-forms, prices and information on fabrication.

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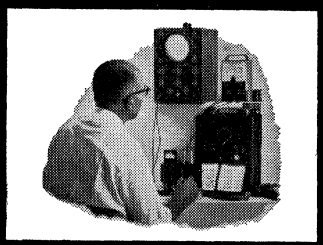
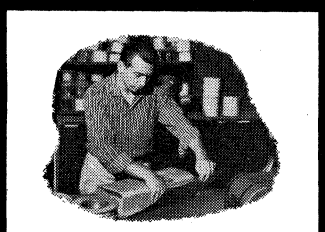
SINCE 1922

. . . the leader in insulating tubings since 1922. Precision production, technical knowledge and prompt service add up to Markel Excellence.



Engineers design with confidence when they specify Markel insulation.

A telephone call will bring samples or rush orders of Markel products.



Standard items are shipped same day from our complete factory stock.

INSULATING TUBINGS AND SLEEVINGS

Markel HYGRADE and FLEXITE insulating tubings are made in a broad range of sizes, and in types, classes and grades to meet varied requirements for primary and secondary insulations.

HYGRADE *Impregnated and Coated Sleevings*

HYGRADE H—Braided fiberglass tubing coated and impregnated with silicone resin or silicone rubber compound. Rated to 200°C. Grade HA-1 meets MIL-I-18057A specs.

HYGRADE VF—Braided fiberglass base with high temperature plastic coating. Extremely flexible; high temperature stability to 130°C. Meets MIL-I-3190 specs.

HYGRADE IMPREGNATED—Varnish impregnated tubing, braided fiberglass or organic base. Meets MIL-I-3190 specifications.

HYGRADE SN—Synthetic coating over braided fiberglass or organic base. High dielectric strength; good flexibility. Temperature range to 130°C. Meets MIL-I-3190 specs.

HYGRADE THERMOFLEX—Tubing of tightly braided fiberglass yarn, heat cleaned to remove all organic matter; fray resistant; continuous service to 1200°F.

FLEXITE *Extruded Plastic Tubings*

FLEXITE TEFLON*—Extruded tetrafluoroethylene tubing. Superior electricals, chemical inertness, zero moisture absorption and widest temperature range — —90 to 250°C.

FLEXITE HT-105C—Extruded plastic tubing, U.L. approved for applications to 105°C. Meets performance requirements of MIL-I-631C, Grades A & C, Classes 1 & 2.

FLEXITE E—Fungus resistant extruded tubing, especially for low temperature use; low temp. flexibility to —70°C. Meets performance requirements of MIL-I-7444A.

FLEXITE POLYETHYLENE—Extruded tubing with excellent moisture resistance, flexibility, chemical inertness and electrical characteristics.

FLEXITE RIGID VINYL—Non-plasticized extruded vinyl; excellent electricals combined with resistance to oil and chemicals.

The Markel Sample File and Select-it Chart contains sample lengths and engineering data on each of these Markel products. Your letterhead request will bring one free.

*Du Pont Trademark

L. FRANK MARKEL & SONS
SINCE 1922
INSULATING TUBINGS AND LEAD WIRE
Norristown, Pa. BRoadway 2-8960

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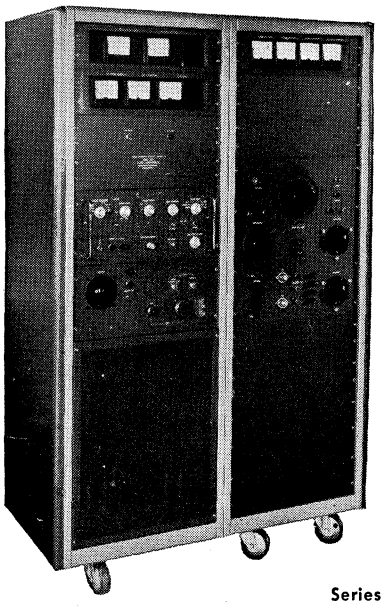
Made to your Specifications

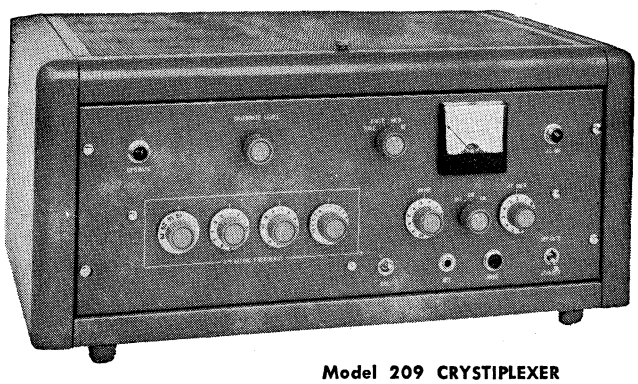
PULSE INSTRUMENTS • POWER SUPPLIES • MICROWAVE INSTRUMENTS • ELECTRON TUBE PROCESSING and TEST EQUIPMENT • VHF EQUIPMENT

Clegg Laboratories' entire facilities are geared to designing, engineering, and manufacturing special instruments to your specifications.
Note the advantages you get as a result of this specialization in custom-built instrumentation:

- **LOW COST** — whether you specify one instrument or moderate production runs.
- **FAST DELIVERY** — the shortest possible time for initial design to actual delivery of the finished product.
- **QUALIFIED ENGINEERING STAFF** — a team of trained engineers whose experience in this field qualifies them to work with you in solving your own particular instrumentation problems.



Series 23P
TRAVELING WAVE TUBE TEST SETS
15KV-Beam Voltage
Coded Pulse Generator - 600 Volt Pulse Modulator
2KW-Solenoid Supply



Model 209 CRYSTIPLEXER
Digital readout VHF frequency synthesizer

MICROWAVE INSTRUMENTS

• TWT & BWO tubes packaged to your specifications • BWO Sweep Generators, electronically tuned receivers • Electronic Power Regulators and "flatteners" for TWT & BWO systems

REGULATED POWER SUPPLIES

Traveling Wave Tube Test and operational units • Klystron supplies • Photomultiplier supplies • Special bench supplies up to 50 KV, featuring designs engineered to your applications. Our experience in building special custom units enables us to meet your special applications or performance requirements at little or no difference in cost to you, compared with inadequate or compromise stock designs.

PULSE INSTRUMENTS

• Pulse Generators • Distributed amplifiers • High duty cycle Pulse Burst Generators • Pulse Modulators • Pulse Impedance Bridges

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Clegg Laboratories has long been a leading supplier of special vacuum and gas tube processing, aging and test equipment. • High Power Klystron, TWT or Magnetron Units • Hydrogen Thyratron Test and aging sets • Life Test Racks

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CLEGG LABORATORIES
Division of Clegg, Inc.
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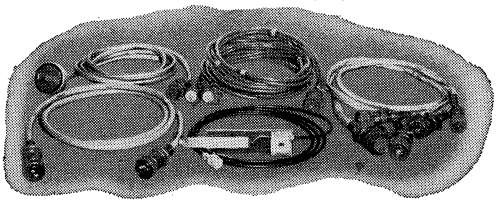
AN EXPERIENCED PRODUCER OF ELECTRONIC SYSTEMS, ASSEMBLIES, AND COMPONENTS

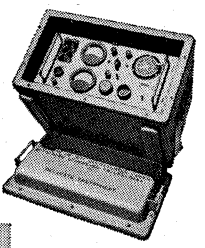
A Major Facility For

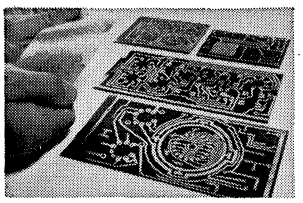
- ELECTRONIC ASSEMBLIES
- POTTED ELECTRONIC ASSEMBLIES
- ELECTRONIC SYSTEMS
- ELECTRO-MECHANICAL DEVICES
- COMPONENTS
- CABLE ASSEMBLIES
- PRINTED CIRCUITS (PHOTO-ETCHED)
- AIRBORNE ANTENNAS AND
- LIGHTNING ARRESTORS



CABLE ASSEMBLIES

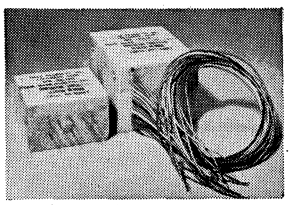
ELECTRONIC ASSEMBLIES

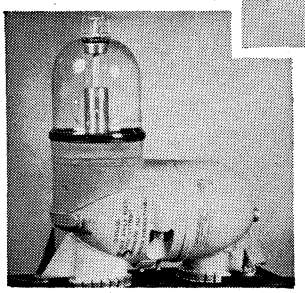




PRINTED CIRCUITS (PHOTO-ETCHED)

POTTED ELECTRONIC ASSEMBLIES





LIGHTNING ARRESTORS

Meeting today's demands for reliability requires people, facilities, and experience.

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Dale Products, Inc., has made many basic contributions in the realm of lightning and transient voltage research, and the realm of resistance products research.

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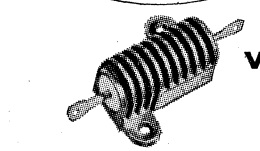
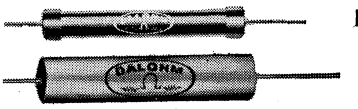
Make Dale Products, Inc., your source for prime and sub-contracts from development to delivery. For assistance with your systems and components problems, write Dale Products, Inc., Government and Industrial Division, Box 136, Columbus, Nebraska.

DALOHM Ω **COMPONENTS**



WIRE WOUND RESISTORS

DEPOSITED CARBON RESISTORS



TRIMMER POTENTIOMETERS

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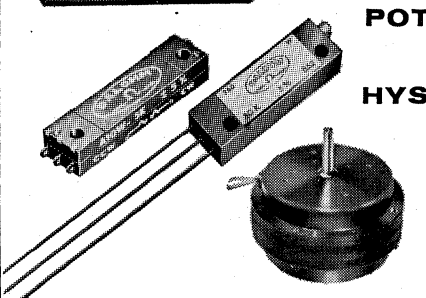

SEE CURRENT RADIO-ELECTRONIC MASTER FOR DETAILED INFORMATION ON DALOHM COMPONENTS.

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1370 28th Avenue
COLUMBUS, NEBRASKA

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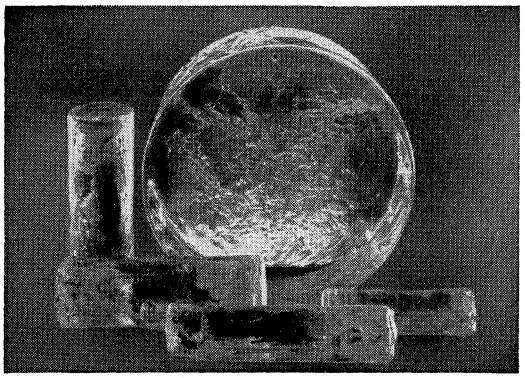
CUSTOM FABRICATED IN COMMERCIAL AND ALL OPTICAL GRADES



Provides high transparency, high transmission of ultra-violet and thermal properties particularly adaptable for special light sources in therapeutic and photochemical equipment. Resists scratching and weathering; has excellent mechanical strength.

Specify Dell Fused Quartz for—

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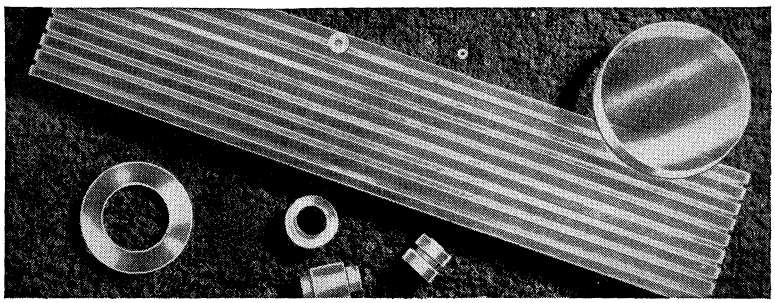

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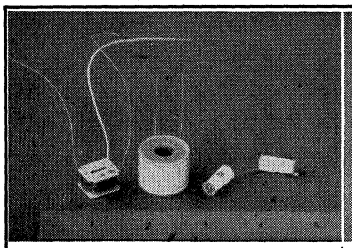
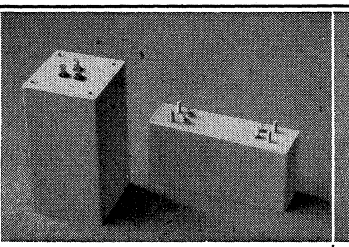
These are Typical of the Products we Manufacture



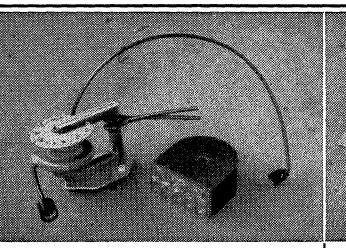
COILS

I.F.
Antenna
Color Purity
Inductor
Choke
Magnet
Relay
R.F.
Solenoid
Toroidal
T.V., all types
Variable
Miscellaneous



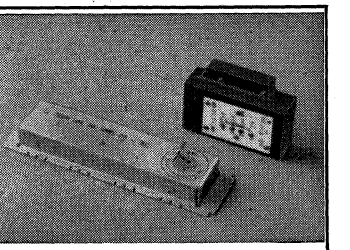
FILTERS

Audio
Band Elimination
Band Pass
High Pass
Low Pass
R.F.



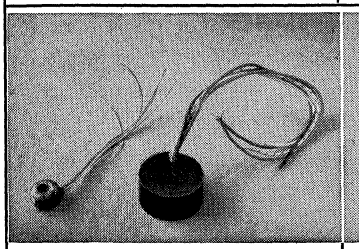
TRANSFORMERS

Flyback
Pulse
R.F. - I.F.
Toroidal



DELAY LINES

Color T.V.
Distributed, Constant, Fixed
Lumped Constant, Fixed

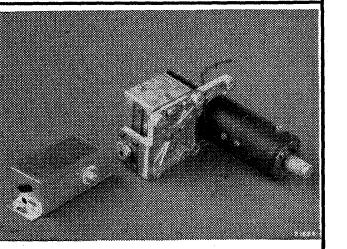


TOROIDS

Wide variety of Toroidal windings
Saturable Reactors

YOKES

Deflection



ASSEMBLIES

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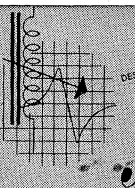
We also have a complete metal working shop for producing metal parts, stampings, assemblies, etc. to a high degree of precision. Let us quote on your requirements.



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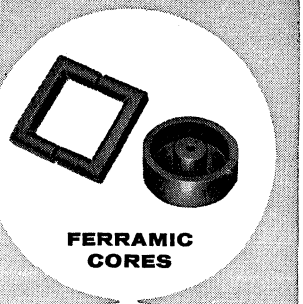
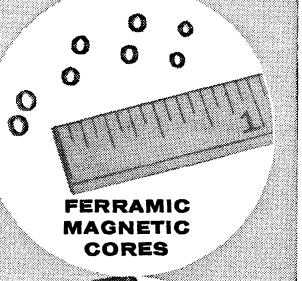
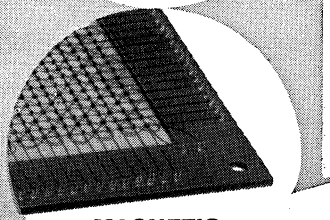


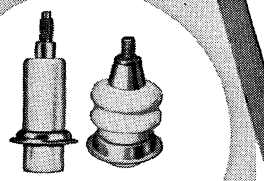
FERRAMIC CORES



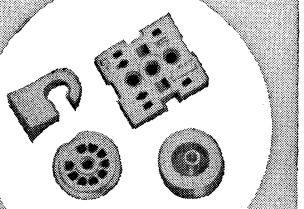
FERRAMIC MAGNETIC CORES



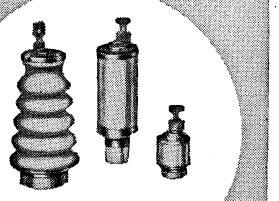
MAGNETIC MEMORY PLANES



"ADVAC" HIGH TEMPERATURE SEALS



STEATITES



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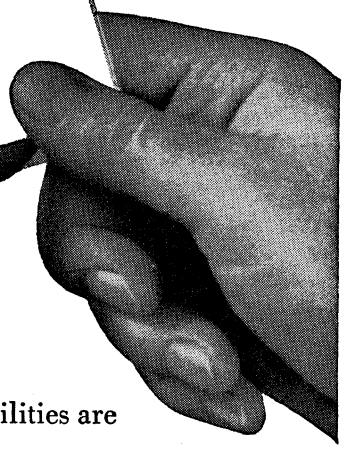

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Premium Quality and Service that costs no more . . .

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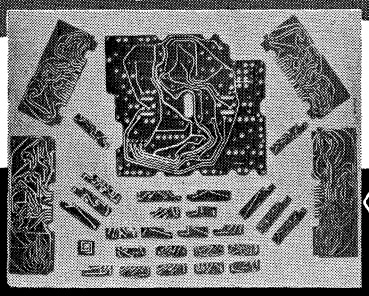

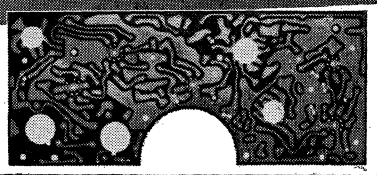

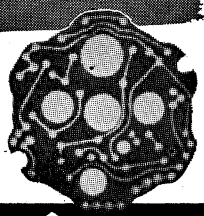

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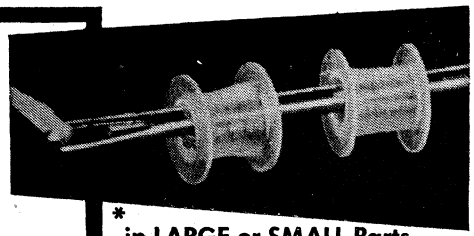
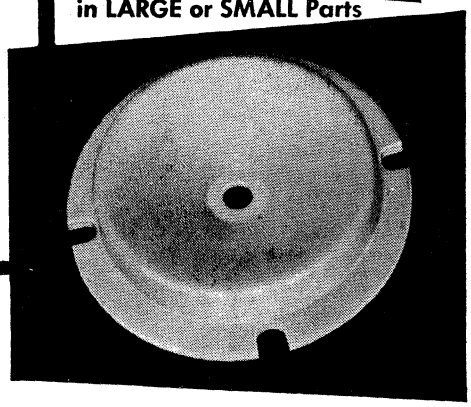


* in LARGE or SMALL Parts



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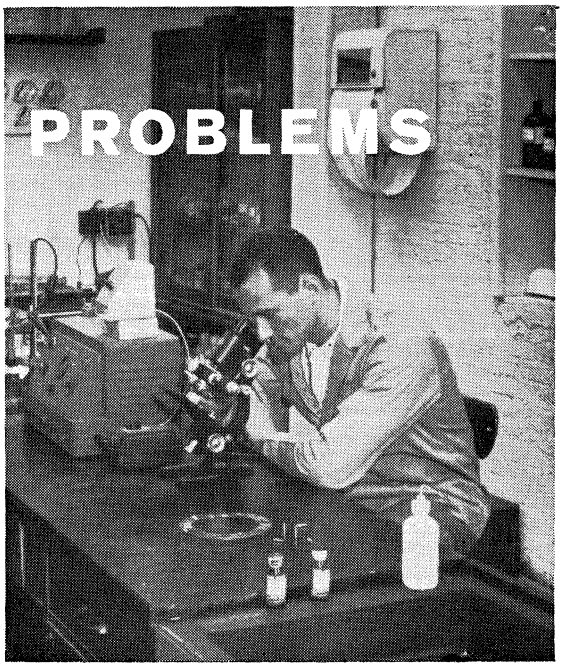

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ALKYD Molding Compounds...

Proven Materials For Critical Plastic Parts

As electronics technology advances, the demand for materials reliability becomes more stringent. Smaller and more compact components must execute critical functions in difficult, changing environments.

PLASKON Alkyd Molding Compounds meet such demands. They provide high arc and insulation resistance and dielectric values required by designers and engineers. More important, they maintain these values at elevated temperatures and after exposure to heat and humidity.

Parts molded from PLASKON Alkyd have unusually high dimensional stability (i.e., minimum after-shrinkage). This, and the fact that they are adaptable to rapid production cycles permits endless reproduction of precision parts . . . parts that hold their tolerances. The manufacture of PLASKON Alkyd Molding Compounds is closely watched to insure constant uniformity and quality.

PLASKON Alkyds can be divided into three groups, corresponding to physical form before molding:

Alkyd **Granular** materials are designed for high speed fully automatic or semi-automatic molding operations. Contacts may be molded-in or inserted in a separate operation. Uses for this Alkyd form include tube bases and sockets, connectors, tuning devices, transformer boards, potentiometers, motor controllers and switch and relay parts.

Alkyd **Putty** is recommended for encapsulation of resistors, capacitors, coils, transformers—small electronic devices where delicate inserts are to be molded within a protective shell. Alkyd putties are molded at extremely low pressures. For many applications, the coefficient of linear thermal expansion will be found similar to popular wire types . . . thermal conductivity of Alkyd putties dissipates heat faster . . . producing less change in dielectric performance before and after encapsulation.

Reinforced Alkyd materials contain glass fiber for increased mechanical strength. Characterized by superior electrical properties, this Alkyd form finds use in the molding of computer parts, synchros, coil forms, terminal blocks, power connectors, stand-off insulators, heavy duty circuit breakers and switch gear.

The chart shows typical properties of PLASKON Alkyd Molding Compounds. Our technical staff is ready to discuss your specific applications and design requirements. Contact your PLASKON Man or Plastics & Coal Chemicals Division, Allied Chemical Corporation, Room 1000, 40 Rector Street, New York 6, New York, HAnover 2-7300.

Allied Chemical

PLASTICS AND COAL CHEMICALS DIVISION
40 RECTOR STREET, NEW YORK 6, N. Y.

PROPERTY CHART

PLASKON Alkyd Molding Compound:	ASTM TEST METHOD	417
Form	—	PUTTY
Filler	—	Mineral
Natural Color	—	Tan
Color Range	—	*
Molding Technique	—	Compression Encapsulation
Molding Properties		
Bulk Factor	D392-38	>1
Mold Temp., F.	—	270-330
Molding Pressure, psi	—	400-800
Mold Shrinkage (cold piece from cold mold), in./in.	—	0.004-0.008
Properties Molded		
Physical		
Specific Gravity	D792-50	2.05-2.15
Water Absorbtion, 24 hr. @ 23 C, %	D.570-57T	0.10-0.15
Heat Resistance, max, F		
Long Periods	—	250
Limited Periods	—	300
Short Periods	—	325
Heat Distortion Temp., 264 psi, F.	D648-56	350-400
Coefficient of Linear Thermal Expansion/deg. F.	D696-44	$10\text{-}30 \times 10^{-6}$
Thermal Conductivity, g-cal/(sec)(cm²)(deg C/cm)	—	$15\text{-}25 \times 10^{-4}$
Flammability (self-extinguishing)	D635-56T	Yes
Mechanical		
Impact Strength, Izod, ft-lb/in. of notch	D256-56	0.25-0.35
Compressive Strength, psi	D695-54	20,000-25,000
Flexural Strength, psi	D790-49T	8,000-11,000
Tensile Strength, psi	D651-48	4,000-5,000
Modulus of Elasticity, psi	D790-58T	$2.0\text{-}2.7 \times 10^{6}$
Barcol Hardness	—	60-70
Electrical		
Arc Resistance, sec	D495-58T	180+
Dielectric Constant	D150-54T	
60 Cycles		5.4-5.9
1 Megacycle		4.5-4.7
Dissipation Factor	D150-54T	
60 Cycles		0.030-0.045
1 Megacycle		0.016-0.022
Dielectric Strength, v/mil	D149-55T	
Short-time		350-400
Step-by-step		300-350
Insulation Resistance, 95% R.H.—160 F, Megohms	D257-58	
1 Day		—
30 Days		—
60 Days		—
Manufactured to conform with, or exceed, these requirements:		

* Standard Colors: red, yellow, green, blue, black, brown and grey.

See YELLOW SECTION for Local Offices, Telephones, etc.

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— PLASKON ALKYD MOLDING COMPOUNDS

PM-18	420	422	430	PM-15	PM-17	PM-4	PM-14	446
PUTTY	G R A N U L A R					GLASS FIBER REINFORCED		
Mineral	Mineral	Mineral	Mineral	Mineral	Mineral			
Tan	Tan	Tan	Tan	Brown	Tan	Grey	Grey	Grey
*	*	*	Nat. only	Nat. only	Nat. only	*	Olive Drab	Nat. only
Compression Encapsulation	Compression	Compression	Compression	Compression, Transfer, Plunger	Compression	Compression	Compression Transfer	Compression Transfer
>1	1.95-2.15	1.85-2.05.	2.45-2.65	1.95-2.15	2.20-2.30	2-3	9-11**	9-11**
300-330	270-330	270-330	270-330	300-330	300-330	270-300	300-330	270-330
400-800	1000-1500	1000-1500	1000-1500	1000-1500	1000-1500	600-1000	1000-2000	1500-2000
0.004-0.008	0.004-0.007	0.004-0.007	0.005-0.008	0.004-0.007	0.005-0.008	0.001-0.004	0.001-0.004	0.001-0.004
2.00-2.10	2.21-2.24	2.17-2.20	1.96-1.99	1.98-2.01	2.10	2.2-2.3	1.80	2.02-2.10
0.07-0.10	0.08-0.12	0.05-0.08	0.45-0.50	0.04-0.06	0.06-0.07	0.18-0.22	0.065-0.085	0.07-0.10
300	300	275	250	350	300	300	300	300
350	350	300	275	400	350	350	350	350
375	375	325	300	425	375	400	>400	400
300-325	350-400	350-400	350-400	325-375	275-300	>400	400	>400
$10\text{-}30 \times 10^{-6}$	$10\text{-}30 \times 10^{-6}$	$10\text{-}30 \times 10^{-6}$	$10\text{-}30 \times 10^{-6}$	$10\text{-}30 \times 10^{-6}$	$10\text{-}30 \times 10^{-6}$	$10\text{-}30 \times 10^{-6}$	—	$10\text{-}30 \times 10^{-6}$
$15\text{-}25 \times 10^{-4}$	$15\text{-}25 \times 10^{-4}$	$15\text{-}25 \times 10^{-4}$	$10\text{-}20 \times 10^{-4}$	$15\text{-}25 \times 10^{-4}$	$15\text{-}25 \times 10^{-4}$	$8\text{-}12 \times 10^{-4}$	—	$8\text{-}12 \times 10^{-4}$
Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
0.25-0.35	0.30-0.35	0.30-0.35	0.35-0.40	0.30-0.35	0.30-0.35	2-3	3-5	8-12
18,000-24,000	16,000-20,000	16,000-20,000	20,000-24,000	17,000-20,000	14,000-17,000	26,000-31,000	20,000-25,000	24,000-30,000
8,000-10,000	7,000-10,000	6,000-9,000	6,000-9,000	5,000-8,000	5,500-8,000	12,000-16,000	11,000-14,000	12,000-17,000
3,000-4,000	3,000-4,000	3,000-4,000	3,500-4,500	2,500-3,000	4,000-5,000	5,200-6,200	5,000-9,000	5,000-9,000
$1.8\text{-}2.5 \times 10^6$	$2.4\text{-}2.9 \times 10^6$	$2.1\text{-}2.6 \times 10^6$	$1.6\text{-}2.1 \times 10^6$	$1.9\text{-}2.3 \times 10^6$	$1.9\text{-}2.3 \times 10^6$	$1.9\text{-}2.2 \times 10^6$	$1.8\text{-}2.2 \times 10^6$	$2.0\text{-}2.5 \times 10^6$
55-60	60-70	60-70	60-70	55-65	55-60	70-80	60-70	70-80
180+	180+	180+	180+	180+	180+	130-160	120+	180+
5.2-5.6	5.7-6.3	5.7-6.2	6.5-7.0	5.0-5.3	6.0-6.5	7.0	5.0-5.5	5.2-6.0
4.2-4.4	4.8-5.1	4.7-5.0	5.2-5.7	4.2-4.5	4.2-4.5	5.9	4.0-4.5	4.5-5.0
0.035-0.040	0.030-0.040	0.040-0.050	0.040-0.055	0.031-0.034	0.050	0.02-0.04	0.02-0.05	0.02-0.03
0.015-0.018	0.016-0.019	0.017-0.020	0.035-0.040	0.015-0.017	0.022-0.024	0.015-0.018	0.013-0.018	0.015-0.022
350-400	350-400	350-400	350-400	350-400	375-425	350-400	350	350-400
300-350	300-350	300-350	300-350	350-400	350-400	300-350	340	300-350
25,000-30,000	—	—	—	25,000-30,000	25,000-30,000	—	25,000-30,000	—
15,000-20,000	—	—	—	20,000-25,000	15,000-20,000	—	20,000-25,000	—
5,000-10,000	—	—	—	15,000-20,000	5,000-10,000	—	15,000-20,000	—
	MIL-M-14E Type MAG	MIL-M-14E Type MAG		MIL-M-14E Type MDG (Pending)	MIL-M-14E Type MDG (Pending)		MIL-19833 Type GDI-30 (Pending)	MIL-M-14E Type MAI-60

** Reducible by hand compression to 4-5.

NOTICE: The information herein is presented in good faith, but no warranty is given, nor is freedom from any patent to be inferred.

See YELLOW SECTION for Local Offices, Telephones, etc.

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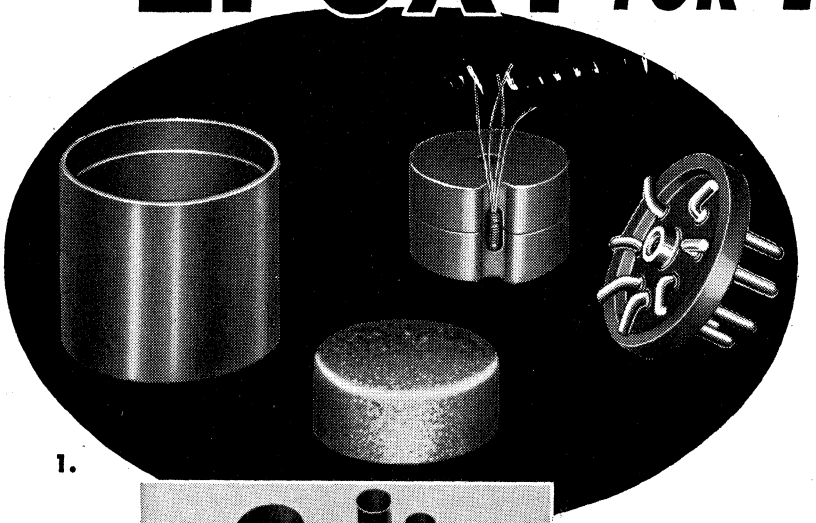
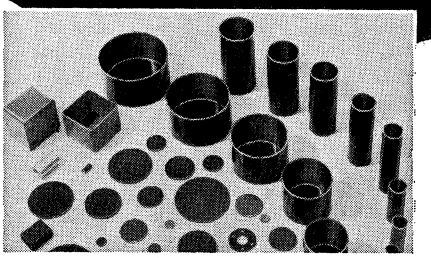
EPOXY FOR ELECTRONICS—



1.

All 7 Forms from One Source!



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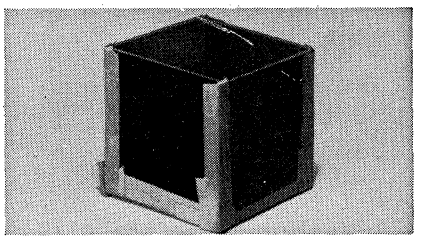

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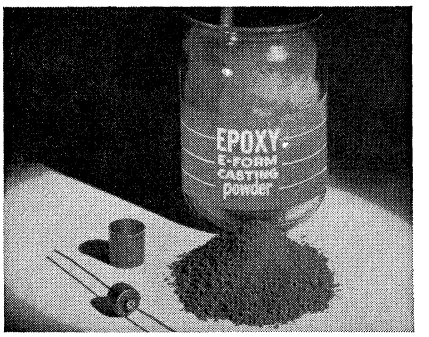

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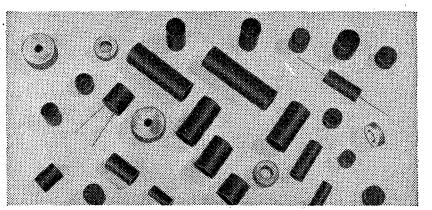

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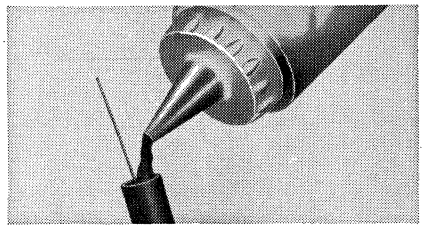

6.

1. **NEW ALL-EPOXY E-PAK® SYSTEM** Integrated encapsulation system features all-epoxy header with embedded lead wires, cured epoxy shell and premetered epoxy pellet. Drastically reduces assembly time and rejects!
2. **E-CASE SHELLS AND SLEEVES** Available from stock in standard sizes. These molded epoxy cases can be machined to special configurations.
3. **EPOXY SHEET** Molded epoxy sheets in a variety of thicknesses. When heated to 125° this material can be formed and cut. Ideal for prototype work and short runs.
4. **E-FORM CASTING POWDERS** Premixed resin and hardener ideally suited for prototypes and short runs. Melts as low as 85° C or as high as 145° C for fast curing.
5. **E-FORM PELLETS** All casting powders can be compressed into premetered pellets for production applications. Many pellet sizes available.
6. **EPOXY LIQUID AND HARDENER** If application will not tolerate elevated temperatures, liquid resins and hardeners will cure at room temperatures.
7. **EPOXY CUSTOM MOLDING SERVICE** Exclusive compression and transfer techniques make possible the custom molding of miniaturized epoxy parts with high precision and close tolerances. Pilot and production runs receive prompt attention.

A kit containing samples of shells, sheeting, powder, pellets, liquid and hardener is available for testing epoxy encapsulation on your own products, in your own lab. $9.93 from your distributor.

Write today for complete technical data and literature.

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A Division of Joseph Waldman & Sons

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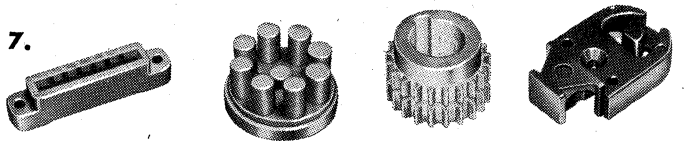

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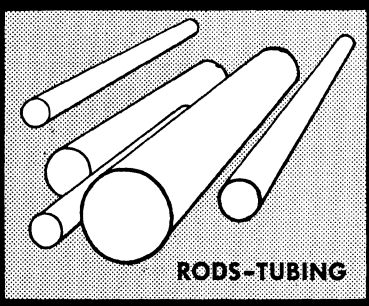
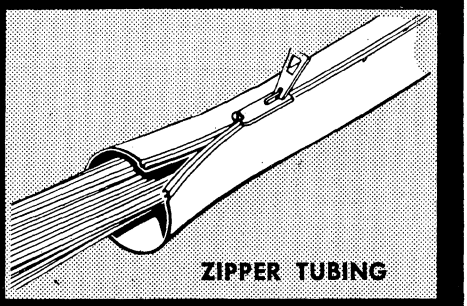
See our catalog pages in this year's edition of
The Radio-Electronic MASTER

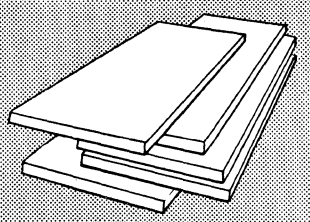
PLASTICS for electronics

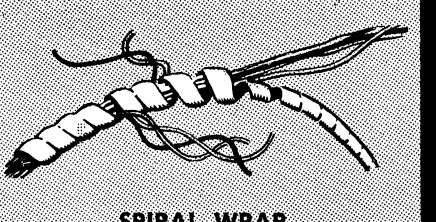

RODS-TUBING


ZIPPER TUBING

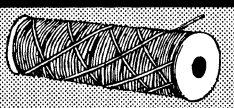
Please refer to the 1959 Edition of the Radio-Electronic MASTER for the complete listing of our line of products.

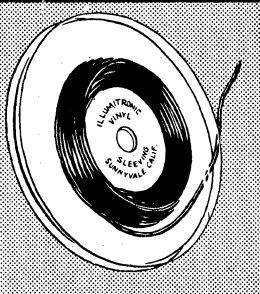
Illumitronic Distributors throughout the country carry complete stocks of most of the items listed in the Radio-Electronic MASTER for immediate delivery. Write for complete technical data.


SHEETS


SPIRAL WRAP

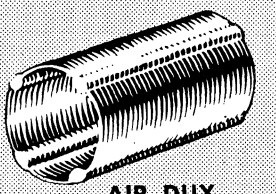
LADDER LINE U-LINE

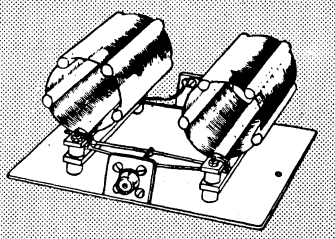

VINYL LACING CORD

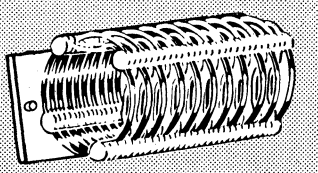


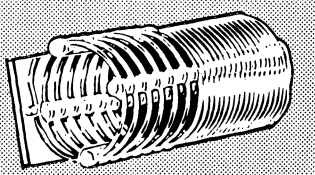
VINYL & TEFLON SLEEVING

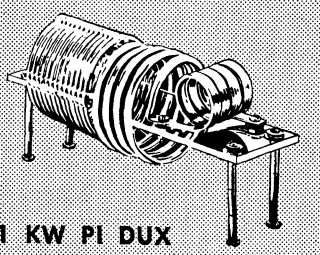
AIR WOUND COILS


AIR DUX


AIR DUX BALUN


INDENTED PI DUX


VARI-PITCH PI DUX


1 KW PI DUX

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SHEETS • RODS • TUBES • ROLLS • COILS • FABRICATED PARTS • MOLDED SHAPES

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Tough
Light-weight
Wear Resistant
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Impact Resistant
Arc Resistant
Heat Resistant
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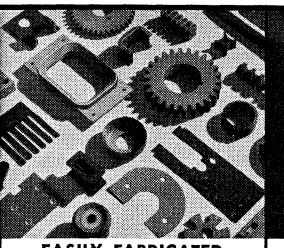
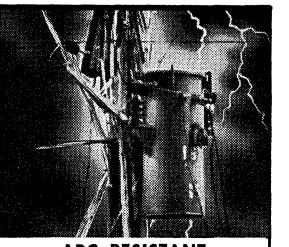
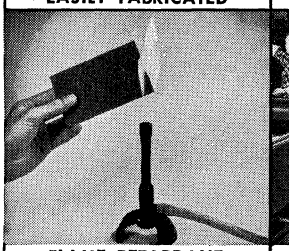
Durable
Machinable

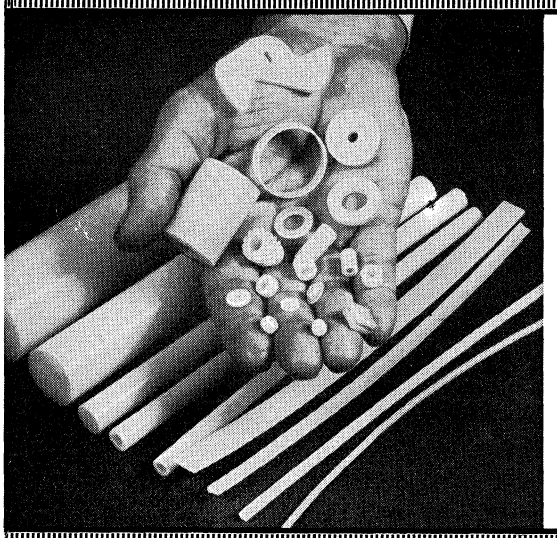
Among engineering materials Vulcanized Fibre is outstanding in its application versatility. One of industry's toughest materials, it weighs less than half as much as aluminum. It is easily formed, deep drawn, machined, polished, painted, embossed, or combined with other materials.


EASILY FABRICATED


ARC RESISTANT


FLAME RETARDANT

LIGHT — DURABLE



A thermoplastic material with excellent mechanical properties. A good electrical insulator, it is characterized by its toughness, durability and low coefficient of friction. Available as extruded strip, rod, tubing, special shapes or fabricated parts, National Nylon possesses . . .

NATIONAL nylon

Wear Resistance
Resiliency
Mechanical Strength
Machinability
Low coefficient of friction
Good electrical properties
Impact Resistance

PHENOLITE® Laminated PLASTIC

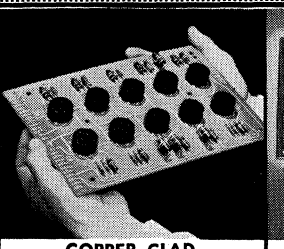
Dielectric Strength
Structural Strength
Dimensional Stability
Machinability
Heat Resistance
Moisture Resistance
Chemical Resistance
Wear Resistance
Flame Resistance

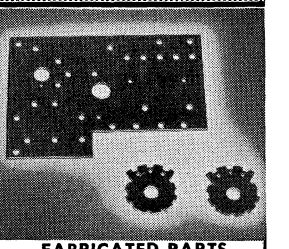
A plastic laminated into primary forms—sheets, rods, tubes under heat and high pressure.

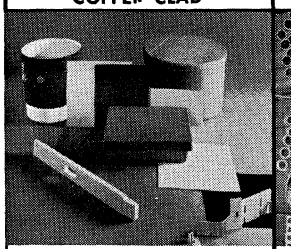
A wide variety of base materials—paper, canvas, cotton fabric, asbestos, glass cloth, glass mat, and nylon cloth—are impregnated with resin binders—phenolic, silicone, polyester, melamine, and epoxy—providing a broad range of grades with an unlimited application base.

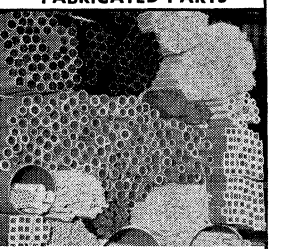
Available as copper clad and in combination with vulcanized fibre, rubber and other materials.

Molded Polyester Shapes


COPPER CLAD


FABRICATED PARTS


MOLDED SHAPES


RODS — TUBES

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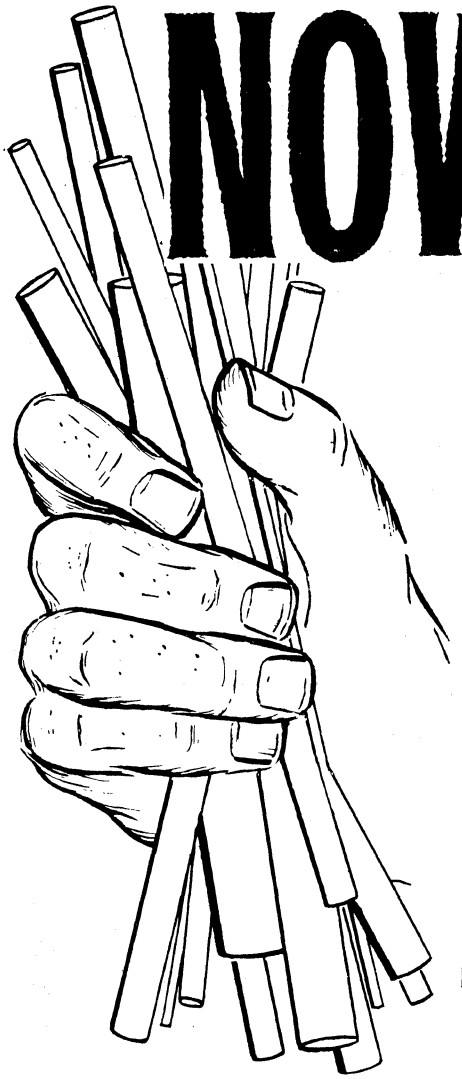
'TSI'* GRADE TEFLON® ROD



NOW IN UNLIMITED QUANTITIES IN UNLIMITED DIAMETERS FOR IMMEDIATE DELIVERY FROM STOCK

100% Virgin

FROM THE LEADING EXTRUDER OF TEFLON ROD

QUANTITIES: Get one foot or one thousand feet and more of any diameter, when you need it, because Tri-Point extrudes its own 100% VIRGIN rod and stocks it in its own warehouses. Get "TSI" Teflon rod also from nearby distributors. Supplied in 10 and 12-foot lengths.

DIAMETERS: Over 50 standard diameters are available from .125" to 2.000" and over, in increments as low as .003". Get "in between" diameters just as quickly because Tri-Point centerless grinds its own rod.

TOLERANCES: All "TSI" rod is supplied centerless ground, to within .001" of indicated diameter, at a price you would pay for *unground* rod.

DELIVERY: Rod is on its way to you on receipt of order, selected from Tri-Point's ready-to ship stock...the largest stock of TEFLON rod anywhere.

WRITE or CALL for "TSI" Teflon rod bulletin and name of nearest distributor.

*Tri-Point trademark ®DuPont trademark

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locate information quickly with
eem COLOR-CODED SECTIONS

PRODUCT INDEX & DIRECTORY	**GREEN SECTION**
CATALOG SECTION	**WHITE SECTION**
MANUFACTURERS' DIRECTORY-SALES OFFICES	**YELLOW SECTION**
TRADE NAME DIRECTORY	**END OF YELLOW SECTION**

Medical Electronic Equipment

Section 3300 is reserved for future use. The following products comprise this section:

- AMPLIFIERS, MEDICAL INSTRUMENT
- CARDIOSCOPES
- DIATHERMY ACCESSORIES
- DIATHERMY EQUIPMENT
- ELECTROCARDIOGRAPHS
- ELECTROENCEPHALOGRAPHS
- ELECTROMYOGRAPHS
- ELECTRO-SHOCK THERAPY APPARATUS
- ELECTRO-SURGICAL APPARATUS
- EPILATORS
- OSCILLOSCOPES, ELECTRO-MEDICAL
- STIMULATORS
- X-RAY EQUIPMENT, MEDICAL

For suppliers of the above products, please refer to the PRODUCT DIRECTORY (Green Section). Then, refer to the MANUFACTURERS' DIRECTORY (Yellow Section) for their closest sales office.

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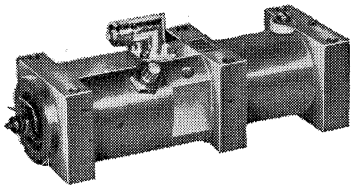
NEW



AVION

"S" - BAND
pulse oscillator
model no. 306

TUNING RANGE 300 MC (Nominal)
POWER OUTPUT
1.5 KW peak minimum at .001 duty cycle, 1 μsec pulsewidth, 1000 pps
TUBE GE 6442 triode
OPERATING CONDITIONS
300 V at 2.5 amp peak (Nominal) Heater 6.3 V ac or dc (5%)
VIBRATION 20 g . . . 20-2000 cps (FM 2 MC max.)
SHOCK
70 g while operating (frequency shift 1 MC max.)
TEMPERATURE —50 C to 100 C (4 MC max.)
FIXED CATHODE
Plate tuned (only tuning adjustment)

TUNING LOCKING DEVICE
Output connector (type N, TNC, or BNC, nominally 50 ohms)
OVERALL DIMENSIONS
Length 6¼"; Width 2"; Height 1⅞" excluding connector
WEIGHT 20 oz.
MOUNTINGS
Integral parts of the oscillator — included in the dimensions and weight, above
OTHER MICROWAVE COMPONENTS
S, C, and X — bands available.

SEND FOR LITERATURE

- Offering superior stability for both vibration and temperature under extreme environmental conditions . . .
- Small-size and light-weight.

AVION acf AVION DIVISION
acf INDUSTRIES INCORPORATED
7 PARK PLACE, PARAMUS, N. J.

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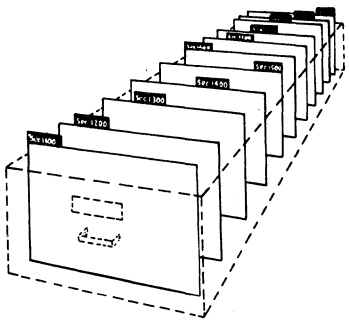

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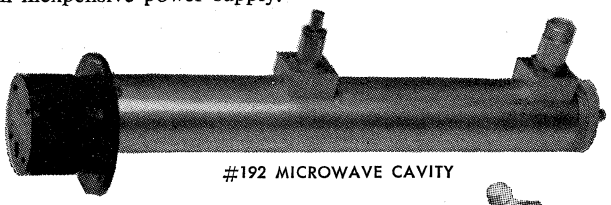
AMERAC'S PRECISION MICROWAVE CAVITIES

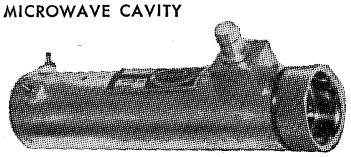
Amerac, Incorporated manufactures a comprehensive line of co-axial line cavities, utilizing various standard tubes, for numerous microwave applications including aircraft, guided missile and beacon work.

FEATURES

These cavities have such features as — single control tuning, fixed feedback, rugged anti-backlash tuning mechanism, accurate Root counter (optional), adjustable type "N" or "BNC" 50-ohm inductive loop coupling, convenient tube receptacle for quick replacement, long-duration R.F. output stability, operates on inexpensive power supply.

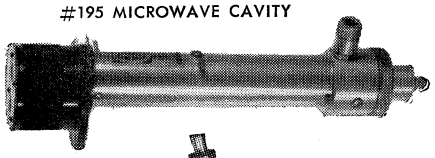


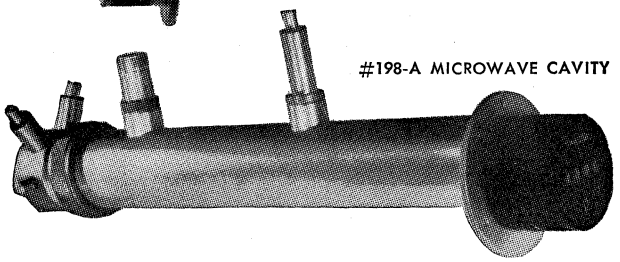
#192 MICROWAVE CAVITY



#193 "BEACON" CAVITY

#195 MICROWAVE CAVITY

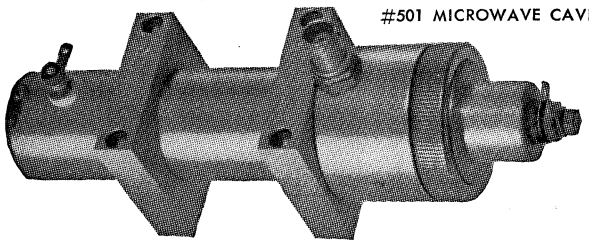




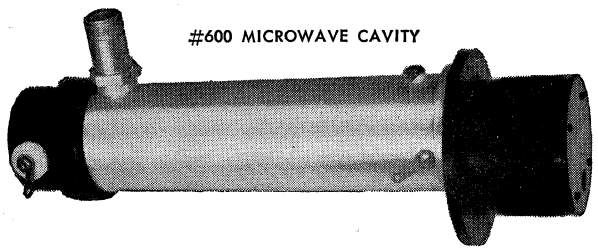
#198-A MICROWAVE CAVITY

SERIES 500 AND 600 — FOR EXTREME ENVIRONMENTAL CONDITIONS

Engineered to operate under extreme conditions of shock, vibration, temperature and humidity, these cavities have been designed to withstand 2000 cycles at 15 G. 200 MC tuning range.



#501 MICROWAVE CAVITY



#600 MICROWAVE CAVITY

Model	M.C./S Frequency From	To	Type	Cavity Mode	Power	Duty Cycle	Pulse Width U. Sec.	Tube Type
192B1	750	1000	CW	¼	300 mw	—	—	2C36
192AB1	900	1050	Pulse	¼	200 watts	.001	1.001	2C36
192B2	1000	1350	CW	¼	300 mw	—	—	2C36
192AB2	1000	1250	Pulse	¼	200 watts	.001	.5/2	2C36
192B3	1100	1400	CW	¼	300 mw	—	—	2C36
192AB3z	1100	1400	Pulse	¼	200 watts	.001	.5/2	2C36
192B4	1350	1700	CW	¼	300 mw	—	—	2C36
192AB4	1350	1700	Pulse	¼	200 watts	.001	.5/2	2C36
192B5	1500	1900	CW	¼	300 mw	—	—	2C36
192AB5	1500	1900	Pulse	¼	200 watts	.001	.5/2	2C36
192B6	1900	2100	CW	¾	100 mw	—	—	2C37
192AB6	1900	2100	Pulse	¾	200 watts	.001	.5/2	2C37
192B7	2100	2300	CW	¾	100 mw	—	—	2C37
192AB7	2100	2300	Pulse	¾	200 watts	.001	.5/2	2C37
192A8	2300	2500	CW	¾	100 mw	—	—	2C37
192AB8	2300	2500	Pulse	¾	200 watts	.001	.5/2	2C37
192A8	2500	2700	Pulse	¾	200 watts	.001	.5/2	2C36
192A9	2700	2900	Pulse	¾	200 watts	.001	.5/2	2C36
192A10	2800	3000	Pulse	¾	200 watts	.001	.5/2	2C36
192A11	3000	3200	Pulse	¾	200 watts	.001	.5/2	2C36
192A12	3200	3400	Pulse	¾	200 watts	.001	.5/2	2C36
192A13	3400	3600	Pulse	¾	200 watts	.001	.5/2	2C36
193-8	2500	2700	Pulse	¼	300 watts	.001	.5/2	2C36
193-9	2700	2900	Pulse	¾	300 watts	.001	.5/2	2C36
193-10	2800	3000	Pulse	¾	300 watts	.001	.5/2	2C36
193-11	3000	3200	Pulse	¾	200 watts	.001	.5/2	2C36
193-12	3200	3400	Pulse	¾	200 watts	.001	.5/2	2C36
193-13	3400	3600	Pulse	¾	200 watts	.001	.5/2	3C36
195-6	2000	2200	Pulse	¾	2.0 kw	.001	.3/2	6442
195-7	2200	2400	Pulse	¾	2.0 kw	.001	.3/2	6442
195-8	2400	2600	Pulse	¾	2.0 kw	.001	.3/2	6442
195-9	2600	2800	Pulse	¾	2.0 kw	.001	.3/2	6442
195-10	2800	3000	Pulse	¾	2.0 kw	.001	.3/2	6442
195-11	3000	3200	Pulse	¾	2.0 kw	.001	.3/2	6442
195-12	3200	3400	Pulse	¾	2.0 kw	.001	.3/2	6442
195-13	3400	3600	Pulse	¾	2.0 kw	.001	.3/2	6442
198A	900	2050	CW	¼	100 mw	—	—	6BM6
198A	2050	4200	CW	¾	125 mw	—	—	6BL6
198A	900	2050	Pulse	¼	100 mw	.5	1/10	5837
198A	2050	4200	Pulse	¾	125 mw	.5	1/10	5836
500-6	2000	2200	CW	¾	100 mw	—	—	6442
501-6	2000	2200	Pulse	¾	2 kw	.001	.3/2	6442
500-7	2200	2400	CW	¾	100 mw	—	—	6442
501-7	2200	2400	Pulse	¾	2 kw	.001	.3/2	6442
500-8	2400	2600	CW	¾	100 mw	—	—	6442
501-8	2400	2600	Pulse	¾	2 kw	.001	.3/2	6442
500-9	2600	2800	CW	¾	100 mw	—	—	6442
501-9	2600	2800	Pulse	¾	2 kw	.001	.3/2	6442
500-10	2800	3000	CW	¾	100 mw	—	—	6442
501-10	2800	3999	Pulse	¾	2 kw	.001	.3/2	6442
500-11	3000	3200	CW	¾	100 mw	—	—	6442
501-11	3000	3200	Pulse	¾	2 kw	.001	.3/2	6442
502-12	3200	3400	CW	¾	100 mw	—	—	6442
503-12	3200	3400	Pulse	¾	2 kw	.001	.3/2	6442
504-13	3400	3600	CW	¾	100 mw	—	—	6442
505-13	3400	3600	Pulse	¾	2 kw	.001	.3/2	6442
506-14	3600	3800	CW	¾	100 mw	—	—	GLZ1910
507-14	3600	3800	Pulse	¾	2 kw	.001	.3/2	6442
508-15	3800	4000	CW	¾	100 mw	—	—	GLZ1910
509-15	3800	4000	Pulse	¾	2 kw	.001	.3/2	6442
508-16	4000	4200	CW	¾	100 mw	—	—	GLZ1910
509-16	4000	4200	Pulse	¾	2 kw	.001	.3/2	6442
509-17	4200	4400	Pulse	¾	1 kw	.001	.3/2	6442
509-18	4400	4500	Pulse	¾	1 kw	.001	.3/2	6442
509-19	4500	4600	Pulse	¾	1 kw	.001	.3/2	6442
600	900	1050	CW	¼	5 watts	—	—	2C39B
601	900	1050	Pulse	¼	2 kw	.002	.5/5	ML381
602	1000	1200	CW	¼	5 watts	—	—	2C39B
603	1000	1200	Pulse	¼	2 kw	.002	.5/5	ML381
604	1150	1300	CW	¼	5 watts	—	—	2C39B
605	1150	1300	Pulse	¼	2 kw	.002	.5/5	ML381
606	1250	1500	CW	¼	5 watts	—	—	2C39B
607	1250	1500	Pulse	¼	2 kw	.002	.5/5	ML381
608	1450	1700	CW	¼	5 watts	—	—	2C39B
609	1450	1700	Pulse	¼	2 kw	.002	.5/5	ML381

DEVELOPMENT ENGINEERING Amerac MICROWAVE SPECIALIST

Amerac, INCORPORATED

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AMERAC'S ACCESSORY MICROWAVE PRODUCTS

AMPLIFIERS — UHF, L, S BANDS

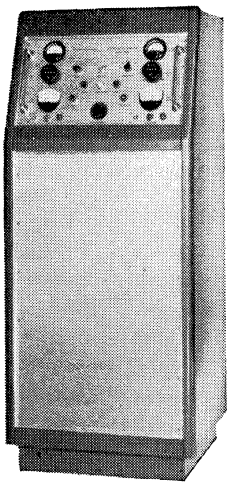
PRE-SELECTORS — L, S, C, X BANDS

MULTIPLIERS — L, S, C, X BANDS

TEST UNITS — UHF, L, S, C, X BANDS

SPECIAL CRYSTAL MIXERS

MODEL 1000 MICROWAVE TEST SET



The Model 1000 is a portable, ruggedly constructed microwave test set for laboratory, flight line or field use. It is designed for reliable test and calibration measurements of microwave antenna systems, RF cable systems, microwave measuring instruments, VSWR of transmission line components and transmission line characteristics.

The Model 1000 utilizes any of twenty* Amerac cavity oscillators to give you any desired frequency range within 900 to 4600 MC/S. It is accurate to within 0.02% and stable to within ±0.5 MC/S. All controls are at eye-level angle and handily located.

*Models 601, 603, 605, 607, 609, 611, 195-6, -7, -8, -9, -10, -11, -12, -13, 509-14, -15, -16, -17, -18, -19 (see table on opposite page for frequency range of each model.).

AMERAC'S DIRECT-READING COUNTER DIAL OFFERS COMPLETE CONTINUOUS ROTATION

The Amerdial is available with or without illumination, locking device, and special reset. Forward (i.e. clockwise rotation increases count) or reverse units may operate continuously in either direction. Especially adaptable to multiturn devices such as —

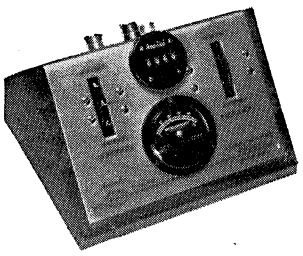
POTENTIOMETERS

MICROWAVE OSCILLATORS

AMPLIFIERS

WAVEMETERS, ETC.

CO-AXIAL LINE WAVEMETERS



#229 "S" BAND WAVEMETER

FOR LABORATORY USE, Amerac, Incorporated manufactures a precision wavemeter that is handsomely finished with golden anodized aluminum panel and hand-rubbed walnut cabinet. The panel is sloped for easy observation.

These models feature high accuracy of measurement (±.02%), high frequency stability (10°C to 40°C), extreme mechanical stability, ease of operation, rugged components and tri-plated surfaces.

GENERAL SPECIFICATIONS

Type "N" constant impedance input connector. BNC or UHF co-axial fitting for external video connection. Power handling capability: absorption — .5mw to 1 watt; transmission — 1mw to 1 watt. Peak power: up to 25 watts (transmission).

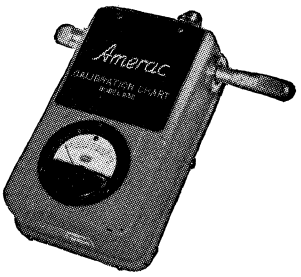
INDIVIDUAL SPECIFICATIONS

Model	Frequency Range	Loaded Q	Width	Depth	Height	Net Weight
#228*	900—2400 MC	1000	15″	9¾″	7¾″	13½ lbs.
#229	2300—4500 MC	1500	8″	6½″	5″	4¾ lbs.
#230	3500—6000 MC	1500	8″	6½″	5″	4¾ lbs.

*Model 228 has a direct-reading frequency control dial.

FOR FIELD USE, Amerac, Incorporated manufactures two co-axial line wavemeters covering the "S" band, the Model 131 (Amerac's version of the popular military model TS-117) and the inexpensive, C&D Wavemeter Model 232.

Both models feature a rugged metal case, finished in gray, baked enamel; highly sensitive indication of resonance; rugged components; precision cavity assembly and anti-backlash device, for high accuracy.



#232 "C & D" WAVEMETER

GENERAL SPECIFICATIONS

Input connections are two type "N" jacks. R.F. detector is a type 1N21B silicon diode. They have a ruggedized 50 microampere indicating instrument for abusive field work and all silver-plated parts are Rhodium flashed to minimize corrosion.

INDIVIDUAL SPECIFICATIONS

Model	Frequency Range	Loaded Q	Length	Depth	Width	Net Weight
#131	2400—3400 MC	1000	6″	3¼″	5½″	3½ lbs.
#232	1800—3800 MC	1000	8″	2¼″	7¾″	2½ lbs.

MICROWAVE COMPONENT AND SYSTEM DEVELOPMENT

Amerac is continuously engaged in new development work on both components and complete RF Systems. Latest Amerac designs are utilized and, when required, special units are designed to meet specific requirements. Many recent developments, both Amerac and customer inspired, have brought forth improved equipment, components, and systems which are not, as yet, fully catalogued. However, full information is readily available on direct request to Amerac Engineering.

DEVELOPMENT ENGINEERING Amerac MICROWAVE SPECIALIST

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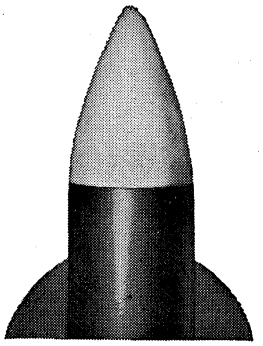
arra, an engineering company in the microwave field is proud to present the fore-runners of a complete line of components for the communication industry.

These units, of an advanced design are suitable for either systems or laboratory use.

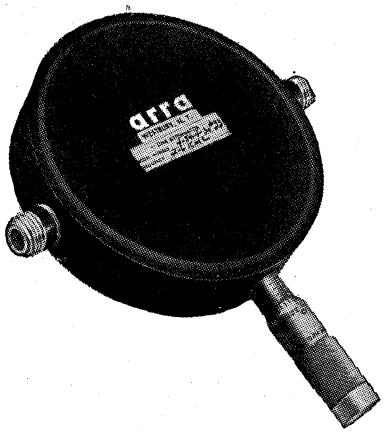
The material and form factor of these components can upon request, be changed to satisfy even the most stringent requirements.



HIGH TEMPERATURE CERAMIC RADOMES

Complete facilities for research, development, and manufacturing of antennas and ceramic and plastic radomes, available.

arra T LINE CONTINUOUSLY VARIABLE ATTENUATOR



FEATURES:

- Continuously Variable for all values of attenuation.
- Broadband Impedance Match.
- Min. VSWRs for all values of attenuation over band.
- Calibration Frequency: Midband.
- Calibration Accuracy: ±0.2 db.
- Insertion Loss: 0.2 db max.
- Drive: Micrometer for general lab use, Piston & Shaft drives for systems & power level applications.
- Connectors: Type "N" Female, (others on request).
- Size: 5" dia. x 1" high, excluding connectors and micrometer.
- Power Rating: 10 watts average min.

Model No.	Freq. KMC	Max. Atten. db	Max. VSWR	Calib. Freq. KMC	Unit Price
1440-10	.25-.50	10	1.5	.375	$290.
2414-20	.50-1.0	20	1.5	.750	290.
2-3414-30	.8-2.5	30	1.5	1.65	290.
3414-30	1.0-2.0	30	1.4	1.5	270.
4414-30	2.0-4.0	30	1.3	3.0	250.
4-5414-30	2.0-6.0	30	1.3	4.0	260.
5414-30	4.0-7.0	30	1.3	5.5	270.
6414-30	7.0-11.0	30	1.3	9.0	280.

Prices effective March 1, 1959

UPON SPECIAL REQUEST:

1. Other frequency bands between 250 MC and 11 KMC.
2. Other ranges of continuously variable attenuation from a minimum of .2 db to a maximum of 60 db.
3. Flat with Frequency: Many of these units can be made flat with frequency over all or a part of their operating range. Flatness of attenuation to within ±1 db is easily attainable.

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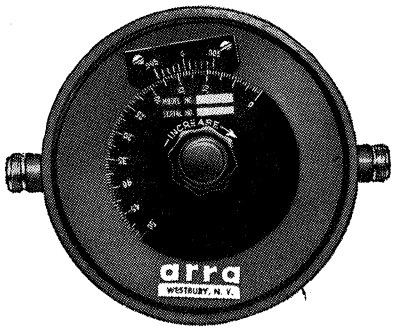
VARIABLE MICROWAVE POWER (VAMP)

Designed as a quick level set continuously variable attenuator, the ARRA "VAMP" is intended for use as laboratory equipment or systems use. These units are used where the accuracy of a micrometer drive is not needed but where speed in resetting is required.



FEATURES:

- Same as π Line Continuously Variable Attenuator with the following exception:
  - Drive: Top knob control with a vernier on the periphery.
  - Insertion Loss: 0.5 db max.

Model No.	Freq. KMC	Max. Att. db	Max. VSWR	Calib. Freq.	Unit Price
4614-30	2.0-4.0	30	1.4	3.0	$450.
5614-30	4.0-7.0	30	1.4	5.5	400.
6614-30	7.0-11.0	30	1.4	9.0	350.

UPON SPECIAL REQUEST:

1. Other frequency bands between 250 MC and 11 KMC.
2. Other ranges of continuously variable attenuation from a minimum of .2 db to a maximum of 60 db.
3. Flat with Frequency: Many of these units can be made flat with frequency over all or a part of their operating range. Flatness of attenuation to within ±1 db is easily attainable.

arra π LINE FLAT DIRECTIONAL COUPLER

FEATURES:

- Coupling tolerance: ±1.0 db
- VSWR: 1.2 max. on primary.
- Available for high average power applications in excess of 600 watts average power.
- Low insertion loss.
- May be made bi-directional for Reflectometer setups.
- Connectors: Type N Female, (others on request.)

Model No.	Frequency MC	Coupling db	Directivity db (Min)	Size	Unit Price
1114-10	250-500	10	20	7 x 3 x ⅞"	$150
1114-20		20			125
1114-30		30			125
2114-10	500-1000	10	20	5" dia. x ⅞"	150
2114-20		20			125
2114-30		30			125
3114-10	1000-2000	10	17	4" dia. x ⅞"	150
3114-20		20			125
3114-30		30			125
4114-10	2000-4000	10	15	4" dia. x ⅞"	135
4114-20		20			110
4114-30		30			110
5114-10	4000-7000	10	15	4" dia. x ⅞"	150
5114-20		20			125
5114-30		30			125
6114-10	7000-11000	10	15	3" dia. x ⅞"	250
6114-20		20			225
6114-30		30			225

SEE NEXT PAGE

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ATTENUATION CALIBRATOR MODEL No. 0435

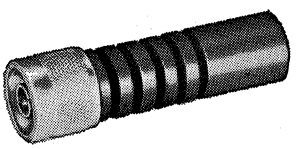
This unit is intended for use with a modulated R.F. power source for purposes of measuring attenuation and insertion loss. When used in conjunction with the ARRA π LINE CONTINUOUSLY VARIABLE ATTENUATOR, measurements can be made in the microwave frequency range with an accuracy of better than $\pm$0.1 over at least a 60 db dynamic range when used in conjunction with a standard detecting element such as a crystal or bolometer.

The ATTENUATION CALIBRATOR is a precision calibrated audio attenuator and has a built-in 1000CPS amplifier for VSWR measurements together with a DC bias supply for use with crystals or bolometers. Operation is from 110V AC 60CPS.

When used without any external attenuator, this unit can calibrate over a range of 51 db if the detecting element is square law or over a range of 102 db if a linear detector is used. Additional features are a mirrored scale, VSWR scale from 1 to 3.2 and 3.0 to 10, a 0-10 db scale, an expanded 0-2 db scale for interpolation to better than $\pm$.05 db, continuous monitoring of bias current and an output for external recording.

MINIATURE MICROWAVE MEDIUM POWER COAXIAL TERMINATION

This unit is designed to cover the frequency range from 2 to 11 KMC with a VSWR of less than 1.05. Using proprietary techniques developed by ARRA, a new microwave medium power coaxial termination just 2 ¾" long is now available to replace the long, bulky and fragile terminations now in use. Standard connectors are Type "N".



Model No.	Freq. Range KMC	VSWR	Average Power Capacity-watts	Element	Price
8512	2.0-11.0	1.05	10	Fixed	$50.

FIXED PAD MICROWAVE ATTENUATOR

These attenuators are designed to cover the frequency range from 1.0 to 11.0 KMC in a single unit and are available in denominations of 3, 6, 10 and 20 db. Standard connectors are Type "N". Size: 8 ½" long.

Model No.	Atten. db	VSWR Max.	Average Power Capacity-watts	Atten. Variation	Price
8412-3	3	1.3	5	$\pm$.5	$45.
8412-6	6	1.3	3	$\pm$.7	45.
8412-10	10	1.3	1	$\pm$1.2	45.
8412-20	20	1.35	1	$\pm$1.5	45.

See YELLOW SECTION for Local Offices, Telephones, etc.

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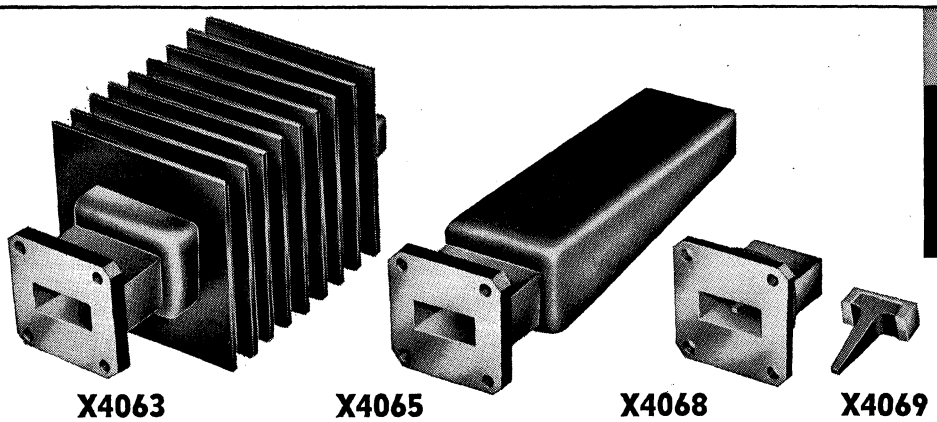
4000

MICROWAVE DUMMY LOAD FAMILY



X4063 X4065 X4068 X4069

Design engineers have often found it necessary to conduct an extensive catalog search in order to select the proper termination for a particular packaging or cost objective. As the result of a comprehensive research and development program, Bogart Manufacturing Corporation now makes available to industry and the Armed Forces, **a family of standard waveguide dummy loads to cover the frequency range from 200 megacycles to 40,000 Mc/s with power capabilities from milliwatts to 10 megawatts.**

The Bogart Model 4063 series of VHP Dummy Loads evolved from a need by the Armed Forces for very high power dummy loads for both field and laboratory use. Originally developed for the Army Ordnance Fire Control Instrument Group, the 4063 series of finned, dry dummy loads covers the frequency ranges from 1120 Mc/s to 40,000 Mc/s with average power capabilities from 75 watts to 6000 watts. **The 4063 series is at this time the only family of high power dummy loads that has been approved by all Armed Forces agencies.** These units, constructed of VHP lossy material have been tested and qualified in accordance with specification MIL-D-14454, MIL-D-3954A and MIL-T-945A. Designed to operate with the highest power radar systems, these dummy loads are lightweight, compact, resistant to moisture absorption and intended to last at least the life of the equipment with which they will be used. **A 5 year replacement guarantee is offered with each 4063 series dummy load.**

The Bogart Model 4065 Series of Medium Power Dummy Loads is identical in construction with the Government approved 4063 series, except that the loads are offered without cooling fins and have been correspondingly derated. These terminations are competitively priced with dummy loads made of graphite, poly-iron and other absorbent materials which do not meet military specifications but are sometimes used for industrial applications. The 4065 series is constructed with the same military standard VHP Lossy Material that is used in all of the Bogart Manufacturing Corporation series of Dummy Loads.

The Model 4068 "Mini-Load" and 4069 Insert Series of Dummy Loads consists of a series of small, lightweight lossy terminations. For many years resistive wedges, composition strips, and resistance cards have been used to absorb power in the range from milliwatts up to medium powers. These devices have been extremely fragile, severely limited in heat absorption, subject to moisture absorption, and have exhibited inability to meet standard military shock and vibration specifications.

Now, Bogart Manufacturing Corporation has perfected a technique of molding small sections of the **VHP** material that is used in their **4063** series of government approved high power dummy loads. These **Mini-Loads** are available in two series; one as an encased dummy load and the other as a lossy wedge which may be simply inserted into a section of waveguide by the user to meet his particular requirements. In this latter fashion, the **Mini-Load** is easily affixed in the same manner as a resistive element; i.e.—cemented into place. By utilizing the VHP material for these **Mini-Loads,** Bogart Manufacturing Corporation now offers to industry a small termination that is extremely rugged, unbreakable for all practical purposes, and able to take higher powers than any other material of its size. These **Mini-Loads** will meet all shock, vibration and humidity requirements of MIL-T-945A, MIL-E-5400A and MIL-E-5272A.

Special applications of Bogart Dummy Loads can be designed to meet your specific requirements. Our applications engineers will be pleased to discuss your particular problems with you.

For all **Coaxial Dummy Load requirements,** refer to Bogart catalogue pages 4064 and 4074.

Write for the Bogart 4063, 4065, 4068, 4069, and 4073 series of dummy load catalogue pages and associated outline drawings.

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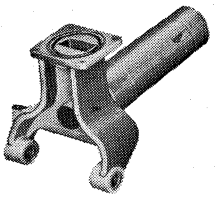
BUDD-STANLEY CO. MICROWAVE ASSEMBLIES

Budd-Stanley, the company devoted exclusively to the custom manufacture of microwave components, promptly and economically converts your designs into products.

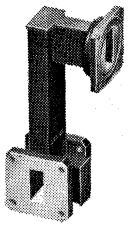
Budd-Stanley's varied skills includes tool making, casting, machining, joining (by welding, dip or torch brazing), plating, painting and complete performance testing to mechanical and electrical specifications. Each product is analyzed and methodized for economy of manufacture and reliability in application.

The illustrations on this page represent only a few of the diversified assemblies produced by Budd-Stanley. Designs to your specifications can be supplied.



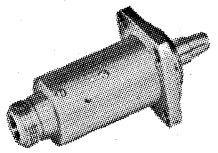
MAGNESIUM ROTARY JOINT COMPONENT

This illustrates the use of magnesium castings to produce X-brand rotary joint components. Units, while of minimum weight, have sufficient strength to be used as structural members of light weight antenna system.



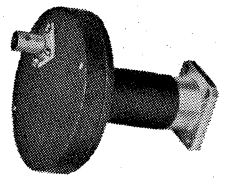
MAGIC TEE TRANSITION

Compact X-Band Magic tee and zero length twist having a VSWR of less than 1.08.



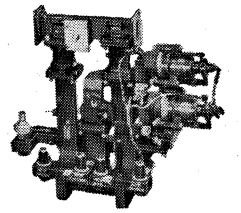
COAX ADATPER

A broad band (1000 to 4000 mcs) adapter of unusual construction for optimum performance.



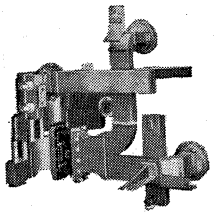
COAX BOLOMETER MOUNT

Broad band mount (1000-4000 mcs) for precision bolometers. Bolometers can be easily replaced with no deterioration in performance.



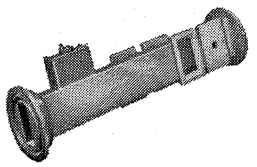
X-BAND MIXER DUPLEXER

A light weight X-band mixer duplexer of brazed aluminum. Includes balanced mixer, AFC circuit, provision for beaconry and beacon AFC. Note shutter to protect crystals while set is inoperative.



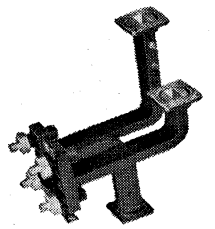
C-BAND BRASS HYBRID DUPLEXER

From prototype to production run in less than 60 days, this C-band Mixer - Duplexer has received loss of less than 0.6 db.



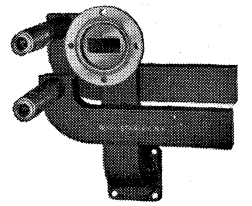
S-BAND DUPLEXER

This broad band unit combines a duplexer with AFC takeoff and a high power phase shifter.



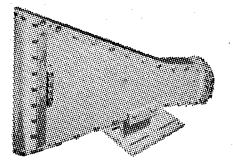
X-BAND BALANCED MIXER

A complete mixer circuit incorporating balanced signal & AFC mixer. Crystal balance in each mixer and between both mixers is rigidly controlled.



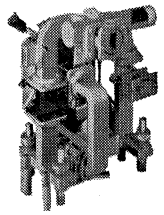
X-BAND REFLECTOMETER

This is essentially an accurately calibrated bidirectional coupler permanently installed in a lightweight radar for field testing.



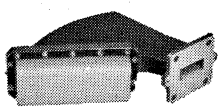
C-BAND ALUMINUM HORN

An example of close-tolerance fabrication in which pressurization must be maintained over a broad surface without benefit of reinforcing structures with no sacrifice of electrical performance.



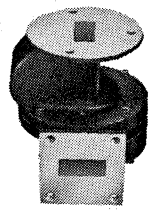
RF HEAD FOR RANGE CALIBRATOR

An X-band package containing all RF elements of range calibrator. Features include crystal shutter, waveguide switch, modulator and demodulator circuits and oscillators for simulation of beacon and radar signals.



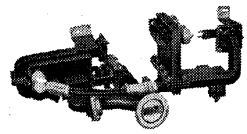
X-BAND ALUMINUM HORN

This X-band antenna feed is well matched over a broad band. The plastic cap and sound casting insure full pressurization over an extreme temperature range.



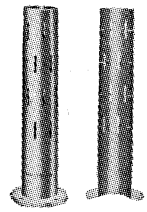
X-BAND CAST ALUMINUM ROTARY JOINTS

These broadband low torque pressurized joints are characterized by consistency of performance over a wide range of ambients.



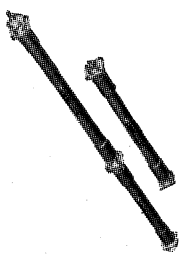
X-BAND SHORT SLOT HYBRID MIXER DUPLEXER

A wide band high power RF system incorporating short slot hybrid technique for both duplexer and mixer. Features include low noise Radar mixer and AFC mixer, directional coupler, AFC take off, L.O. mount with variable attenuator and low loss duplexer.



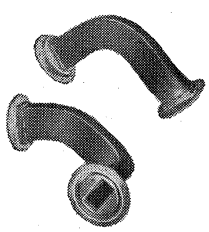
X-BAND BEACON ANTENNA

An omnidirectional, circularly polarized antenna for beacon operation. Cast construction insures proper location of probe-excited radiating slots.



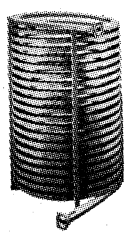
COAX ATTENUATOR

These metallized glass attenuators are precisely controlled for absolute attenuation values combined with minimal frequency sensitivity over 1000 to 4000 mcs.



S-BAND WAVE GUIDE BENDS

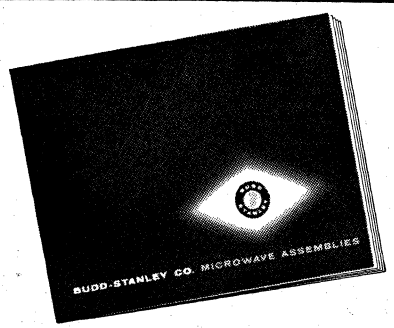
These are fabricated aluminum pressurized transmission line elements. Precision bending and brazing combine to give low VSWR and high power handling capacity.



X-BAND DELAY LINE

The bending and assembly of this type of delay line involves many skills.

What are your microwave assembly requirements? **BUDD-STANLEY** can supply your needs quickly and efficiently. Write for comprehensive brochure describing **BUDD-STANLEY** — its men, its facilities, its services, its products.



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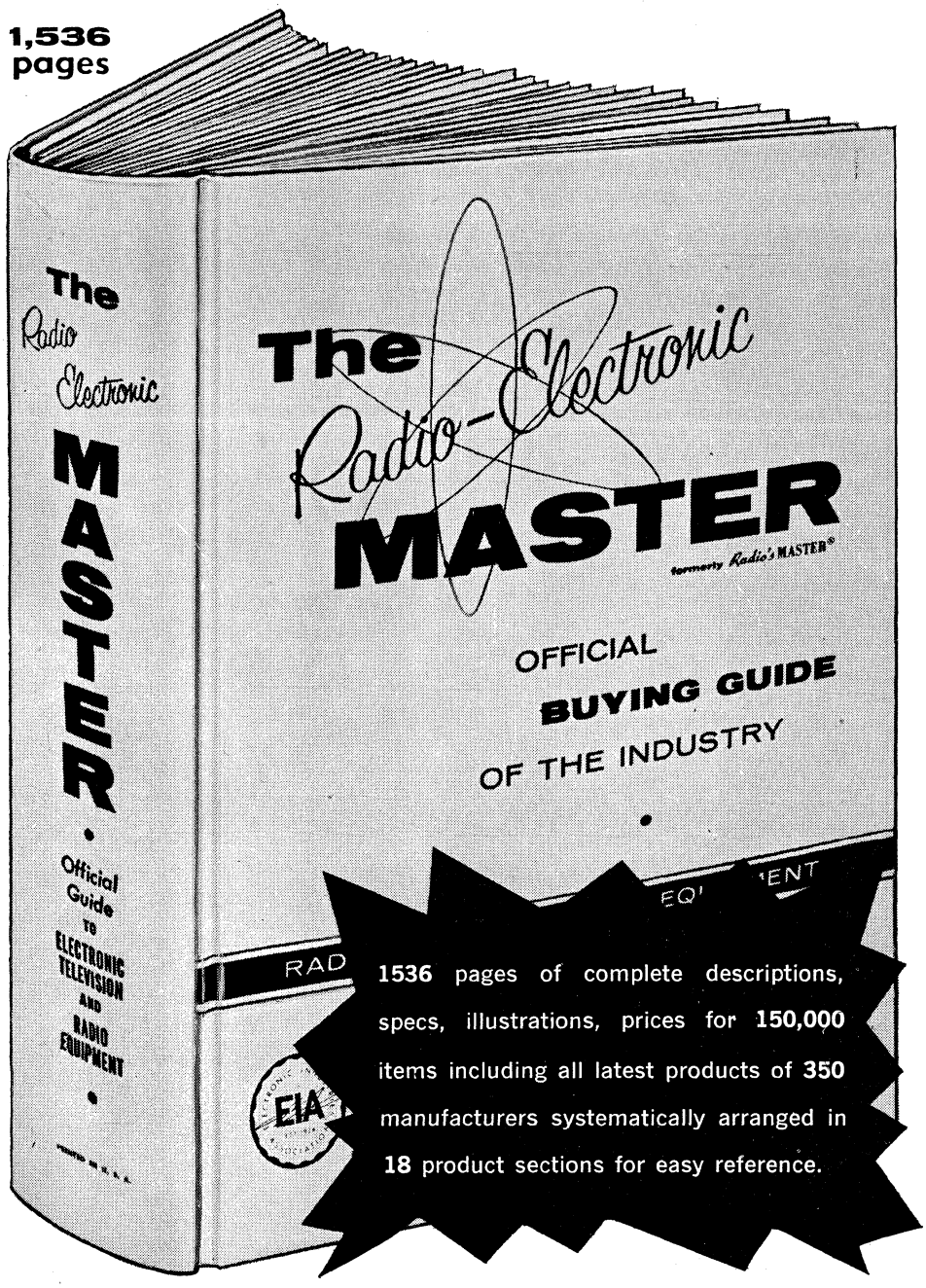

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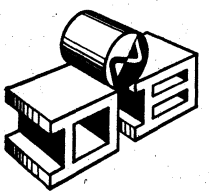

FIRST in MICROWAVE and

Effective Date March 15, 1957
Prices F. O. B. Pasadena, Calif.

Prices subject to change without notice.

Size Designation Frequency Band in KMC Waveguide Nomenclature	DBA 60-90 RG-99/U		DBB 50-75 RG-98/U		DBC 33-50 RG-97/U		DBD 26.5-40 RG-96/U		DBE 18-26.5 RG-53/U		DBF 12.4-18 RG-91/U		DBG 8.2-12.4 RG-52/U		DBH 7.05-10.0 RG-51/U		DBJ 5.85-8.2 RG-50/U		DBK 3.95-5.85 RG-49/U		DBL 2.6-3.95 RG-48/U	
	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
Tube Mounts																						
Klystron Tube Mount													DBG-111-1	$215	DBH-111-1	$225	DBJ-111-1	$260	DBK-111-1	$270	DBL-111-1	$285
Noise Tube Mount with Tube									DBE-140-T	$200			DBG-140-T	$200							DBL-140-T	$250
Transmission Line Components																						
Adaptors, Choke to Cover							DBD-010	$30	DBE-010	$26	DBF-010	$26	DBG-010	$23	DBH-010	$27	DBJ-010	$37	DBK-010	$46	DBL-010	$75
Tapered Transitions	DBAL-018	$225	DBBL-018	$225	DBCE-018	$126	DBDL-018	$225	DBEG-018	$55	DBFG-018	$55	DBGH-018	$55	DBHJ-018	$150	DBJK-018	$100	DBKL-018	$100	DBCL-018	$225
N to Waveguide Transformers											DBF-057	$50	DBG-057	$39	DBH-057	$50	DBJ-057	$55	DBK-057	$61	DBL-057	$83
*Straight Sections	DBA-210	$34	DBB-210	$34	DBC-210	$37	DBD-210	$37	DBE-210	$24	DBF-210	$25	DBG-210	$23	DBH-210	$28	DBJ-210	$37	DBK-210	$47	DBL-210	$73
90° E-Plane Elbows	DBA-224	$39	DBB-224	$39	DBC-224	$39	DBD-224	$39	DBE-224	$39	DBF-224	$39	DBG-224	$31	DBH-224	$38	DBJ-224	$49	DBK-224	$68	DBL-224	$98
90° H-Plane Elbows	DBA-234	$39	DBB-234	$39	DBC-234	$39	DBD-234	$39	DBE-234	$39	DBF-234	$39	DBG-234	$31	DBH-234	$38	DBJ-234	$49	DBK-234	$68	DBL-234	$98
Rotating Joints 90-90							DBD-266-1	$312	DBE-266-1	$312	DBF-266-1	$286	DBG-266-1	$208	DBH-266-1	$255	DBJ-266-1	$308	DBK-266-1	$358	DBL-266-1	$485
Rotating Joints 90-Cot.							DBD-266-2	$322	DBE-266-2	$322	DBF-266-2	$311	DBG-266-2	$259	DBH-266-2	$318	DBJ-266-2	$400	DBK-266-2	$468	DBL-266-2	$615
Rotating Joints Cot.-90							DBD-266-3	$322	DBE-266-3	$322	DBF-266-3	$311	DBG-266-3	$259	DBH-266-3	$318	DBJ-266-3	$400	DBK-266-3	$468	DBL-266-3	$615
Rotating Joints Cot.-Cot.							DBD-266-4	$332	DBE-266-4	$332	DBF-266-4	$296	DBG-266-4	$218	DBH-266-4	$286	DBJ-266-4	$392	DBK-266-4	$578	DBL-266-4	$795
90° Twisted Sections	DBA-274	$36	DBB-274	$36	DBC-274	$38	DBD-274	$38	DBE-274	$38	DBF-274	$38	DBG-274	$31	DBH-274	$36	DBJ-274	$53	DBK-274	$63	DBL-274	$110
Bulkhead Flanges	DBA-275	$50	DBB-275	$50	DBC-275	$50	DBD-275	$50	DBE-275	$46	DBF-275	$41	DBG-275	$37	DBH-275	$48	DBJ-275	$61	DBK-275	$74	DBL-275	$108
Bulkhead Flanges with Seals	DBA-275-1	$86	DBB-275-1	$86	DBC-275-1	$86	DBD-275-1	$88	DBE-275-1	$84	DBF-275-1	$89	DBG-275-1	$71								
Pressurizing Units	DBA-276	$49	DBB-276	$49	DBC-276	$49	DBD-276	$49	DBE-276	$41	DBF-276	$40	DBG-276	$33	DBH-276	$43	DBJ-276	$52	DBK-276	$63	DBL-276	$90
Crystal Mounts & Multipliers																						
Crystal Mounts	DBA-310	$83	DBB-310	$83	DBC-310	$83	DBD-310	$83	DBE-310	$83	DBF-310	$83	DBG-310	$56	DBH-310	$66	DBJ-310	$76	DBK-310	$88	DBL-310	$128
Crystal Mounts, Movable Short	DBA-313	$110	DBB-313	$110	DBC-313	$110	DBD-313	$110	DBE-313	$110	DBF-313	$110	DBG-313	$79								
Tunable Crystal Mounts	DBA-319	$214	DBB-319	$214	DBC-319	$214	DBD-319	$214	DBE-319	$214	DBF-319	$200	DBG-319	$170	DBH-319	$184	DBJ-319	$199	DBK-319	$225	DBL-319	$300
Crystal Multipliers			DBBW-350	$387	DBCA-350	$277	DBDB-350	$277	DBEC-350	$277	DBFC-350	$248	DBGE-350	$248	DBHF-350	$280	DBJF-350	$298	DBKG-350	$308	DBLJ-350	$352
Power Absorbing Units																						
Precision Attenuators	DBA-410	$358	DBB-410	$358	DBC-410	$358	DBD-410	$358	DBE-410	$358	DBF-410	$270	DBG-410	$250	DBH-410	$276	DBJ-410	$310	DBK-410	$326	DBL-410	$380
Variable Attenuators, Calibrated	DBA-430-1	$138	DBB-430-1	$138	DBC-430-1	$138	DBD-430-1	$138	DBE-430-1	$138												
Variable Attenuators	DBA-430	$110	DBB-430	$110	DBC-430	$110	DBD-430	$110	DBE-430	$110	DBF-430	$220	DBG-430	$200	DBH-430	$225	DBJ-430	$260	DBK-430	$276	DBL-430	$315
Fixed Attenuators	DBA-440A	$83	DBB-440A	$83	DBC-440A	$83	DBD-440A	$83	DBE-440A	$83	DBF-440A	$58	DBG-440A	$52	DBH-440A	$58	DBJ-440A	$66	DBK-440A	$76	DBL-440A	$120
Low Power Terminations	DBA-450	$44	DBB-450	$44	DBC-450	$44	DBD-450	$44	DBE-450	$44	DBF-450	$33	DBG-450	$28	DBH-450	$35	DBJ-450	$40	DBK-450	$49	DBL-450	$72
Movable Low Power Terminations	DBA-456A	$75	DBB-456A	$75	DBC-456A	$75	DBD-456A	$75	DBE-456A	$68	DBF-456A	$78	DBG-456A	$78	DBH-456A	$87	DBJ-456A	$96	DBK-456A	$110	DBL-456A	$140
Movable Term. with Extension	DBA-456	$98	DBB-456	$98	DBC-456	$98	DBD-456	$98	DBE-456	$85	DBF-456	$103	DBG-456	$96	DBH-456	$116	DBJ-456	$138	DBK-456	$157	DBL-456	$213
Movable Term. with Ext. & Vernier	DBA-456-1	$116	DBB-456-1	$116	DBC-456-1	$116	DBD-456-1	$116	DBE-456-1	$109	DBF-456-1	$127	DBG-456-1	$119	DBH-456-1	$139	DBJ-456-1	$157	DBK-456-1	$181	DBL-456-1	$237
Tunable Low Power Terminations	DBA-459	$175	DBB-459	$175	DBC-459	$175	DBD-459	$175	DBE-459	$176	DBF-459	$153	DBG-459	$143	DBH-459	$151	DBJ-459	$168	DBK-459	$186	DBL-459	$248
High Power Terminations	DBA-460	$90	DBB-460	$90	DBC-460	$90	DBD-460	$90	DBE-460	$90	DBF-460	$80	DBG-460	$76	DBH-460	$88	DBJ-460	$125	DBK-460	$129	DBL-460	$150
Horns																						
Pickup Horns	DBA-510	$83	DBB-510	$83	DBC-510	$83	DBD-510	$83	DBE-510	$83	DBF-510	$72	DBG-510	$71	DBH-510	$76	DBJ-510	$80	DBK-510	$90	DBL-510	$110
Standard Gain Horns, 10, 15 DB	DBA-520	$92	DBB-520	$92	DBC-520	$92	DBD-520	$92	DBE-520	$92	DBF-520	$84	DBG-520	$83	DBH-520	$88	DBJ-520	$94	DBK-520	$116	DBL-520	$140
Standard Gain Horns, 20 DB	DBA-520	$106	DBB-520	$106	DBC-520	$106	DBD-520	$106	DBE-520	$106	DBF-520	$95	DBG-520	$94	DBH-520	$99	DBJ-520	$121	DBK-520	$196	DBL-520	$255
Tees, Junctions and Mixers																						
E-Plane Tees	DBA-610	$56	DBB-610	$56	DBC-610	$58	DBD-610	$57	DBE-610	$51	DBF-610	$41	DBG-610	$38	DBH-610	$46	DBJ-610	$61	DBK-610	$74	DBL-610	$119
Waveguide Switches, 2 Way	DBA-616	$554	DBB-616	$554	DBC-616	$554	DBD-616	$554	DBE-616	$554	DBF-616	$537	DBG-616	$537	DBH-616	$554	DBJ-616	$561	DBK-616	$590	DBL-616	$660
Waveguide Switches, 4 Way	DBA-617	$544	DBB-617	$544	DBC-617	$544	DBD-617	$544	DBE-617	$544	DBF-617	$527	DBG-617	$530	DBH-617	$546	DBJ-617	$554	DBK-617	$541	DBL-617	$647
H-Plane Tees	DBA-620	$56	DBB-620	$56	DBC-620	$58	DBD-620	$57	DBE-620	$51	DBF-620	$41	DBG-620	$38	DBH-620	$46	DBJ-620	$61	DBK-620	$74	DBL-620	$119
Basic Directional Couplers	DBA-630	$110	DBB-630	$110	DBC-630	$110	DBD-630	$110	DBE-630	$77	DBF-630	$61	DBG-630	$50	DBH-630	$67	DBJ-630	$82	DBK-630	$110	DBL-630	$173
Directional Couplers, Flg. to Term.	DBA-631	$120	DBB-631	$120	DBC-631	$120	DBD-631	$120	DBE-631	$86	DBF-631	$68	DBG-631	$57	DBH-631	$75	DBJ-631	$89	DBK-631	$119	DBL-631	$185
Directional Couplers, Coax. to Term.											DBF-632	$100	DBG-632	$80	DBH-632	$106	DBJ-632	$119	DBK-632	$146	DBL-632	$216
Directional Couplers, Xtal. to Flg.	DBA-633	$170	DBB-633	$170	DBC-633	$170	DBD-633	$170	DBE-633	$150	DBF-633	$126	DBG-633	$95	DBH-633	$116	DBJ-633	$140	DBK-633	$170	DBL-633	$248
Directional Couplers, Xtal. to Term.	DBA-634	$180	DBB-634	$180	DBC-634	$180	DBD-634	$180	DBE-634	$159	DBF-634	$132	DBG-634	$102	DBH-634	$124	DBJ-634	$147	DBK-634	$179	DBL-634	$261
Magic Tees	DBA-650	$83	DBB-650	$83	DBC-650	$83	DBD-650	$83	DBE-650	$66	DBF-650	$56	DBG-650	$52	DBH-650	$65	DBJ-650	$80	DBK-650	$100	DBL-650	$160
Balanced Crystal Mixers	DBA-665	$395	DBB-665	$395	DBC-665	$395	DBD-665	$395	DBE-665	$375	DBF-665	$300	DBG-665	$227	DBH-665	$292	DBJ-665	$303	DBK-665	$326	DBL-665	$365
Frequency Meters																						
Precision Cavity Wavemeters, Reaction Type	DBA-715-1	$506	DBB-715-1	$506	DBC-715-1	$506	DBD-715-1	$506	DBE-715-1	$506	DBF-715-1	$473	DBG-715-1	$457	DBH-715-1	$495	DBJ-715-1	$534	DBK-715-1	$583	DBL-715-1	$809
Absorption Type	DBA-715-2	$540	DBB-715-2	$540	DBC-715-2	$540	DBD-715-2	$540	DBE-715-2	$540	DBF-715-2	$506	DBG-715-2	$490	DBH-715-2	$528	DBJ-715-2	$567	DBK-715-2	$616	DBL-715-2	$853
Transmission Type	DBA-715-3	$545	DBB-715-3	$545	DBC-715-3	$545	DBD-715-3	$545	DBE-715-3	$545	DBF-715-3	$512	DBG-715-3	$496	DBH-715-3	$534	DBJ-715-3	$578	DBK-715-3	$627	DBL-715-3	$864
Reference Cavity, Reaction Type	DBA-715-1A	$490	DBB-715-1A	$490	DBC-715-1A	$490	DBD-715-1A	$490	DBE-715-1A	$490	DBF-715-1A	$457	DBG-715-1A	$440	DBH-715-1A	$479	DBJ-715-1A	$517	DBK-715-1A	$567	DBL-715-1A	$770
Reference Cavity, Absorption	DBA-715-2A	$525	DBB-715-2A	$525	DBC-715-2A	$525	DBD-715-2A	$525	DBE-715-2A	$525	DBF-715-2A	$490	DBG-715-2A	$473	DBH-715-2A	$512	DBJ-715-2A	$550	DBK-715-2A	$600	DBL-715-2A	$814
Reference Cavity, Transmission	DBA-715-3A	$530	DBB-715-3A	$530	DBC-715-3A	$530	DBD-715-3A	$530	DBE-715-3A	$530	DBF-715-3A	$495	DBG-715-3A	$479	DBH-715-3A	$517	DBJ-715-3A	$561	DBK-715-3A	$611	DBL-715-3A	$825
Impedance Meters																						
Precision Standing Wave Detectors, Complete	DBA-825	$560	DBB-825	$560	DBC-825	$560	DBD-825	$514	DBE-825	$514	DBF-825	$500	DBG-825	$440	DBH-825	$445	DBJ-825	$454				
Carriage Units Only	DB-820	$302	DB-820	$302	DB-820	$302	DB-820	$302	DB-820	$302	DB-820	$302	DB-820-1	$242	DB-820-1	$242	DB-820-1	$242				
Waveguide Sections	DBA-821	$181	DBB-821	$181	DBC-821	$181	DBD-821	$164	DBE-821	$154	DBF-821	$153	DBG-821	$152	DBH-821	$157	DBJ-821	$166				
Broadband Probes	DBA-822	$94	DBB-822	$94	DBC-822	$94	DBD-822	$75	DBE-822	$75	DBF-822	$61	DBG-822	$61	DBH-822	$61	DBJ-822	$61				
Phase Shifters, Tuners & Shorts																						
Phase Shifters	DBA-915	$110	DBB-915	$110	DBC-915	$110	DBD-915	$110	DBE-915	$110	DBF-915	$220	DBG-915	$200	DBH-915	$225	DBJ-915	$260	DBK-915	$276	DBL-915	$315
Calibrated Phase Shifters	DBA-915-1	$140	DBB-915-1	$140	DBC-915-1	$140	DBD-915-1	$140	DBE-915-1	$140	DBF-915-1	$270	DBG-915-1	$250	DBH-915-1	$276	DBJ-915-1	$310	DBK-915-1	$326	DBL-915-1	$380
Variable Stub Tuners	DBA-919	$148	DBB-919	$148	DBC-919	$148	DBD-919	$148	DBE-919	$148	DBF-919	$132	DBG-919	$127	DBH-919	$132	DBJ-919	$140	DBK-919	$160	DBL-919	$210
Fixed Shorts	DBA-960	$6.00	DBB-960	$6.00	DBC-960	$6.00	DBD-960	$6.00	DBE-960	$6.00	DBF-960	$6.00	DBG-960	$6.00	DBH-960	$7.00	DBJ-960	$8.00	DBK-960	$9.00	DBL-960	$11.00
Movable Shorts	DBA-969A	$43	DBB-969A	$43	DBC-969A	$43	DBD-969A	$43	DBE-969A	$43	DBF-969A	$53	DBG-969A	$50	DBH-969A	$66	DBJ-969A	$73	DBK-969A	$83	DBL-969A	$110
Movable Shorts with Extension	DBA-969	$58	DBB-969	$58	DBC-969	$58	DBD-969	$58	DBE-969	$58	DBF-969	$77	DBG-969	$72	DBH-969	$94	DBJ-969	$103	DBK-969	$126	DBL-969	$173
Movable Shorts with Ext. & Vernier	DBA-969-1	$82	DBB-969-1	$82	DBC-969-1	$82	DBD-969-1	$82	DBE-969-1	$82	DBF-969-1	$101	DBG-969-1	$96	DBH-969-1	$118	DBJ-969-1	$132	DBK-969-1	$148	DBL-969-1	$208
E-H Plane Tuners	DBA-979	$160	DBB-979	$160	DBC-979	$160	DBD-979	$160	DBE-979	$136	DBF-979	$155	DBG-979	$148	DBH-979	$188	DBJ-979	$209	DBK-979	$248	DBL-979	$345
E-H Plane Tuners with Vernier	DBA-979-1	$198	DBB-979-1	$198	DBC-979-1	$198	DBD-979-1	$198	DBE-979-1	$183	DBF-979-1	$203	DBG-979-1	$196	DBH-979-1	$231	DBJ-979-1	$257	DBK-979-1	$290	DBL-979-1	$393
Accessories																						
Standard Plain Flange	DBA-1000	$2.45	DBB-1000	$2.45	DBC-1000	$2.45	DBD-1000	$2.00	DBE-1000	$2.00	DBF-1000	$1.50	DBG-1000	$1.05	DBH-1000	$1.90	DBJ-1000	$3.85	DBK-1000	$5.25	DBL-1000	$6.15
Standard Choke Flange							DBD-1001	$3.80	DBE-1001	$3.60	DBF-1001	$3.50	DBG-1001	$2.15	DBH-1001	$3.70	DBJ-1001	$5.70	DBK-1001	$8.75	DBL-1001	$13.15
Aluminum Plain Flange													DBG-1002	$1.66							DBL-1002	$6.60
Aluminum Choke Flange													DBG-1003	$2.40							DBL-1003	$14.00
Special Round Flange							DBD-1004	$2.45	DBE-1004	$2.45												
Screw Plain Flange									DBE-1005	$6.05												
Screw Choke Flange									DBE-1006	$8.25												
Adjustable Waveguide Supports, Ultramicrowave	DB-1010	$6.00	DB-1010	$6.00	DB-1010	$6.00	DB-1010	$6.00	DB-1010	$6.00												
Adjustable Waveguide Supports, Microwave											DB-1010-1	$14	DB-1010-1	$14	DB-1010-1	$14	DB-1010-1	$14	DB-1010-2	$14	DB-1010-2	$14
Waveguide Chassis Mounting Stands	DBA-1012	$10	DBB-1012	$10	DBC-1012	$10	DBD-1012	$10	DBE-1012	$10	DBF-1012	$10	DBG-1012	$11	DBH-1012	$12	DBJ-1012	$14	DBK-1012	$16	DBL-1012	$17
Waveguide Fastening Screws, Pr.	DBA-1020	$1.10	DBB-1020	$1.10	DBC-1020	$1.10	DBD-1020	$1.10	DBE-1020	$1.10	DBF-1020	$1.10	DBG-1020	$1.10	DBH-1020	$1.20	DBJ-1020	$1.30	DBK-1020	$1.40	DBL-1020	$1.65
Waveguide Window Seals	DBA-1100	$33	DBB-1100	$33	DBC-1100	$33	DBD-1100	$33	DBE-1100	$33	DBF-1100	$33	DBG-1100	$33								
Electronic Equipment																						
Noise Diode Power Supplies									DB-2140	$140												
CW-DC AFC Amplifiers									DB-2328	$800												
I.F. Amplifiers									DB-2340	$940												

*Sections One Foot Long or Shorter.
All instruments sizes A through E solid coin silver waveguide.

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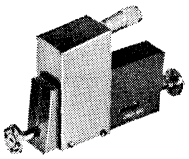
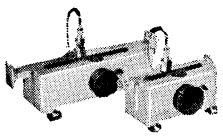
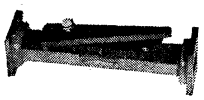
Here's the newest equipment for 2.6 to 140 KMC—by DeMornay-Bonardi, leaders in microwave instrumentation for 16 years. This advanced line offers you the ultimate in precision, dependability and operating ease. Major items are shown. Deliveries on most items are running 30 days. Ask for latest catalogue containing complete data.



DB-410 Precision Attenuator 0-40 DB

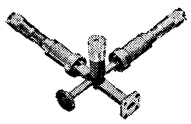


DB-825 Standing Wave Detector

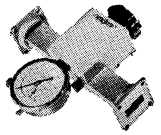


DB-420 Flap Attenuator 0-20 DB

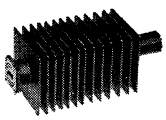
DB-111 Klystron Tube Mount Pressurized, Shielded



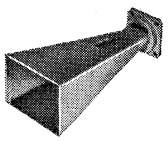
DB-350 Crystal Multiplier



DB-430-1 Calibrated Attenuator 0-40 DB

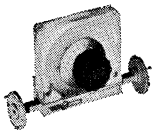


DB-460 High Power Termination



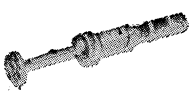
DB-520 Standard Gain Horn

DB-715 Cavity Wavemeter Sealed, Temperature Compensated

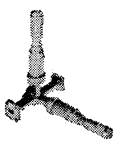


DB-915 Phase Shifter 180° Minimum

DB-919 Variable Stub Tuner



DB-969 Movable Short



DB-979-1 E-H Plane Tuner

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If it's "MICROWAVE"

Partial list of standard items

EQUIPMENT	MODEL	L 1.12 - 1.70 KMC	M 1.7 - 2.31 KMC	S 2.6 - 3.95 KMC	C 3.95 - 5.85 KMC	A 5.85 - 8.20 KMC	B 7.05 - 10 KMC	X 8.2 - 12.4 KMC	G 12.4 - 18 KMC	K 18 - 26.5 KMC	T 26.5 - 40 KMC	V 33 - 50 KMC	W 50 - 75 KMC	Z 60 - 90 KMC
ADAPTER—COAX. TO W.G.	101	L	M	S	C	A	B	X						
Choke to Choke	102	L	M	S	C	A	B	X	G	K	T			
Cover to Cover	103	L	M	S	C	A	B	X	G	K	T	V	W	Z
7/8" to RG 48/U	104			S										
ANTENNA—Horn	110	L	M	S	C	A	B	X	G	K	T	V	W	Z
ATTENUATOR—WAVEGUIDE Fixed High Power	119	L	M	S	C	A	B	X	G	K	T	V	W	Z
Fixed - Low Power	120	L	M	S	C	A	B	X	G	K	T	V	W	Z
Flap	121	L	M	S	C	A	B	X	G	K	T	V	W	Z
Precision	123	L	M	S	C	A	B	X	G	K	T			
Fixed - Coaxial	125	(2,000 - 10,000 mcs.) Low & Hi-Power												
Fixed - Coaxial	126	(0 - 4,000 mcs.) Low & Hi-Power												
Variable Coaxial	127	(Continuous) (500 - 10,000 mcs.)												
Fixed Coaxial—Very High Power	128	(1,000 - 3,000 mcs.)												
BEND— E Plane	130	L	M	S	C	A	B	X	G	K	T	V	W	Z
H Plane	131	L	M	S	C	A	B	X	G	K	T	V	W	Z
Coaxial (7/8") Right Angle	135			S										
CAVITY— Filter	140	L	M	S	C									
LHT Transmitter	141	L		S										
Reference	142	L	M	S	C									
COUPLER— Signal Sampler Coaxial	148	(100 - 6,000 mcs.)												
Waveguide	149	L	M	S	C	A	B	X						
CRYSTAL DETECTOR MOUNTS COAXIAL Broadband	150	(900 - 12,400 mcs.)												
Tunable	151	(900 - 12,400 mcs.)												
Matched	152	(500 - 3,000 mcs.)												
CRYSTAL DETECTOR MOUNTS WAVEGUIDE Broadband	160			S	C	A	B	X	G	K				
Tunable	161			S	C	A	B	X	G	K	T	V	W	Z
DIRECTIONAL COUPLERS Coax 3/8"	165	(100 - 3,500 mcs.) HIGH DIRECTIVITY												
Coax - 7/8"	167	(100 - 3,000 mcs.) HIGH DIRECTIVITY												
Coax - 1 5/8"	168	(100 - 1,500 mcs.) HIGH DIRECTIVITY												
Coax - 3 1/8"	169	(100 - 1,000 mcs.) HIGH DIRECTIVITY												
Waveguide Uni-Directional	170	L	M	S	C	A	B	X	G	K	T	V	W	Z
Bi-Directional	171	L	M	S	C	A	B	X	G	K	T	V	W	Z
Uni- Reflectometer	172			S	C	A	B	X	G	K	T	V	W	Z
Bi- Reflectometer	173			S	C	A	B	X	G	K	T	V	W	Z
Broadband	174			S	C	A	B	X	G	K	T	V	W	Z
FILTER—LOW PASS Coaxial	175	Cut off frequency 100 to 3,000 mcs.												
LINE STRETCHER— Coaxial - 3/8"	180	(900 - 12,400 mcs.)												
LOAD—COAXIAL Low Power	190	(0 - 4,000 mcs.)												
Medium Power 7/8" Line	191	L		S										
Medium Power 1 5/8" Line	192	L												
High Power 7/8" Line	193	L		S										
High Power 1 5/8" Line	194	L												
LOADS—WAVEGUIDE Low Power	200	L	M	S	C	A	B	X	G	K	T	V	W	Z
Medium Power	201	L	M	S	C	A	B	X	G	K	T	V	W	Z
High Power	202	L	M	S	C	A	B	X	G	K	T	V	W	Z
Tunable	203			S	C	A	B	X	G	K	T	V	W	Z
Movable	204			S	C	A	B	X	G	K	T	V	W	Z
Water	210	L		S	C		B	X						
Monitor— Power	219													
MIXER—CRYSTAL Coaxial	220	L		S	C									
Waveguide	230			S	C	A	B	X	G	K	T			
Balanced Waveguide	235			S				X		K				
NUT & BOLT	240	L		S	C	A	B	X	G	K	T			
POWER DIVIDER- Coaxial - Fixed	245	L		S										
Adjustable	246	L		S										
MULTIPLIER—(FREQUENCY) Waveguide - Coaxial Input	248	any input or output freq. 1 - 90 kmc												
Waveguide Input	249	any input or output freq. from 1 - 90 kmc												
PROBE— Tunable	0	(900 - 12,400 mcs.)												
REFLECTION— Standard W.G.	256				S	C	A	B	X	G	K	T		
ROTARY JOINT—COAXIAL Med. Speed 7/8"	260	(2,700 - 2,900 mcs.)												
High Speed 7/8"	261	(2,700 - 2,900 mcs.)												
Inline L.T.	262	(10-3,000 mcs.)												
ROTARY JOINT WAVEGUIDE Doorknob Transition	270			S				X						
Circular Transition	271						B	X		K				
Crossbar Transition	272						B	X						
SHIFTER—PHASE Waveguide	275	L	M	S	C	A	B	X	G	K	T			
SHORT—MOVABLE Waveguide - (Unhoused)	283	L		S	C	A	B	X	G	K	T	V	W	
SHORTS—MOVABLE (HOUSED) 3/8" Coaxial	290	L		S	C	A	B	X						
5/8" Coaxial	291	L		S	C									
7/8" Coaxial	292	L		S										
Waveguide	293	L	M	S	C	A	B	X	G	K	T	V	W	
Waveguide Precision	294	L	M	S	C	A	B	X	G	K	T	V	W	Z
SLOTTED LINE—COAXIAL 3/8" Line	300	(4,000 - 10,000 mcs.)												
7/8" Line	301	(1,000 - 4,000 mcs.)												
Waveguide	310	L	M	S	C	A	B	X	G	K	T			
STAND	330	L		S	C	A	B	X	G	K	T			
SWITCH—Coax	334	L												
W.G. Rotary Type	335	L	M	S	C	A	B	X	G	K	T	V	W	Z
W.G. Multiple Type	336			S				X		K				
TEE—Coaxial 7/8" Line	340	L		S										
W.G. Series TEE	350	L	M	S	C	A	B	X	G	K	T	V	W	Z
W.G. Shunt	351	L	M	S	C	A	B	X	G	K	T	V	W	Z
W.G. E/H (Hybrid)	352	L	M	S*	C	A	B	X*	G	K*	T	V	W	Z
TRANSITIONS—COAXIAL 3/8" - 7/8" Line	370	(0 - 4,000 mcs.)												
7/8" to 1 5/8"	371	(0 - 4,000 mcs.)												
W.G. Taper	380	Any Combination of waveguide, sizes L to T inclusive.												
W.G. Step	381							BX						
W.G. Elbow	382							BX						
TUBE MOUNT—KLYS.	390				C	A	B	X						
TUNER—Coaxial 3/8" Single Stub	400	L		S	C	A	B	X						
7/8" Single Stub	401	L		S										
3/8" Double Stub	402	L		S	(2,000 - 10,000 mcs.)									
7/8" Double Stub	403	L		S										
3/8" Triple Stub	404	L		S	(2,000 - 10,000 mcs.)									
7/8" Triple Stub	405	L		S										
7/8" Slug	407	L		S										
TUNER—WAVEGUIDE Single Stub	409	L	M	S	C	A	B	X	G	K	T	V	W	Z
Double Stub	410	L	M	S	C	A	B	X	G	K	T	V	W	Z
Triple Stub	411	L	M	S	C	A	B	X	G	K	T	V	W	Z
E/H	412	L	M	S	C	A	B	X	G	K	T	V	W	Z
Glide Screw	413			S	C	A	B	X	G	K	T	V	W	Z
Double Slug	414			S	C	A	B	X	G	K	T			
TWISTS	420			S	C	A	B	X	G	K	T			
WAVEMETER—COAXIAL Micrometer	430	L		S	C									
In Case	440	L	M	S	C									
Waveguide MICROMETER Absorbtion	450					A	B	X	G	K	T			
Transmission	451					A	B	X	G	K	T			
Direct Reading	460						B	X						

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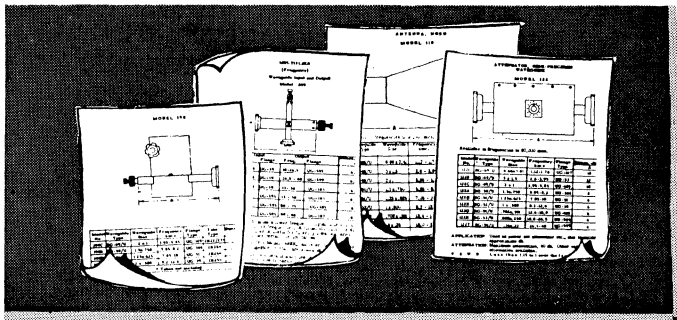

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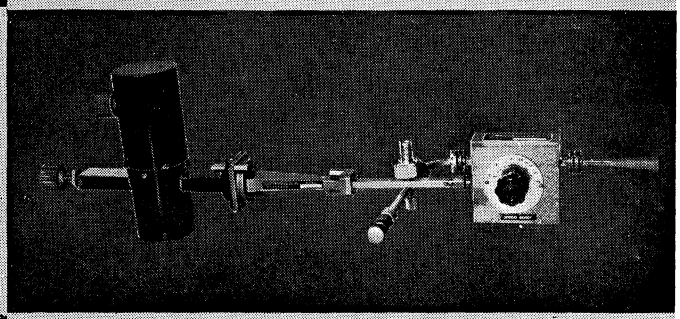

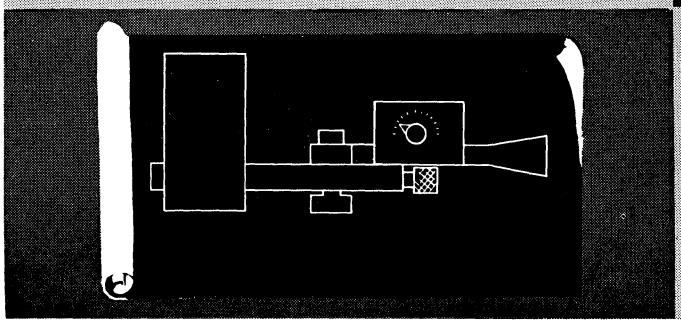

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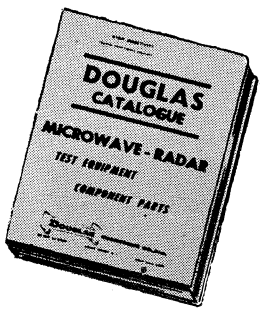

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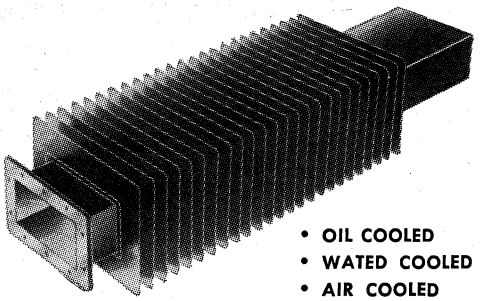

- OIL COOLED
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NEW High Power DUMMY LOADS

WAVEGUIDE AND COAXIAL

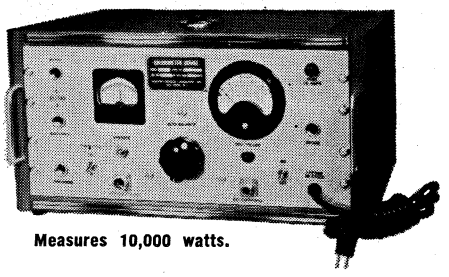
Coaxial Loads:

Up to 50 KW Average Power.
Up to 5 MW Peak Power.

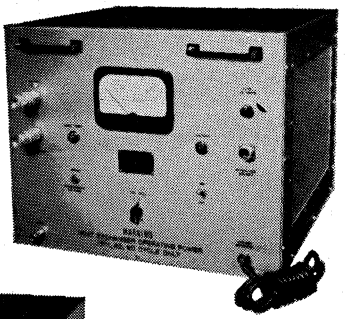
Waveguide Loads:

Up to 6,000 watts Average Power.
Up to 7 MW Peak Power.

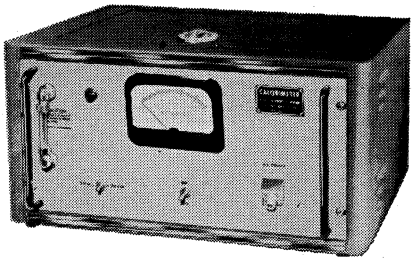
WRITE FOR NEW CATALOG AND QUOTATION ON SPECIAL DUMMY LOADS



Measures 10,000 watts.



Measures 5,000 watts.

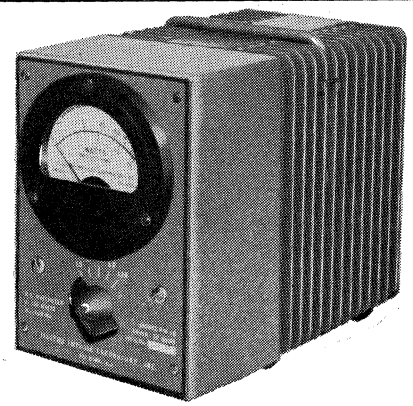


Measures 500 watts.

High & Low Power CALORIMETERS

DC—12 KMC • 1 TO 20,000 WATTS

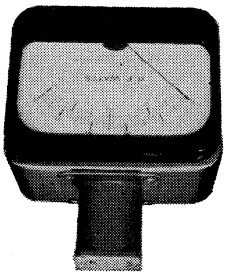
- Direct Reading
- Simple to Operate
- Uses NO Thermometers
- Uses NO Flow Meters
- Can be Calibrated in the Field



NEW! DRY CALORIMETERS

FOR ALL WAVEGUIDES
FROM 1 to 24 KMC (with Adapters)
Measures Power up to 2,000 Watts

- Direct Reading.
- Uses NO Thermometers
- Simple to operate.
- Uses NO Flow Meters.
- Does not have to be connected to power line.



Measures 5 watts full scale and 50 watts full scale. 7 to 24 KMC with Adapters.

R. F. POWER METERS

AVERAGE READING and PEAK READING

Dummy Load Crystal Voltmeter Type, Feed Through Type reading both incident and reflected power and Thermistor Bridge Type.

100 KC to 1000 MC • 1.5 Watts to 6000 watts
50, 75, 600 ohms and other impedances

These broad band R.F. power meters are of the absorption type consisting of an oil filled, air cooled, coaxial load resistor and a voltmeter calibrated to read watts. The power meter is suitable for use as a field or laboratory test instrument, is completely shielded and non-radiating, permitting transmitter testing and adjustment without interference. The meter box is easily detached, permitting location of the load resistor at a remote point. In cases where power measurements are not required the load resistor may be used as a dummy load.

High & Low Power LIQUID DUMMY LOADS

FOR CALORIMETRIC USE

COAXIAL & WAVEGUIDE

DC to 12 KMC • 1 to 20,000 watts

WRITE TODAY FOR COMPLETE INFORMATION

Electro IMPULSE Laboratory

208 RIVER STREET • RED BANK, N. J. • Phone: SHadyside 1-0404

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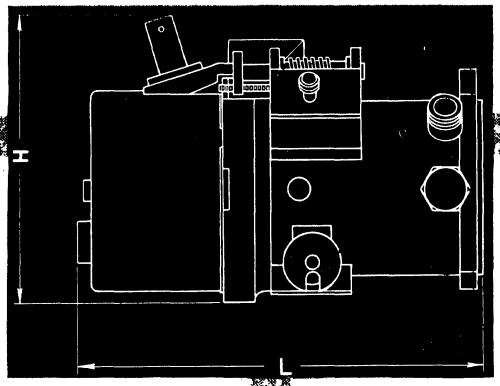
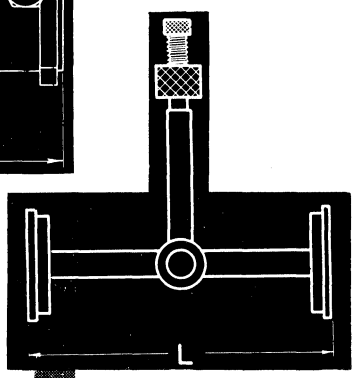
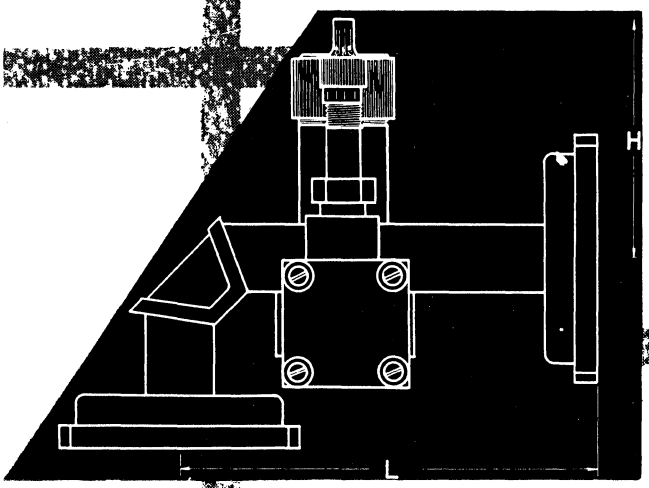
When precision microwave components are needed, engineers choose an ELSIN *component*



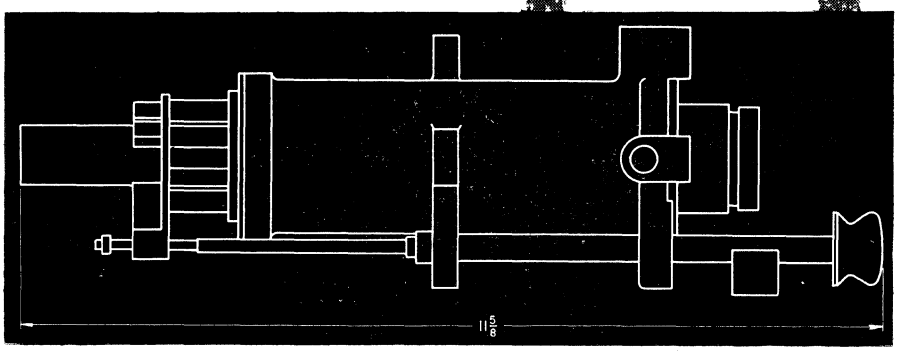
Utilizing a 2C39A triode, this versatile L band cavity can be used as a pulsed power amplifier, local oscillator or frequency meter. Elsin assures this unit's conformance to military specifications.



Used to tune out a mismatch or introduce one, this E/H Tuner does not reduce the power capability of the transmission line in which they are inserted.



With an operating frequency range of 8.2 —12.4 kmc and a 20 db attenuation, this cross guide coupler is ideal for measuring a microwave's system performance.



Having a sensitivity of better than—5dbm and a selectivity of 0.3%, this wavemeter operates at a frequency range of 1.7 —2.52 kmc.

ELSIN ELECTRONICS

EILEEN WAY
INDUSTRIAL PARK
Syosset, Long Island

Manufacturers of Precision Electronic Equipment, Power Supplies, Test Equipment, Telemetry Equipment

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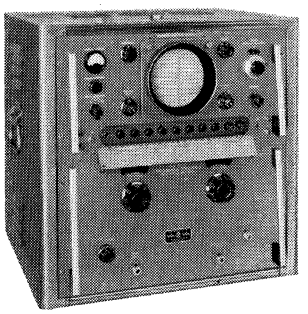
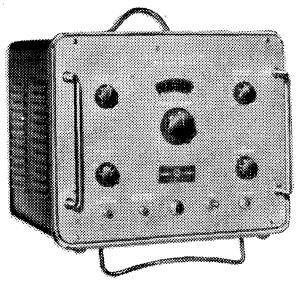
FXR MICROWAVE INSTRUMENTATION

COMING SOON... NEW PRINTED CIRCUIT STANDING WAVE AMPLIFIER.
NEW TEMPERATURE COMPENSATED POWER METER.



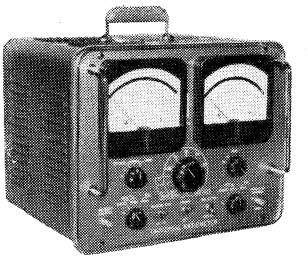
BROADBAND SPECTRUM ANALYZER, 701

Type L701A: 950 to 2000 Mc/s (Fund.)
Type S701A: 1900 to 4000 Mc/s (Fund.)
Harmonic Operation: to 16,000 Mc/s
Swept IF: 7 Kc and 50 Kc
Sweep Width: 50 Mc
RF Attenuator: 100 db Range
Video Markers



SIGNAL SOURCES, 771, 772

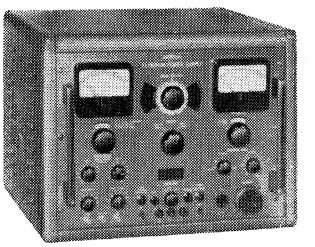
Type L771B: 950 to 2000 Mc/s
Type S771B: 1900 to 4000 Mc/s
Type C772A: 3950 to 8200 Mc/s
Type X772A: 7000 to 11,000 Mc/s
Output Power: 50 mw (average)
Direct Reading Frequency Dial: 1%
Internal Modulation: Pulsed, Square Wave, C.W.
Integral RF Level Set Attenuator



UNIVERSAL RATIOMETER, 811

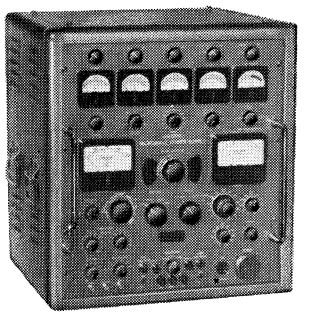
(COMBINED RATIO METER AND STANDING WAVE AMPLIFIER)

RATIO METER—1000 cps operation
VSWR Ranges: 1.02 to 1.22, 1.20 to ∞
Reflection Coefficient: .01 to .1, .1 to 1.0
Other Scales: db, Slotted Line VSWR
Standing Wave Amplifier—1000 cps operation
Range: 70 db in 10 db steps
Noise Level: .03 mv
Scales: VSWR, db, Expanded VSWR
Bolometer Bias: 4.5 and 8.75 ma
Input Impedance: 200 ohms or 200 K ohms



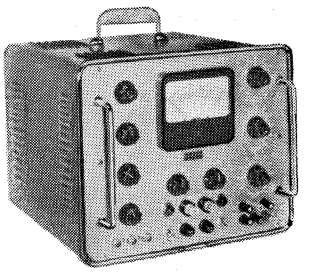
UNIVERSAL KLYSTRON POWER SUPPLY, 815

Beam: 200 to 2000 V, 125 ma max., 1800 to 3600 V, 100 ma or 250 W max.
Reflector: 0 to 1000 V
Control Grid: −300 to 0 to +150 V, 5 ma max.
Regulation: 0.03%
Ripple: 3 mv max.
Internal Reflector Modulation: Square Wave, Pulse, Sawtooth, Sine Wave



UNIVERSAL MICROWAVE POWER SUPPLY, 817

Helix or Beam: 0 to 1800 V, 125 ma max. 1700 to 3500 V, 100 ma or 250 W max.
Collector: 0 to 300 V, 100 ma max.
Anode: 0 to 600 V, 60 ma max.
G-1: 0 to 300 V, 5 ma max.
G-2 or Reflector: 0 to ±1200, 1 ma max.
G-3: 0 to ±750, 1 ma max.
G-4: 0 to ±500, 1 ma max.
Regulation: 0.03%. **Ripple:** 3 mv max.
Heater: 0 to 15 V D.C., Regulated.
Internal G-1 or G-2 Modulation: Sine Wave Square Wave, Pulse, Sawtooth



KLYSTRON POWER SUPPLY, 819

Beam: 300 to 1000 V, 85 ma max.
Reflector: 0 to 900 V, 20 μa max.
Control Grid: −300 to 0 to +150 V, 5 ma max.
Regulation: 1%
Ripple: 7 mv max.
Internal Reflector Modulation: Square Wave, Pulse, Sawtooth

FXR, Inc. formerly F-R MACHINE WORKS, Inc.

DESIGN • DEVELOPMENT • MANUFACTURE

PRECISION MICROWAVE EQUIPMENT
•
HIGH POWER MODULATORS
•
RADAR COMPONENTS
•
ELECTRONIC TEST EQUIPMENT

26-12 BOROUGH PLACE, WOODSIDE 77, N. Y.

TELEPHONE: AStoria 8-2800

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FXR WAVEGUIDE TEST EQUIPMENT

INSTRUMENT	SERIES PREFIX AND WAVEGUIDE SIZE IN INCHES													
	J 21.00x 10.501D	L 6½x3¼	R 4.460x 2.310	S 3x1½	H 2x1	C 1½x¾	W 1¼x⅝	X 1x½	Y 0.622x 0.311D	*K 0.420x 0.170D	*U 0.280x 0.140D	Q 0.224x 0.112D	M 0.148x 0.074D	E 0.122x 0.061D
	FREQUENCY RANGE IN KMC/SEC													
	0.35- 0.53	1.12- 1.70	1.70- 2.60	2.60- 3.95	3.95- 5.85	5.85- 8.20	7.05- 10.00	8.20- 12.40	12.40- 18.00	18.00- 26.50	26.50- 40.00	33.00- 50.00	50.00- 75.00	60.00- 90.00
SLOTTED SECTIONS	J104A	L101A	R101A	S101A	H101A	C101A	W101A	X101A	Y102A	K102A	U102A	Q103A	M103A	E103A
ATTENUATORS														
Flap		L150B	R150B	S151A	H151A	C151A C155A	W151A W155A	X151A X155A	Y151A	K151A	U151A	Q151A	M151A	E151A
Semiprecision Precision Calibrated		L160B	R160B	S161A	H161A	C161A	W161A W164A	X161A X164A	Y161A	K162A K164A	U162A U164A	Q162A Q164A	M162A M164A	E162A E164A
Precision Direct Reading Fixed		L168		S168	H168	C168	W168	X168	Y168					
	(Models A-3DB, B-6DB, C-10DB, D-20DB, E-30DB available for entire 168 series)													
CRYSTAL DETECTOR MOUNTS														
Tunable											U206B			
Fixed-tuned								X211A	Y205B Y212A	K205B K212A	U205B U212A	Q206B	M206B	E206B
MATCHED BOLOMETER MOUNTS				S207A	H207A	C207A	W207A	X207A						
THERMISTOR MOUNTS		L216A	R216A	S216A	H216A	C216A	W216A	X216A	Y216A	K216A	U216S			
TUNERS														
Slide screw		L310A	R310A	S311A	H311A	C311A	W311A	X311A	Y311A				M311A	
E/H				S312A	H312A	C312A	W312A	X312A	Y312B	K312B	U312B	Q312B	M312B	E312B
DIRECT READING FREQUENCY METERS														
Precision						C402A		X402A						
Reaction					H410A	C410A	W410A	X410A	Y410A	K410A	U410A			
Reaction, Micrometer												Q410X	M410X	E410X
Transmission								X411A						
TERMINATIONS														
Fixed	J501A	L501A	R501A	S501B	H501B	C501B	W501B	X501B	Y501B	K501A	U501A	Q501A	M501A	E501A
Sliding		L502A		S502A	H502A	C502A	W502A	X502A	Y502A	K502A	U502A			
STANDARD MISMATCHES				S510	H510	C510	W510	X510	Y510	K510	U510			
	(Models A-1.00, B-1.05, C-1.10, D-1.20, E-1.50 VSWR available for entire 510 series)													
WAVEGUIDE-TO-COAX ADAPTERS	J600B	L600B	R601B	S601B	H601B	C601B	W601B	X601B						
DIRECTIONAL COUPLERS														
Crossguide		L612E	R612E	S612E										
Multihole				S610	H610	C610	W610	X610	Y610	K610	U610		M610	
	(Models A-3DB, B-6DB, C-10DB, D-20DB, available for entire 610 series ; Model E-25DB available for entire 612 series)													
WAVEGUIDE TEES														
Series		L620A	R620A	S620A	H620A	C620A	W620A	X620A	Y620A	K620A	U620A	Q620A	M620A	E620A
Shunt		L621A	R621A	S621A	H621A	C621A	W621A	X621A	Y621A	K621A	U621A	Q621A	M621A	E621A
Hybrid		L622A	R622A	S622A	H622A	C622A	W622A	X622A	Y622A	K622A	U622A	Q622A	M622A	E622A
WAVEGUIDE BENDS														
90° E-plane	J623B	L623B	R623B	S623B	H623B	C623B	W623B	X623B	Y623B	K623B	U623B	Q623B	M623B	E623B
90° H-plane	J624B	L624B		S624B	H624B	C624B	W624B	X624B	Y624B	K624B	U624B	Q624B	M624B	E624B
PRECISION SLIDING SHORTS		L630A		S630A	H630A	C630A	W630A	X630A	Y630B	K630B	U630B	Q630B	M630B	E630B
STANDARD GAIN HORNS		L638A	R638A	S638A	H638A	C638A	W638A	X638A	Y638A	K638A	U638A	Q638A	M638A	E638A
SHIELDED TUBE MOUNTS					H760A		W760A	X760A			Z762B (unshielded)			
HARMONIC GENERATORS												Q780A	M780A	E780A
WAVEGUIDE STANDS		Z911A		Z910A	Z910A	Z910A	Z910A	Z910A	Z910B	Z910B	Z910B	Z910C	Z910C	Z910C

NOTES: *Specify required flanges when ordering. Bidirectional couplers available on special order. Waveguide flanges and flange screws available. Two millimeter components available on special order.

FXR COAXIAL TEST EQUIPMENT

INSTRUMENT	MODEL NO.	FREQ KMC/SEC	COMMENT
SLOTTED SECTIONS	N101A N101B *V101A *V101B	1.00-4.00 4.00-10.00 1.00-4.00 1.00-4.00	Type N or C adapter connector supplied for N101A, B.
CUTOFF ATTENUATOR	N170A	1.00-4.00	
TUNABLE PROBES	B200A B202A	1.00-12.40 0.30-1.40	1N23B supplied. 1N21B supplied.
DETECTOR MOUNTS			
Tunable	N200A	1.00-12.40	1N23B crystal
Untuned	**N210A	0.10-10.00	supplied.
FREQUENCY METER, DIRECT READING	N410A	1.00-4.00	Accuracy 0.08%

INSTRUMENT	MODEL NO.	FREQ KMC/SEC	COMMENT
DOUBLE STUB TUNER	N300A	1.00-10.00	
THERMISTOR MOUNT			
Broadband	N215A	0.50-10.50	Z215L element
Temp compensated	N217A	0.50-10.50	supplied.
COAX-TO-COAX ADAPTERS	N605A, B, C&D		
TEE	N626A		
KLYSTRON OSCILLATOR CAVITY	N750A		
KLYSTRON TUBE MOUNT	N761A		Z761P cable not supplied.

*Mating coax dim. ⅞"; all others ⅜". **Model N210B has built-in DC return.

See YELLOW SECTION for Local Offices, Telephone, etc.

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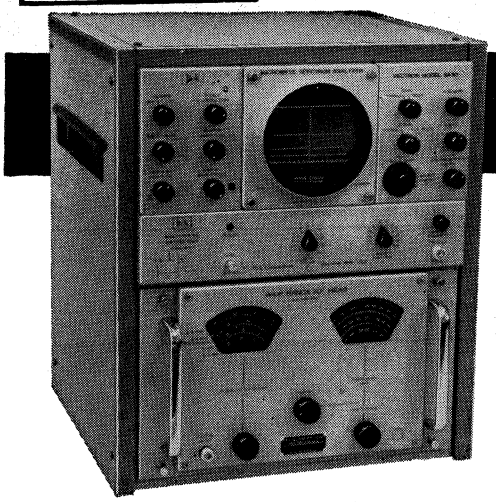


Itek MODEL SA30

MICROWAVE SPECTRUM ANALYZER

for the frequency range from . . .

2000 mc/s to 38.6 kmc/s

with fully interchangeable RF Heads

This highly sensitive precision test instrument is recommended for use in *design, manufacture, test, installation* and *maintenance* of Microwave, Radar, Altimeter, Guided Missile or Television Relay Communication and Control Equipment.

Multi-Pulse Gating Unit — Optional

When coupled with the Model SA30 Microwave Spectrum Analyzer, the Multi-Pulse Gating Unit allows analysis of the individual pulses in an RF multi-pulse train.

These Special Features give you better performance . . . greater convenience:

- Simplified control panel
- Frequency difference control
- Image check
- Separate controls for baseline intensity and displayed signal brightness
- Direct coupled deflection amplifiers for stable 2-20 cps sweep
- 40 megacycle IF amplifier with 25 kilocycle bandwidth and modified cascode low noise input stages
- Flat Face Cathode Ray Tube
- High-Normal IF Gain Switch
- Independent Regulated Klystron Power Supply with DC filament source

For complete information write for Bulletin SA30

INTERCHANGEABLE RF HEADS . . . 2000 mc/s to 38.6 kmc/s

30WR1 2,000 mc/s to 16,000 mc/s

Uses the fundamental and low order harmonics of the local oscillator. Has calibrated frequency dial for 0.75% accuracy.

25X2a 5,800 mc/s to 7,500 mc/s

30X1 8,500 mc/s to 10,500 mc/s

Use internal cavity klystrons on fundamentals. Vernier micrometer equipped wavemeter with individual calibration for 0.05% frequency accuracy.

30X5 8,500 mc/s to 9,700 mc/s

Uses internal cavity klystrons on fundamentals. Has direct frequency reading wavemeter with 0.05% accuracy.

27K1a 12.7 kmc/s to 17.7 kmc/s

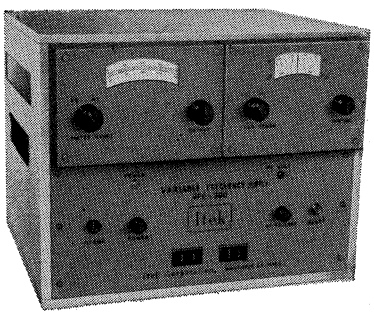
27K2a 17.8 kmc/s to 22.3 kmc/s

27KQ1 34.0 kmc/s to 38.6 kmc/s

Use external cavity klystrons and harmonic generators. Have calibrated vernier micrometer wavemeters operating at the local oscillator fundamental for 0.05% frequency accuracy.

Specify model number when requesting technical data.

MODEL VFS 300 VARIABLE FREQUENCY POWER SUPPLY



Send for Bulletin VFS 300

FOR TESTING — airborne electronic equipment and electrical systems • servo amplifiers and equipment • synchro and selsyn systems • transformers and inductors • export and foreign equipment

FOR POWERING — vibration shakers • choppers and vibrators • magnetic amplifiers

FOR CONTROLLING — processing equipment • synchronous motors

FEATURES

Compact, portable package for bench or field use . . . also available for rack mounting

All triode amplification

Full accessibility to all tubes and components

Dual negative feedback networks in the power amplifier for instantaneous control

High vacuum power output tubes

Dual output receptacles for added convenience

Itek Corporation

1559 TRAPELO ROAD
WALTHAM 54, MASS.

See YELLOW SECTION for Local Offices, Telephone, etc.

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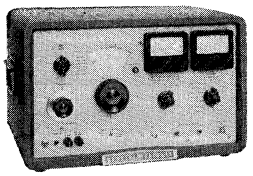
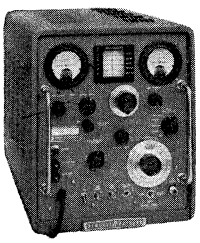
Signal Generators – 50 KC to 21 KMC

NEW! 606A Standard Signal Generator



New, ultra-modern; 50 KC to 65 MC. Output 3 v full range, continuous attenuation to 0.1 μv. MO-PA circuit with full feedback loop insures constant output full range. Low distortion, broad modulating capabilities. Typical *-hp-* speed, ease of operation; occupies ¼ bench space normally needed for generators of this frequency. $1200.00△.

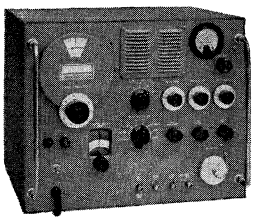
608D vhf Signal Generator



10 to 420 MC. Highest stability. No incidental FM or frequency drift. Calibrated output 0.1 μv to 0.5 v throughout range. Built-in crystal calibrator provides frequency check accurate within 0.01% each 1 and 5 MC. Master-oscillator, intermediate and output amplifier circuit design. Premium quality performance, direct calibration, ideal for aircraft communications equipment testing. $1,100.00.

***-hp-* 608C vhf Signal Generator.** High power (1 v max.) stable, accurate generator for lab or field use. 10 to 480 MC. Ideal for testing receivers, amplifiers, driving bridges, slotted lines, antennas, etc. $1000.00.

626A/628A shf Signal Generators

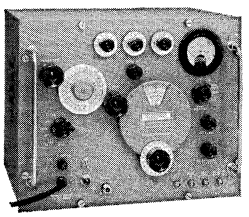


New instruments, bringing high power, wide range, convenience and accuracy to 10 to 21 KMC range. Frequencies, output voltage directly set and read. Output 10 to 20 db better than previous spot-frequency sets SWR better than 1.2 at 0 dbm and lower. Internal pulse, FM or square wave modulation; also external pulsing or FM'ing. *-hp-* 626A, 10 to 15.5 KMC, $3,250.00. *-hp-* 628A, 15 to 21 KMC, $3,250.00.

Instrument	Frequency Range	Characteristics	Price
-hp- 606A	50 KC to 65 MC	Output 0.1 μv to 3 v. Full feedback loop, low distortion	$1,200.00△
-hp- 608C	10 to 480 MC	Output 0.1 μv to 1 v into 50 ohm load. AM, pulse, or CW modulation. Direct calibration	1,000.00
-hp- 608D	10 to 420 MC	Output 0.1 μv to 0.5 v. Incidental FM 0.001% entire range	1,100.00
-hp- 612A	450 to 1,230 MC	Output 0.1 μv to 0.5 v into 50 ohm load. AM, pulse, CW or square wave modulation. Direct calibration	1,200.00
-hp- 614A	800 to 2,100 MC	Output 0.1 μv to 0.223 v into 50 ohm load. Pulse, CW or FM modulation. Direct calibration	1,950.00
-hp- 616A	1,800 to 4,000 MC	Output 0.1 μv to 0.223 v into 50 ohm load. Pulse, CW or FM modulation. Direct calibration	1,950.00
-hp- 618B	3,800 to 7,600 MC	Output 0.1 μv to 0.223 v into 50 ohm load. Pulse, CW, FM or square wave modulation. Direct calibration	2,250.00
-hp- 620A	7,000 to 11,000 MC	Output 0.1 μv to 0.223 v into 50 ohm load. Pulse, FM or square wave modulation. Direct calibration	2,250.00
-hp- 623B	5,925 to 7,725 MC	Output 70 μv to 0.223 v into 50 ohm load. FM or square wave modulation. Separate power meter and wave meter section	1,900.00
-hp- 624C	8,500 to 10,000 MC	Output 3.0 μv to 0.223 v into 50 ohm load. Pulse, FM or square wave modulation. Separate power meter and wave meter section	2,265.00△
-hp- 626A	10 to 15.5 KMC	Output 10 dbm to —90 dbm. Pulse, FM, or square wave modulation. Direct calibration	3,250.00
-hp- 628A	15 to 21 KMC	Output 10 dbm to —90 dbm. Pulse, FM, or square wave modulation. Direct calibration.	3,250.00

△ Rack mounted instruments $15.00 less.

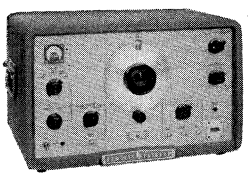
614A/616A uhf Signal Generators



Among most widely used signal generators. *-hp-* 614A, 800 MC to 2.1 KMC, *-hp-* 616A, 1.8 to 4.0 KMC. Direct reading, direct frequency set, no calibration charts, wide range. *-hp-* 614A SWR 1.6, output accuracy ± 1 db —10 dbm to —127 dbm. *-hp-* 616A, SWR 1.8, output accuracy ± 1.5 db, —7 dbm to —127 dbm. Both have constant internal impedance 50 ohms. Modulation is internal or external pulse, or FM. *-hp-* 614A or *-hp-* 616A, $1,950.00.

Swept Frequency Oscillators

686A Electronic Sweep Oscillator



Totally new kind of backward-wave device eliminating sweep motors, tuning plungers, range limitations, etc. Covers all or part of X-band with flexible, *quiet* electronic sweep. Simple to operate, direct reading, continuously adjustable sweep width and rate, 10 mw output minimum, frequency sweep linear with time. Has slow sweep for recorders; fast for oscilloscope; single sweep manually started or externally triggered, external FM, AM modulation. Ultimate in X-band sweep oscillators, $2900.00△.

Instrument	Frequency Range	Characteristics	Price
-hp- 683A	2.0 to 4.0 KMC	Electronically swept; variable sweep rate, width. Output 10 mw, SWR 2.1 or less. Pulse, square wave, FM, AM modulation	$3,000.00△
-hp- 684A	3.7 to 5.9 KMC		2,900.00△
-hp- 685A	5.2 to 8.3 KMC		2,900.00△
-hp- 686A	8.2 to 12.4 KMC		2,900.00△
-hp- 687A	12.4 to 18.0 KMC		3,400.00△

△ Rack mounted instruments $15.00 less.

Data subject to change without notice. *Prices f. o. b. factory.*

HEWLETT-PACKARD COMPANY • PALO ALTO, CALIFORNIA, U. S. A.
4801R Page Mill Road • Cable "HEWPACK" • DAvenport 5-4451

World's largest manufacturer of electronic test instruments

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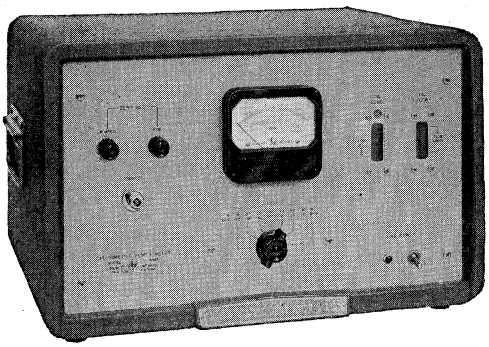
NEW! Microwave Power Measuring Equipment

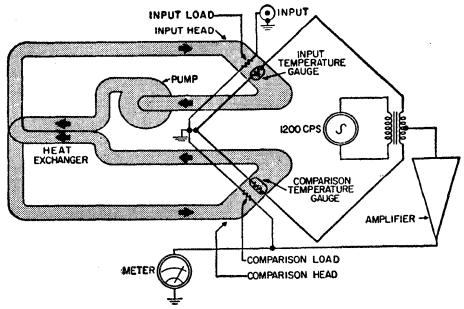


434A Calorimetric Power Meter

Just connect and read powers 10 mw to 10 watts! Covers dc to 12.4 KMC. No barretter or thermistor needed. No external terminations or plumbing. Measures CW or pulsed power. Two simple controls; no technical skill required.

New *-hp-* 434A Calorimetric Power Meter is, factually, the fastest, easiest way yet devised to measure powers accurately from 10 milliwatts to 10 watts, dc to 12.4 kilomegacycles.

With the 434A, measurement is literally as simple as connecting to the 50 ohm, type N front panel terminal and reading power directly. Thus the instrument is particularly suited for use by non-technical people.



Circuitry, *-hp-* 434A

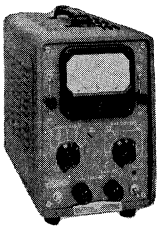
Compact, self-contained

-hp- 434A fills the range between bolometer microwave power meters (such as the popular *-hp-* 430C, below) and conventional calorimeters for powers above 10 watts. But unlike previous cumbersome equipment suggested for its range, the new *-hp-* 434A is compact, moderate in cost, completely self-contained, and needs no detectors or external plumbing whatsoever.

Brief Specifications

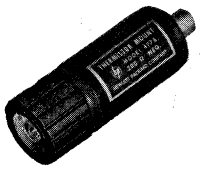
Input Power Range: 7 ranges; full scale readings 0.01 to 10 watts
Frequency Range: dc to 12.4KMC
dc Input Impedance: 50 ohms ± 5 ohms at input jack
Input SWR: Less than 1.7 full range
Meter Response (full scale): Less than 5 sec
Controls: Zero Set, Meter Range
Accuracy: Within 5% of full scale
Price: $1,115.00 (cabinet); $1,100.00 (rack mount)

430C Microwave Power Meter



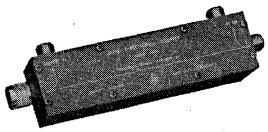
No computations! Provides instantaneous, automatic power readings *direct* in dbm or mw at all frequencies for which there are suitable bolometer mounts. For CW measurements, uses either 1/100 amp. fuse or Sperry 821 barretter. Also measures CW or pulsed power with negative coefficient thermistor. Provides up to 16 ma bias current. Operates with all mounts in adjacent table. Range 0.02 to 10 mw. $250.00.

477B Coaxial Thermistor Mount



For frequency range 10 MC to 10 KMC. SWR less than 1.5. Thermistor element is 200 ohm negative. No tuning required; not susceptible to burnout. $75.00 (including thermistor).

764D-767D Dual Directional Couplers



New high directivity dual coaxial couplers make reflectometer measurements practical in vhf and uhf coax systems. Flat response, high power capacity, low insertion loss. Four models, covering 216 to 4,000 MC collectively. 764D/765D $160.00. 766D/767D $150.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 430C Microwave Power Meter	Measurement of rf power	Depends on Bolometer Mount	0.02 to 10 mw ±5% accuracy	$ 250.00
-hp- 434A Calorimetric Power Meter	Measurement of rf power	dc to 10 KMC	Direct reading, no barretters, thermistors or terminations; CW, pulsed	1,115.00△
-hp- 475B Tunable Bolometer Mount	Measurement of rf power (with 430B/C)	1,000 to 4,000 MC	Matches 50 ohm line to 100 or 200 ohms	225.00
-hp- 476A Universal Bolometer Mount	Measurement of rf power (with 430B/C)	10 to 1,000 MC	No tuning required SWR less than 1.25	85.00
-hp- 477B Coaxial Thermistor Mount	Measurement of rf power (with 430C)	10 MC to 10 KMC	No tuning required SWR less than 1.5	75.00
-hp- 485 Waveguide Detector Mount	Measurement of rf power	2,600 to 18,000 MC	Full coverage of waveguide band	See Table Waveguide Equipment
-hp- 487B Waveguide Thermistor Mount	Measurement of rf power	3,950 to 26,500 MC	Full coverage, no tuning, 1.5 SWR except K487B 2.0	See Table Waveguide Equipment
-hp- 764D Dual Directional Coupler	Reflectometer and rf power measurements	216 to 450 MC	Coupling attenuation* 20 db, directivity 30 db	160.00
-hp- 765D Dual Directional Coupler	Reflectometer and rf power measurements	450 to 945 MC	Coupling attenuation* 20 db, directivity 30 db	160.00
-hp- 766D Dual Directional Coupler	Reflectometer and rf power measurements	940 to 1,975 MC	Coupling attenuation* 20 db, directivity 26 db	150.00
-hp- 767D Dual Directional Coupler	Reflectometer and rf power measurements	1,900 to 4,000 MC	Coupling attenuation* 20 db, directivity 26 db	150.00

*Power handling capacity all 764/767 series couplers 50 watts CW, 10 Kw peak.

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World's largest manufacturer of electronic test instruments

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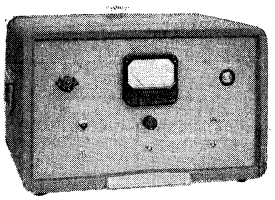
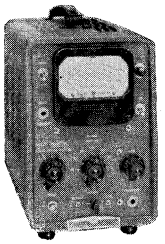
Microwave Impedance Measuring Equipment



hp 416A Ratio Meter

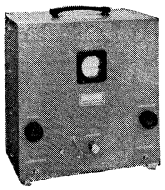
Automatically combines forward and reverse signals and displays their ratio directly, irrespective of amplitude variations. Contains rf power monitor indicating proper power level. Rear terminal signal available to operate oscilloscope or recorder. Suitable for single and swept frequency operation. $475.00△.



hp 415B Standing Wave Indicator

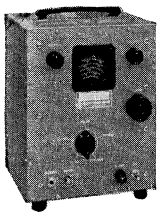
For all waveguide and coaxial slotted sections. Gives readings in SWR or db. Single frequency operation; 315 to 2,000 cps. Low noise level, 0.1 μv (full scale) sensitivity, 60 db. calib. attenuator. $200.00.

hp 803A VHF Bridge



Provides direct impedance measurements in vhf range, 2 to 2,000 ohms, −90° to +90° phase angle. Wide frequency range 52 to 500 MC; makes measurements down to 5 MC and up to 1,000 MC. Fast, simple to use. $800.00.

hp 417A VHF Detector

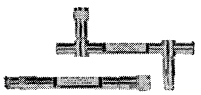


Super-regenerative (AM) receiver covering all frequencies from 10 to 500 MC in 5 bands. Designed for use with *-hp-* 803A Bridge. 5 μv sensitivity full range. Single frequency control, reads direct in MC. $350.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 360A-D Low Pass Filters	Eliminates harmonic voltages from uhf systems	Cut-off frequencies A- 700 MC C-2,200 MC B-1,200 MC D-4,100 MC	50 db rejection at 1.25 cutoff freq.	$ 40.00
-hp- 415B Standing Wave Indicator	SWR indicator or null indicator	315 to 2,000 cps. Normal freq. 1,000 cps	0 to 70 db attn. Max. sensitivity 0.1 μv	200.00
-hp- 416A Ratio Meter	Reflection coefficient measurements	1,000 cps ±40 cps	Continuous swept frequency presentation; accuracy ±3%	475.00△
-hp- 417A vhf Detector	vhf bridge detector (for *-hp-* 803A)	10 to 500 MC	Approx. 5 μv sensitivity	350.00
-hp- 803A vhf Bridge	Measurement of vhf impedance, SWR	52 to 500 MC	2 to 2,000 ohms impedance —90° to +90° phase angle	800.00
-hp- 805A Coaxial Slotted Section	Measurement of SWR	500 to 4,000 MC	For Type N Connectors flexible cables	450.00
-hp- 805B Coaxial Slotted Section	Same as above	Same as above	For rigid 7/8" RG44/U line	450.00
-hp- 806B Coaxial Slotted Section	Same as above (mounts in 809B)	3,000 to 12,000 MC	For Type N Connectors flexible cables	200.00
-hp- 809B Universal Probe Carriage	G, J, H, X and P 810 Waveguide Sections Supports 806B section, also		Accepts 442B, 444A probes	160.00
-hp- 814B Universal Probe Carriage	Supports K and R 815B Waveguide Slotted Sections		Accepts Untuned Probe 446B	200.00

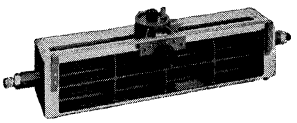
△ Rack mounted instruments $15.00 less.

hp 360 Low Pass Filters



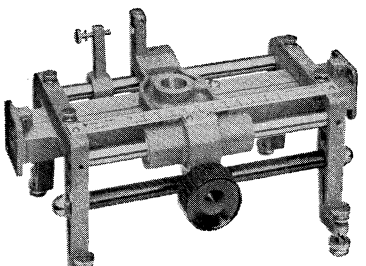
Isolating filters which speed microwave measurements by eliminating harmonics, permitting transmission at single, known frequency only. Particularly necessary in slotted line, filter characteristic, receiver response, similar measurements. Table above gives cut-off frequency; insertion loss not over 3 db; nominal impedance 50 ohms. *-hp-* 360A, B, C or D, $40.00.

hp 805A/B Slotted Lines

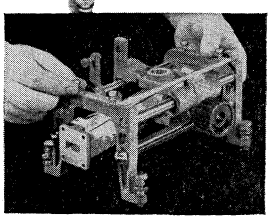


Exclusive *-hp-* "parallel-plane" design insures utmost mechanical rigidity, less leakage, greater accuracy, low SWR of 1.02 or 1.04 (depending on model). Range 500 MC to 4 KMC, reads in cm and mm to 0.1 mm. *-hp-* 805A, for 50 ohm Type N use, *-hp-* 805B, for 46.3 ohm RG 44/U stub supported 7/8" O.D. coax. *-hp-* 805A/B, $450.00.

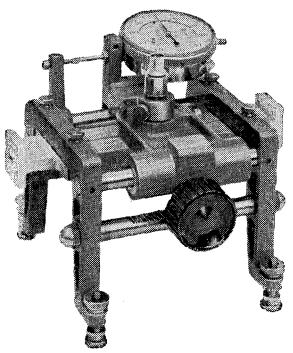
hp 809B/814B Universal Probe Carriages



-hp- 809B



Quick, easy waveguide interchange



-hp- 814B

Models 809B and 814B are precision built mechanical assemblies operating, respectively, with *-hp-* 810B and 815B series slotted sections.

Combination of the 809B carriage and 810B slotted sections covers 2.6 to 18.0 KMC. Combination of 814B carriage and 815B series sections covers 18.0 to 40.0 KMC.

On either carriage, waveguides can be interchanged in seconds for real savings on engineering time. Only one probe is required for each carriage to cover full frequency range. Manufacture is of highest quality to assure positive mechanical positioning of interchangeable waveguides and precise installation of mating *-hp-* probes (see page 12). *-hp-* 809B has a vernier scale reading to 0.1 mm and is equipped for dial gauge mounting. *-hp-* 814B has a cylindrical dial which may be read directly to 0.1 mm and interpolated at 0.01 mm.

-hp- 810B Slotted Sections. *-hp-* 810B, for mounting in 809B carriage, is a flanged, waveguide section with accurately machined slot. Slot is tapered at ends to minimize reflection. Available in 5 waveguide bands, 3.95 through 18.0 KMC.*

-hp- S810A. Complete slotted section assembly including probe carriage. In 2.6 to 3.95 KMC (S-band) size only.*

-hp- 815B Slotted Sections. For mounting in 814B carriage. Available K and R bands, 18.0 to 40.0 KMC. These sections are accurately machined so that they are quickly and easily interchanged, and precisely positioned.*

*For prices, see table next page.

See page 905 for hp Sales and Service Representatives in

Albuquerque, New Mexico; Asbury Park, N. J.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Bridgeport, Conn.; Camp Hill, Penna.; Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; Denver, Colo.; Detroit, Mich.; Englewood, N. J.; Fort Myers, Fla.; High Point, N. C.; Houston, Texas; Huntsville, Ala.; Indianapolis, Ind.; Kansas City, Mo.; Las Cruces, New Mexico; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Penna.; Phoenix, Ariz.; Pittsburgh, Penna.; Portland, Ore.; Poughkeepsie, N. Y.; Rochester, N. Y.; Sacramento, Calif.; Salt Lake City, Utah; San Diego, Calif.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; St. Paul, Minn.; Syracuse, N. Y.; Toronto, Ontario; Tucson, Ariz.; Vancouver, British Columbia; Vestal, N. Y.; Washington, D. C.; Winnipeg, Manitoba.

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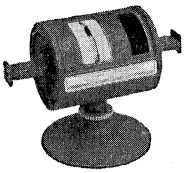
Waveguide Test Equipment—2.6 to 40.0 KMC

Basic, low-cost elements offer utmost flexibility for assembly of exact instrumentation required. Each unit covers entire range of its waveguide size. Careful engineering, simple, sturdy mechanical design, highest quality manufacture insures accurate, multi-purpose operation.

Instrument	Coaxial Type N Conn.	"S" 3" x 1½" 2.6 - 3.95 KMC	"G" 2" x 1" 3.95 - 5.85 KMC	"J" 1½" x ¾" 5.2 - 8.2 KMC	"H" 1¼" x ⅝" 7.05 - 10.0 KMC	"X" 1" x ½" 8.2 - 12.4 KMC	"P" .702"x.391" 12.4 - 18.0 KMC	"K" .500"x.250" 18.0 - 26.5 KMC	"R" .360"x.220" 26.5 - 40.0 KMC
Adapter, Waveguide to Coax		S281A $50	G281A $40	J281A $35	H281A $30	X281A $25			
Cover to Choke Flange		S290A $65	G290A $50	J290A $35	H290A $30	X290A $15	P290A $25		
Attenuators, Fixed 3, 6, 10, 20 db		S370A $75	G370A $75	J370A $65	H370A $60	X370A $55	P370A $60	K370A $85	R370A $95
Flap, 25 db max.		S375A $120	G375A $110	J375A $100	H375A $90	X375A $90	P375A $100	K375A $140	R375A $180
Calibrated, precision		S380A $260	G382A $500	J382A $350	H382A $350	X382A $275	P382A $275	K382A $425	R382A $450
Detector Mounts	420A $50				H421A $95	X421A $75	P421A $95		
	420B $75								
	440A† $85								
		S485D° $170	G485D $170°	J485D° $170					
		S485A‡ $140	G485B† $95	J485B† $90	H485B† $85	X485B† $75			
Thermistor Mounts (Fixed tuned)■	477B $75		G487B $95	J487B $90	H487B $80	X487B $75	P487B $110	K487B $150	R487B $225
Frequency Meters, Reaction				J530A/B**	H530A $120	X530A $120	P530A $150		
Waveguide						X532A $150	P532A $210	K532A $230	R532A $250
Directional Coupler, Cross Guide: 20, 30 db		S750 $150	G750 $120	J750 $80	H750 $70	X750 $50			
Directional Couplers, Multi Hole: 3, 10, 20 db		S752 $375	G752 $250	J752 $140	H752 $120	X752 $100	P752 $115	K752 $175	R752 $200
Slotted Sections, Waveguide		S810A* $450	G810B§ $110	J810B§ $110	H810B§ $110	X810B§ $90	P810B§ $110		
Slotted Sections, Waveguide								K815B $265	R815B $265
Tuners, Slide Screw		S870A $225	G870A $185	J870A $150	H870A $130	X870A $125	P870A $130	K870A $140	R870A $140
E-H						X880A $130	P880A $150		
Waveguide Phase Shifter				J885A $450		X885A $350	P885A $400		
Terminations, Low Power		S910A $60	G910A $50	J910A $35	H910A $30	X910B $25	P910A $30		
Terminations, High Power		S912A $160				X912A $50			
Moving Load		S914A $100	G914A $75	J914A $70	H914A $60	X914B $50	P914A $55	K914B $250	R914B $250
Standard Reflections						X916 $100			
Adjustable Shorts		S920A $100	G920A $70	J920A $60	H920A $50	X920A $40	P920A $55	K920A $140	R920A $150
Waveguide Shorting Switch						X930 $100			
Broad Band Probe	442B§ $40				All frequencies				
Broad Band Probe, Untuned			444A $40 2.4 to 18.0 KMC				446B $145 18.0 to 40 KMC		
Waveguide Clamps, Stands		Model 24 stand, $3.00				Model 25 clamps, $2.50 each, all bands			

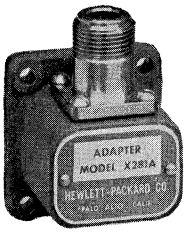
†For use with barretter or crystal. ‡For use with barretter only. *Complete assembly including carriage. §Mounts in 809B Carriage.
■ Includes Thermistor, installed. **J530A, 5.85 to 8.2 KMC, $120; J530B, 5.20 to 7.05 KMC, $150. ° Includes barretter; checked for square law characteristics.

NEW! 382A Precision Attenuators



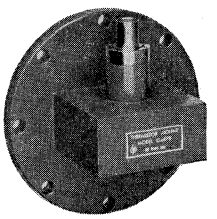
Previously offered for frequencies 3.95 through 18.0 KMC, popular *-hp-* 382A series precision attenuators are now available in "K" and "R" bands, 18.0 to 40.0 KMC. "K," "R" band attenuators are of new, space-saving design (see photo). Direct reading, one-control tuning, high power handling capacity. Attenuation 0 to 50 db full range, independent of frequency. Phase shift constant with attenuation. For prices G, J, H, X and P382A, see table above. *-hp-* K382A, $425.00. *-hp-* R382A, $450.00

281A Waveguide - Coax Adapters

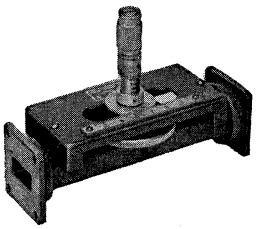


For convenient transition between waveguide and coax systems. Each unit covers a full waveguide range with SWR less than 1.25. Type N coax plug, AN waveguide flange. For S, G, J, H and X bands, 2.6 to 12.4 KMC. $25.00 to $50.00.

487B Thermistor Mounts

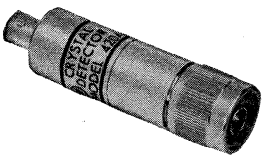


For fast, accurate waveguide power measurements. Each unit covers full range of its waveguide frequency. No tuning needed, SWR 1.5 max., except K487B, SWR 2.0 max. Max. power 10 mw. Rugged construction, high temperature coefficient thermistors virtually eliminate burnout. For G, J, H, X, P, K and R bands, 3.95 to 40.0 KMC. $75.00 to $225.00.



870A Slide Screw Tuners

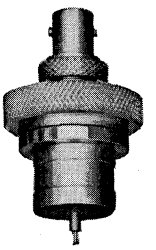
For flattening waveguide systems, matching, etc. Probe position and penetration adjusts to set up SWR cancelling existing SWR. Precision lead screw or micrometer varies probe insertion; vernier adjusts probe position. Corrects SWRs of 20 with accuracy of 1.02 SWR. For S, G, J, H, X, P, K, R bands, 2.6 to 40.0 KMC. $125.00 to $225.00.



420A/B Crystal Detectors

Employs a silicon crystal to detect rf signals in Type N coaxial lines. Covers frequencies 10 MC to 12.5 KMC, sensitivity approx. 0.01 v/0.1 mw, frequency response ±3 db full range. Uses modified 1N26 crystal, max. SWR 3. $50.00 each. Also available in matched pairs as *-hp-* 420B, $150.00 pair.

444A/446B Untuned Probes



-hp- 444A is modified crystal (1N76 or 1N26) plus small antenna in convenient housing. Probe penetration easily variable; may be locked in position. No tuning needed; sensitivity superior to most elaborate single or double tuned probes. Range 3.0 to 18 KMC; fits ¾" bore. *New -hp- 446B,* for *-hp-* 814 Probe Carriage, similar but covers K and R bands, 18.0 to 40.0 KMC. *-hp-* 444A, $35.00. *-hp-* 446B, $145.00.

HEWLETT-PACKARD COMPANY • PALO ALTO, CALIFORNIA, U. S. A.
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World's largest manufacturer of electronic test instruments

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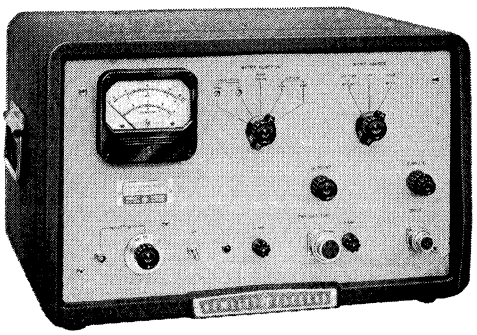
NEW! hp Noise Measuring Equipment



hp 340B/342A Noise Figure Meters

Receiver and component alignment jobs that once took skilled engineers a full hour are now done in 5 minutes by a semi-skilled worker. Receiver performance can often be improved over the best adjustment previously possible. Improvement in receiver performance often equals doubling transmitter output. Since accurate alignment is easy, equipment is better maintained and peak performance enjoyed regularly.

Above are some of the time-saving, cost-cutting advantages of new *-hp-* noise figure measuring equipment including new Models 340B and 342A Noise Figure Meters and a variety of coaxial and waveguide noise sources.

Model 340B Noise Figure Meter automatically measures and continuously displays IF or rf amplifier noise figure at either 30 or 60 MC. Other frequencies from 10 to 60 MC on special order.

Model 342A Noise Figure Meter is similar to Model 340B except that it operates on five frequencies, 30, 60, 70, 105, and 200 MC. 30 MC and four other frequencies between 38 and 200 MC on special order.

Brief Specifications

Frequency Range: Depends on noise source
Noise Figure Range: 3 to 30 db to ∞ with waveguide noise source
0 to 15 db to ∞ with IF noise source
Accuracy: ± 0.5 db, 10 to 25 db; ± 1 db, 3 to 30 db, waveguide noise source
± 0.5 db, 0 to 15 db, IF noise source
Required Rcvr or rf Amplifier Gain: Approx. 40 db minimum (Waveguide Voice Source)
Approx. 50 db minimum (IF Noise Source)
Input Frequency: 30 or 60 MC, selected by switch
Bandwidth: 1 MC minimum
Input Impedance: 50 ohms
Price: *-hp-* 340B, $715.00△; *-hp-* 342A, $815.00△.

hp 343A vhf Noise Source

For IF and rf amplifier measurement. Temperature-limited diode broadband source operating at frequencies 10 to 600 MC. Excess noise 5.2 db, 50 ohms impedance. $75.00.

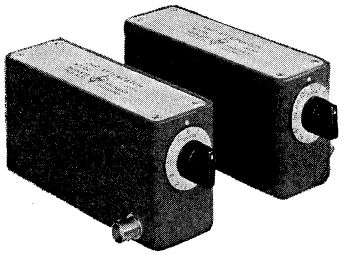
hp 345B IF Noise Source

Operates at either 30 or 60 MC. Frequency selector switch; other frequencies between 10 and 60 MC on special order. Separate switch matching 50, 100, 200 and 400 ohm lines. Excess noise 5.2 db. Temperature limited diode instrument. $75.00.

hp 347A Waveguide Noise Source

Argon gas discharge tubes mounted in waveguide section. Models cover all waveguide frequencies 2.6 through 18.0 KMC; S, G, J, H, X and P bands. Excess noise level approximately 15.2 db; noise level uniform even when instrument is cold. $180.00 to $190.00.

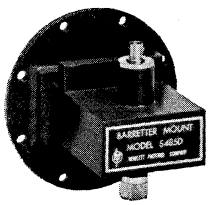
NEW! hp 355A/B Attenuators – 0 to 132 db



Here are two completely new design 50 ohm attenuators providing, together, 0 to 132 db attenuation in 1 db steps from dc to 500 MC! *-hp-* 355A provides 0 to 12 db attenuation in 1 db steps; *-hp-* 355B provides 0 to 120 db attenuation in 10 db steps. One simple control for each attenuator; overall full range accuracy is ± 0.25 db for *-hp-* 355A. For *-hp-* 355B, accuracy is ± 1 db to 250 MC; ± 2 db to 500 MC. Nominal impedance is 50 ohms, maximum SWR is 1.2 to 250 MC, 1.5 to 500 MC. Maximum insertion loss is 0 at dc, 0.4 db at 60 MC, 1 db at 250 MC and 1.5 db at 500 MC. Power dissipation is 0.5 watt average, 350 volts peak. The attenuators use BNC connectors. *-hp-* 355A or 355B, $125.00.

More hp equipment, available for most waveguide frequencies

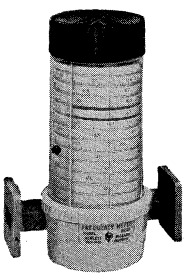
hp 485 Detector Mounts



Three basic series offered; *S485A* for S band (no tuning, 1.35 SWR, 821 element); *485B,* for G, J, H, X bands (tunable, 1.25 SWR full range, 1N23, 1N21 or 821 element); *485D* for S, G, J bands (factory-installed 821 barretter). $75.00 to $170.00.

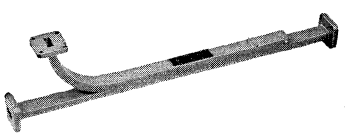
△ Rack mount instrument $15.00 less.

hp 532A Waveguide Frequency Meters



New design for P, K, R bands. Wide band, direct reading, no interpolation or charts. Comprises a high Q resonant cavity tuned by choke plunger; no sliding contacts. Transmits almost full power at resonance; resonance indicated by 1.5 db dip in output. Precision tuning mechanism; no back-lash. Also similar model for X-band. $150 to $250.

hp 752 Multi-Hole Couplers



Precision directional couplers available in 3 models with coupling factors of 3, 10 and 20 db. Coupling accuracy ± 0.4 db except K, R bands which are ± 0.7 db. Directivity better than 40 db full range, coupling variation not over ± 0.5 db full range. Primary guide SWR less than 1.05. S, G, J, H, X, P, K, R bands, 2.6 to 40.0 KMC. $75.00 to $375.00.

See page 905 for hp Sales and Service Representatives in

Albuquerque, New Mexico; Asbury Park, N. J.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Bridgeport, Conn.; Camp Hill, Penna.; Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; Denver, Colo.; Detroit, Mich.; Englewood, N. J.; Fort Myers, Fla.; High Point, N. C.; Houston, Texas; Huntsville, Ala.; Indianapolis, Ind.; Kansas City, Mo.; Las Cruces, New Mexico; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Penna.; Phoenix, Ariz.; Pittsburgh, Penna.; Portland, Ore.; Poughkeepsie, N. Y.; Rochester, N. Y.; Sacramento, Calif.; Salt Lake City, Utah; San Diego, Calif.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; St. Paul, Minn.; Syracuse, N. Y.; Toronto, Ontario; Tucson, Ariz.; Vancouver, British Columbia; Vestal, N. Y.; Washington, D. C.; Winnipeg, Manitoba

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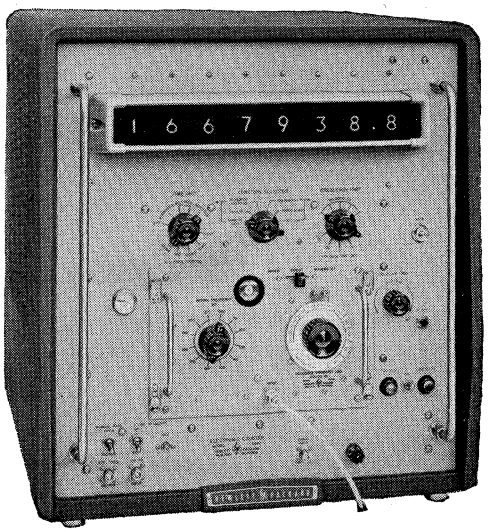
NEW! hp 524C Precision Electronic Counter



Bright, big-number readout
New stability—3 parts in 10^8 short-term
Direct, instantaneous, automatic readings
Covers frequencies 10 cps to 220 MC*
Measures time interval 1 μsec to 100 days
Measures period 0 cps to 10 KC
Resolution 0.1 microseconds
No calculation or complex setup
Easily used by non-technical personnel
High, sensitivity, impedance, reliability

* With proper plug-ins.

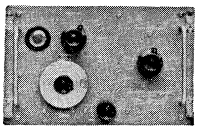
New big-number readout, and new crystal oscillator stability of 5 parts in 10^8 per week—these are significant advances incorporated into new *-hp-* 524C Electronic Counter.

The new 524C permits you to buy only the basic counting facilities you need now—later on add inexpensive plug-ins to triple and quadruple the usefulness of your counter.

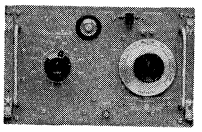
The basic *-hp-* 524C reads frequency 10 cps to 10 MC over 5 selected periods. Display time is variable, counts are automatically reset, action is repetitive, readings are direct without calculation or interpolation; an automatic illuminated decimal point is included.

The instrument is of highest quality throughout and employs a military design approach. *-hp-* 524C, less plug-ins, $2,300.00 (cabinet); $2,275.00 (rack mount). *-hp-* also offers Model 524D, similar but with 8 vertical readout units, at lower price.

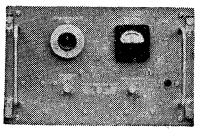
5 PLUG-IN UNITS INCREASE FLEXIBILITY, USEFULNESS FOR MANY MEASUREMENTS



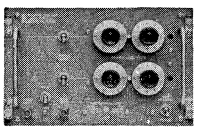
-hp- 525A Frequency Converter. Extends 524's direct reading range to cover 10 cps to 100 MC with no loss in accuracy. Provides additional amplification to increase video sensitivity to 0.1 v through 524's basic 10 cps to 10.1 MC range. $250.00.



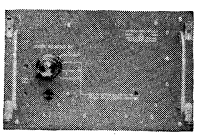
-hp- 525B Frequency Converter. Converts *-hp-* 524 for direct readings 100 to 220 MC in decade steps. Maintains same high accuracy throughout range; provides high sensitivity for low level work. $250.00.



-hp- 526A Video Amplifier. Increases 524 sensitivity to 10 mv for low power frequency measurement 10 cps to 10.1 MC. Accuracy same as counter; minimum input 10 millivolts rms. $175.00.



-hp- 526B Time Interval Unit. Permits 524 to measure interval 1.0 μsec to 100 days with accuracy of 0.1 μsec ± 0.0001%. Reads in sec, msec or μsec. Triggering from separate "stop" or "start" on pos. or neg. going waves. Trigger adjustable −192 to + 192 volts. $175.00.



-hp- 526C Period Multiplier. Permits 524 to measure period over 100, 1,000 or 10,000 cycles of unknown, thus providing the greater accuracy of mid-range frequency readings. Front panel switch selects desired period. $225.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 524B Frequency Counter	Frequency, period measurements	10 cps to 10 MC (Freq.) 0 cps to 10 KC (Period)	Direct reading, no interpolation; stability about 2/1,000,000/week	$2,150.00■
-hp- 524C Frequency Counter	Frequency, period measurements	10 cps to 10 MC (Freq.) 0 cps to 10 KC (Period)	Direct reading, no interpolation; stability about $5/10^8$ per wk	2,300.00■
-hp- 524D Frequency Counter	Frequency, period measurements	10 cps to 10 MC (Freq.) 0 cps to 10 KC (Period)	Direct reading, no interpolation; stability $5/10^8$ per wk	2,150.00■
-hp- 525A Frequency Converter	Extends 524 range to 100 MC; increases basic sensitivity	10 cps to 100 MC	Accuracy ±1 cps ± stability; 0.1 v rms min. input	250.00
-hp- 525B Frequency Converter	Extends 524 range from 100 to 220 MC; high sensitivity	100 MC to 220 MC	Accuracy ±1 cps ± stability; 0.2 v rms min. input	250.00
-hp- 526A Video Amplifier	Increases 524 sensitivity to 10 millivolts	10 cps to 10.1 MC	Accuracy same as basic counter; 10 mv rms min. input	175.00
-hp- 526B Time Interval Unit	Measures interval 1 μsec to 100 days	1 μsec to 10^7 sec	Accurate 0.1 μsec ±0.0001%	175.00
-hp- 526C Period Multiplier	Period measurement	Extends range of 524 to measure 10,000 periods	Greater accuracy in period measurement	225.00

■ Rack mounted instrument $25.00 less.

HEWLETT-PACKARD COMPANY • PALO ALTO, CALIFORNIA, U. S. A.
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World's largest manufacturer of electronic test instruments

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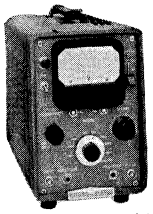
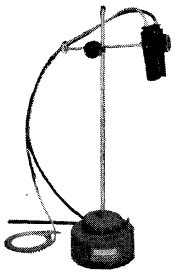
Other hp Frequency Measuring and Monitoring Equipment

hp 500B/C Frequency Meters



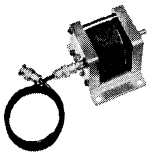
Directly measures frequency of voltages 3 cps to 100 KC; expanded scale allows any 10% or 30% of range to be measured full scale. Sensitivity 0.2 v rms (sine waves) 1 v peak for pulses. Input impedance 1 megohm with 40 μμf shunt; accuracy independent of line voltage changes. Also available as *-hp-* 500C, calibrated for direct reading in rpm. *-hp-* 500B/C, $285.00.

hp 506A Optical Tachometer Pickup



Versatile, flexible light source and pickup for use as a transducer with *-hp-* 521A/C, 500B/C, etc. Measures 300 to 300,000 rpm (beyond with amplified output); normal output at least 1 v rms into 1 megohm or greater impedance. Light source 21 cp 6 v bulb; Type 1P41 phototube, phototube bias 70 to 90 v dc (supplied from *-hp-* 500B/C, 521 A/C). *-hp-* 506A, $125.00.

hp 508A–D Tachometer Generators

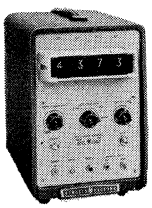


Rotating speed transducers used with electronic counters or frequency meters for simple, accurate measurements from 15 to 40,000 rpm (or beyond with amplifier) *-hp-* 508A provides 60 output pulses per shaft revolution; *-hp-* 508B, C, D provide 100, 120 and 360 pulses/rev respectively. Output voltage increases linearly with shaft speed to 5,000 pps. Running torque approx. 0.15 in. oz.; peak starting torque approx. 4 in. oz. *-hp-* 508A, B, C or D, $100.00.

Instrument	Primary Uses	Frequency Range	Characteristics	Price
-hp- 100D Secondary Standard	Frequency, time measurements	100 KC, 10 KC, 1 KC, 100 cps, 10 cps	Stability 1/1,000,000 (short-time). Sine or rectangular output. Marker pips	$ 750.00△
-hp- 335ER TV Monitor	Aural and visual carrier monitoring; black and white or color	Channels 2 to 83	Aural deviation ±3 KC; video deviation ±3 KC; accuracy ±500 cps approx.	2,050.00
-hp- 500B Electronic Frequency Meter	Rapid frequency measurements	3 cps to 100 KC	9 ranges ±2% accuracy. Input 0.2 to 250 volts	285.00
-hp- 500C Electronic Tachometer Indicator	Rpm measurements	180 to 6,000,000 rpm	Similar to 500B but calibrated in rpm	285.00
-hp- 506A Optical Tachometer Pickup	Rps and rpm measurement	300 to 300,000 rpm	Phototube and light source; output 1 v rms	125.00
-hp- 508A Tachometer Generator	Shaft speed measurement	15 to 40,000 rpm	Output 60 cycles per revolution	100.00
-hp- 508B Tachometer Generator	Shaft speed measurement	15 to 30,000 rpm	Output 100 cycles per revolution	100.00
-hp- 508C Tachometer Generator	Shaft speed measurement	15 to 25,000 rpm	Output 120 cycles per revolution	100.00
-hp- 508D Tachometer Generator	Shaft speed measurement	15 to 5,000 rpm	Output 360 cycles per revolution	100.00
-hp- 520A Nuclear Scaler	For counting high-rate pulses	Capacity 100 counts in 2 decades. 10,000,000 pps counting rate	100:1 divider for operation of low speed scalers	615.00△
-hp- 521A Industrial Electronic Counter	Measure frequency, speed	1 cps to 120 KC	Direct reading, accurate within ±1 count ±0.1%, 4 place registration	475.00
-hp- 521C Industrial Electronic Counter	Measure frequency, speed	1 cps to 120 KC	Direct reading, accuracy within ±1 count ±0.01%, 5 place registration	650.00
-hp- 521D Industrial Electronic Counter	Measure frequency, speed	1 cps to 120 KC	Direct in-line readout accuracy within ±1 count ±0.01%	Price on request
-hp- 522B Electronic Counter	Frequency, period, time interval measurements	10 cps to 120 KC	Direct reading, accuracy ±1 count ±0.001%	915.00△
*-hp-*523B Electronic Counter	Frequency, period, time interval	10 cps to 1.1 MC	Direct reading, accuracy ±1 count ±2/1,000,000	1,245.00
-hp- 523DR Electronic Counter	Frequency, period, time interval	10 cps to 1.2 MC	Direct reading, accuracy ±1 count ±2/1,000,000	Price on request

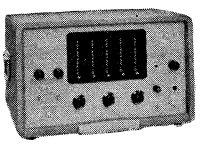
△ Rack mounted instruments $15.00 less.

hp 521A/C/D Industrial Counters



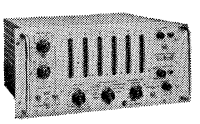
Low cost, simple operation, almost limitless uses characterize *-hp-* 521A/C/D Industrial Counters. *-hp-* 521A measures speed, rpm, rps, frequency, random events per unit of time; with proper transducers also measures weight, pressure, temperature, acceleration, etc. *-hp-* 521A reads direct in cps, rpm and rps; display is variable 0.1 to 15 seconds or "hold." Frequency range 1 cps to 120 KC, accuracy ± 1 count ± accuracy of built-in 60 cps timing frequency (usually ± 0.1%); input min. 0.2 v rms; input attenuator adjusts sensitivity 0.2 to 100 v rms, input impedance 1 megohm with 50 μμf shunt, gate time 0.1 and 1 sec, also Manual Gate. *-hp-* 521C same as 521A except has greater accuracy, crystal controlled time base and 5-place (instead of 4-place) registration with count capacity of 99,999. *-hp-* 521D same as 521A except has in-line readout in bright, large numerals. *-hp-* 521C, $650.00. *-hp-* 521A, $475.00. *-hp-* 521D. Price on request.

hp 522B Electronic Counter



Compact, low cost, versatile instrument for frequency, period *or* time measurements. Measures frequency 10 cps to 120 KC, time interval 10 μsec to 10^5 sec. Reads direct in cps, KC, seconds or milliseconds. Count automatically reset, action repetitive. Stability of time base 5/1,000,000 per week. Easily used by untrained personnel. High quality, completely self-contained, bright, clear numerals; ideal industrial as well as lab instrument. $915.00△.

hp 523DR Electronic Counter



Revolutionary all-purpose counter measures frequency 10 cps to 1.2 MC, time interval 1 μsec to 27.8 hours, period 0.00001 cps to 100 KC. Stability 2/1,000,000 per week. Results displayed in sec, msec, μsec or KC; automatic decimal. Display time variable 0.1 sec to 10 sec or indefinitely. Accuracy ± 1 count plus crystal stability, 5 gate times. Usable with 100 KC primary standard. High quality, completely self-contained, bright numerals, controls color-coded for simpler use by non-technical personnel. Pulse output for Z-axis oscilloscope modulation. Price on request.

See page 905 for hp Sales and Service Representatives in

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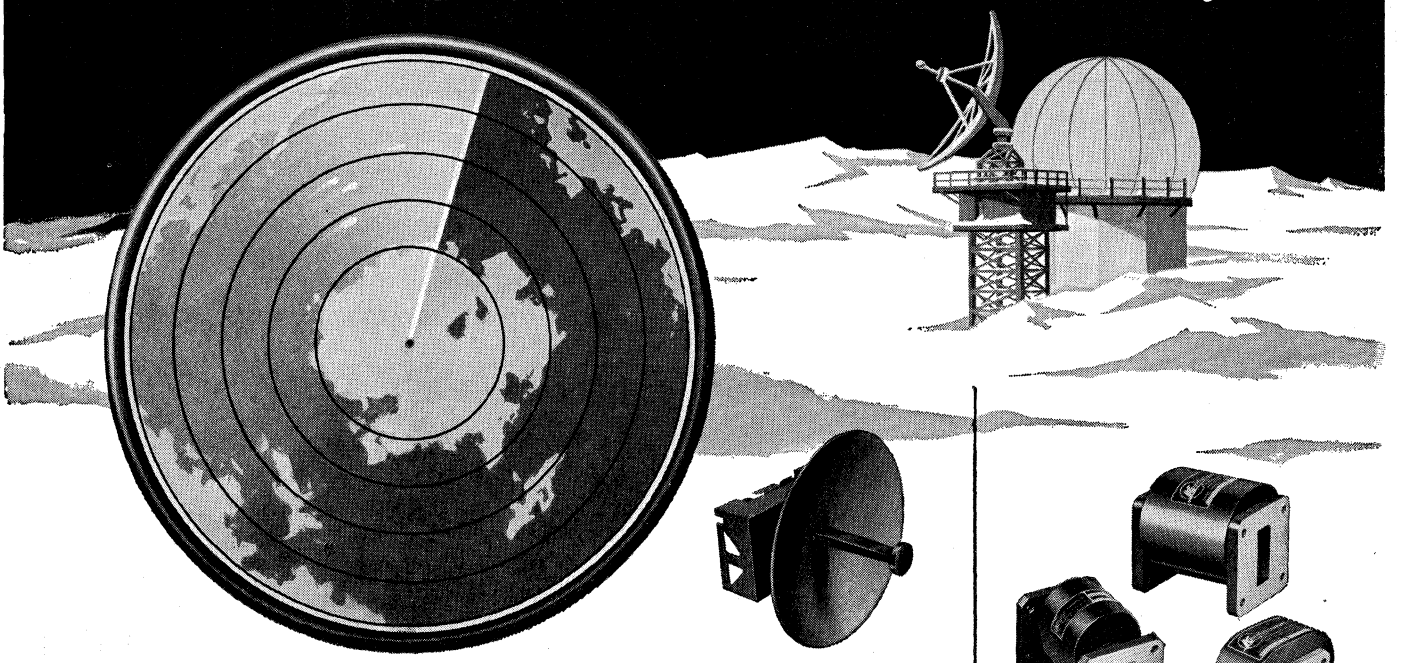
precision assures reliability

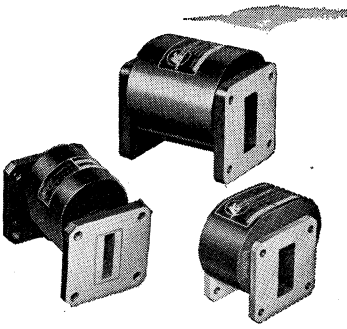


MICROWAVE Kearfott DIVISION

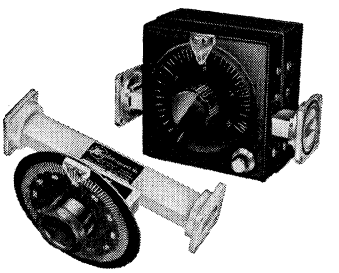
MICROWAVE EQUIPMENT

Reliable performance in all environments is assured with Kearfott precision microwave equipment and components. Available from the experienced Kearfott organization are: complete design and development, engineering, high production capacity utilizing the newest in equipment and dip-brazing techniques, modern check-out and test facilities. A Kearfott engineer can help with your microwave design problems.

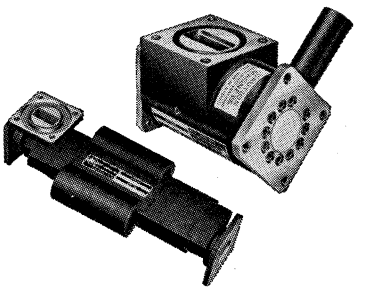
ANTENNAS AND R. F. SYSTEMS



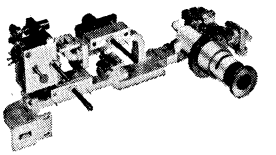
FERRITE ISOLATORS



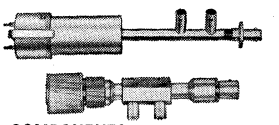
VARIABLE FERRITE ATTENUATORS



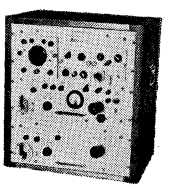
FERRITE DUPLEXERS



CUSTOM WAVEGUIDE PLUMBING

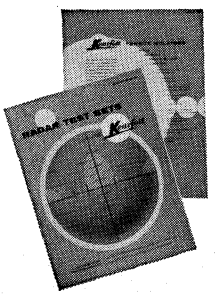


R. F. COMPONENTS



RADAR SIMULATORS AND TEST EQUIPMENT

Technical bulletins on all Kearfott products are available on request.



Kearfott

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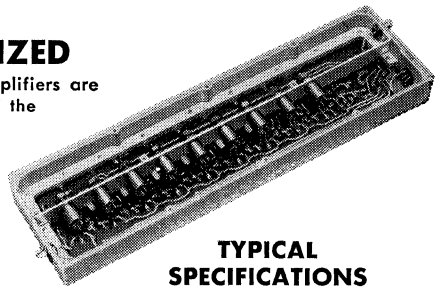
I.F. AMPLIFIERS *for* RADAR and GUIDED MISSILES

SERIES-80 TRANSISTORIZED



The LEL Series IF 80 amplifiers are transistorized versions of the IF 63 subminiature amplifiers and are intended for prototype work in new system designs. While normally designed for a 3 mc. bandwidth at a center frenquency of 30 mc., they can be supplied at other center frequencies and bandwidths on special order.

The IF 80B uses eight stages of grounded base circuitry with an emitter follower output stage.

Also available IF 81, a low noise Hybrid unit and IF 82 a ruggedized missile unit.

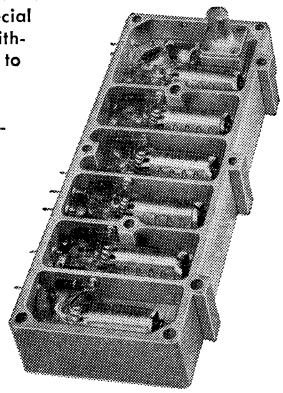
TYPICAL SPECIFICATIONS IF 80B

Gain .....100 db.
Center Frequency .....30 mc.
Bandwidth .....3 to 30 mc.
Power Requirements.....28 volts @ 36 ma.
Gain Control .....External
Dimensions .....10-13/16"x3"x1"

SERIES-64 MISSILE TYPE

The LEL Series IF64D amplifier has been designed for operation under conditions of severe vibration, and temperature. While similar in some respects to the IF 63 series, a special chassis design has been developed to withstand very high vibrational stress and to permit greater heat transfer.

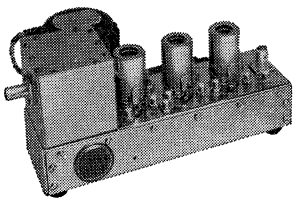
Amplifiers embodying the features of the IF 64 series but with electrical and mechanical modifications to meet a specific end use can be supplied in pilot to production quantities and quotations will be submitted on request.



TYPICAL SPECIFICATIONS IF 64D

Gain:	65 db.
Center Frequency:	60 mc.
Bandwidth:	10 mc. min.
Source Impedance:	single ended mixer
Power Requirements:	150 volts at 50 ma. 6.3 volts at 1.2 amps or 12.6 volts at .6 amps
Typical Operating Environment:	125 C ambient 20 to 2000 cycles, 20 G
Noise Figure:	3.8 db

LOW NOISE PREAMPLIFIERS



The TP telemetering preamplifiers are compact low noise preamplifiers intended to be installed at or near a telemetry receiving antenna. The gain and noise figure of these units overcome normal line losses between the antenna and the telemetry distribution amplifier.

TYPICAL SPECIFICATIONS

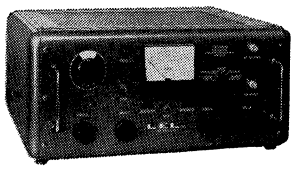
Bandwidth: 215 to 247 mc or 215 to 260 mc
Input and Output Impedance: 50 ohms nominal
Noise Figure: 3.6 db to 4 db
Gain: 30 to 38 db

We have supplied many IF amplifiers having unusual gain, selectivity, phase, noise figure, output level, keying, recovery time, temperature, shock, vibration, or other special requirements and will be pleased to quote on such special units on request.

In requesting such quotation, please indicate quantity desired.

LOW NOISE MICROWAVE AMPLIFIER

MODEL TWT-10



The TWT units are self sufficient microwave amplifiers designed to incorporate RCA TWT Tubes. Front-panel adjustments for operating voltages and for solenoid current allow gain or noise figure to be optimized.

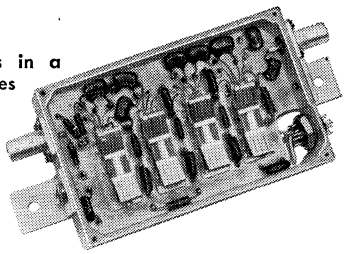
Thermal time delay is included allowing the equipment to preheat. The traveling-wave tube is protected from damage by a helix current overload relay, removing all dc electrode voltages. Front panel overload reset is provided.

SUBMINIATURE WIDEBAND SERIES

The LEL Series IF 65DS preamplifier and IF 66D main amplifier are complementary amplifiers suitable for use in a 0.1 microsecond 60 mc. radar system. They feature instantaneous recovery from high overload signals and a usable output from signals at noise level. The IF 67 A.F.C. unit is designed for control of a Klystron, and physically matches the IF 66D.

SERIES-65

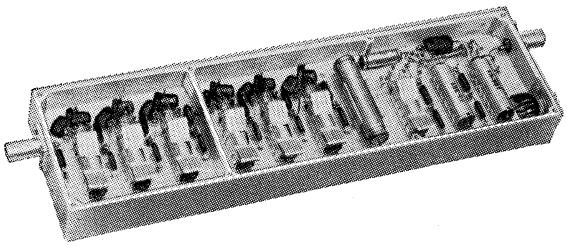
Use of these amplifiers in a system will in many cases eliminate the necessity for IAGC circuitry, avoid keying transients and provide a much greater dynamic range than generally found in IF systems.



TYPICAL SPECIFICATIONS IF 65

IF Gain .....24 db.
Center Frequency .....60 mc.
Bandwidth .....11 mc. at 1 db.
Noise Figure .....3.5 db.
Output Load .....93 ohms
Source Impedance.....350 ohms shunted by 22 uufd.

SERIES-66D



TYPICAL SPECIFICATIONS IF 66

IF Gain .....70 db.
Video Gain .....40 db.
Center Frequency .....60 mc.
Bandwidth .....11 mc. @ 2 db.
Input Impedance .....93 ohms
Output .....Negative
120V video pulse into 30 uufd. load.

The ampliers shown comprise part of LEL's standard line and are stocked in partially completed form. They can be modified to a limited degree to your specifications on special order.

LEL, Inc. 380 OAK STREET COPIAGUE, L. I., N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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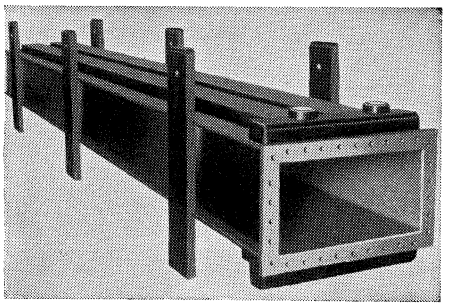
BROADBAND WAVEGUIDE SECTOR SCAN ROTARY JOINT

LIECO announces a series of Step Twist Rotary Joints for scanning a ± 90° sector. These sector scan joints are broadband, covering the entire usable waveguide frequency band (approximately 40%). The maximum VSWR is below 1.15. For narrower bandwidths the VSWR can be held well below 1.10. The sector scan joints are short, have input and output on the same axis and are capable of being pressurized. LIECO is producing these units in all standard waveguide sizes in the frequency range from 2.60 to 40.0 kmc. The joints can be supplied fabricated from either brass or aluminum.

SPECIFICATIONS

MODEL NO.	WAVEGUIDE RG-( )/U	TERMINATING FLANGES CHOKE UG-( )/U	TERMINATING FLANGES COVER* UG-( )/U	FREQUENCY BAND kmc/s.	APPROX. LENGTH inches
27E1	48	54A	53	2.60-3.95	6 7/8
27F1	49	148B	149A	3.95-5.85	4
27G1	50	343A	344	5.85-8.20	3
27H1	51	52A	51	7.05-10.0	2 9/16
27J1	52	40A	39	8.20-12.4	2 1/4
27K1	91	541	419	12.4-18.0	1 1/2
27L1	53	596	595	18.0-26.5	1 1/8
27M1	96	600	599	26.5-40.0	15/16

*Cover type flange with threaded bolt holes. Mating flange shall be a choke with clearance bolt holes.



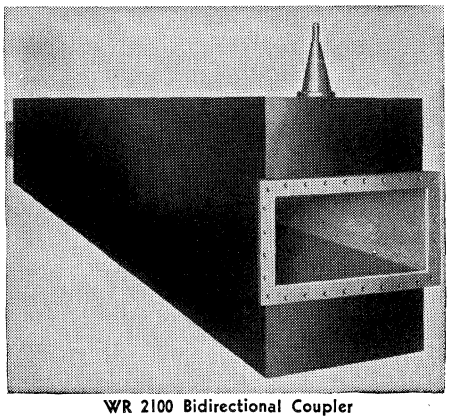
WR 1800 Water Cooled High Power Dummy Load

Please request our catalogue.

WR 1800 and WR 2100 WAVEGUIDE COMPONENTS

LIECO is producing a number of waveguide components and test equipment items in the WR 1800 and WR 2100 waveguide sizes including water cooled high power dummy loads, low power terminations, waveguide-to-type N adapters, bidirectional couplers and tapered transitions.

This supplements LIECO'S standard line of components and test equipment covering the frequency range from 1,000 mc./s through 90,000 mc/s.



WR 2100 Bidirectional Coupler

LIECO INC.

ROckville Centre 6-7620 **LYnbrook 9-6920**

3610 Oceanside Road

Oceanside, L. I., N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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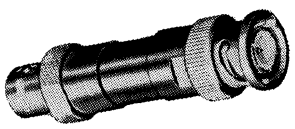
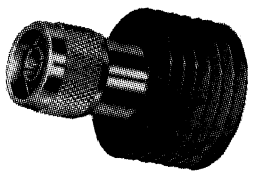
COAXIAL COMPONENTS by MICROLAB

FIXED PAD ATTENUATORS

DC to 10,000 mc
0 to 80 db
1.2 max. VSWR
2, 20, 200 watts

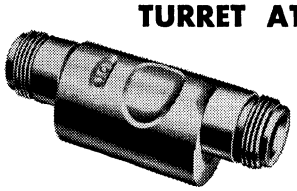




COAXIAL TERMINATIONS

DC to 13,000 mc
1.1 max. VSWR
2, 10, 150 watts
Fixed and sliding

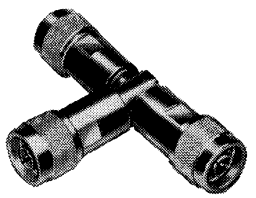
TURRET ATTENUATORS



DC to 3000 mc
0 to 30 db
1.25 max. VSWR
2¾" overall

POWER DIVIDERS

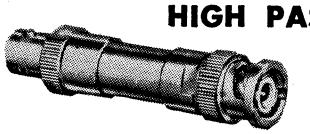
DC to 13,000 mc
2 to 6 outputs
Resistive—wide band
Reactive—min. loss



LOW PASS FILTERS

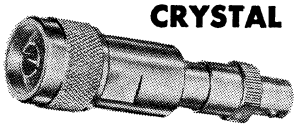
100 to 13,000 mc
1.2 max. VSWR
10 and 500 watts
Sharp cut-off

HIGH PASS FILTERS



200 to 8000 mc
1.2 max. VSWR
10 and 500 watts
Sharp cut-off

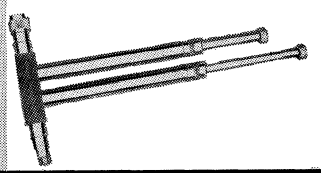
CRYSTAL MOUNTS



DC to 13,000 mc
Untuned; Fixed tuned;
Padded; Tripolar
High sensitivity

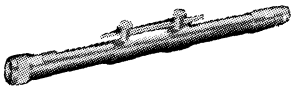
STUB TUNERS

250 to 10,000 mc
Double stub
Single stub
Locking clamp



DOUBLE SLUG TUNERS

300 to 5000 mc
100 watts
Minimum size
Constant impedance



LINE STRETCHERS

DC to 5000 mc
1.2 max. VSWR
Constant Impedance
Locking clamp

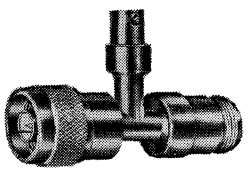
- All MICROLAB products are available *FROM STOCK* with Type N, BNC, or TNC male or female connectors.
- Prototype or production quantities at lowest cost.
- Special values, connector combinations, and other special design features at same low cost and quick delivery.

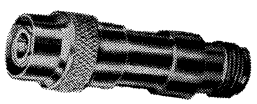
MICROLAB
LIVINGSTON, NEW JERSEY
TELEPHONE: WYman 2-5700

COAXIAL COMPONENTS by T.E.M., Inc.

MONITOR TEES

Used when it is desired to separate DC or video currents from an RF signal. Indispensable for monitoring helix intercept current in traveling wave tubes.

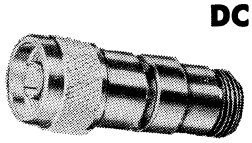




DC BLOCKS

Uniform lengths of transmission line with DC blocking condenser in series with center conductor.

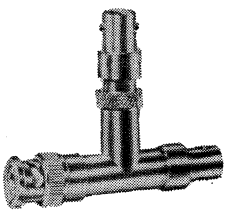
DC SHORTS



Sections of transmission line with built-in DC bypass, to ground low frequencies while allowing RF to pass unattenuated.

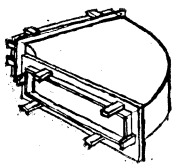
SIGNAL SAMPLERS

Used to monitor signals present in coaxial systems. Permits small signal to be taken from system without adding discontinuity. Coupling continuously adjustable.



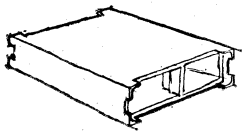
T.E.M., Inc.
LIVINGSTON, NEW JERSEY
WYman 2-5700

See YELLOW SECTION for Local Offices, Telephone, etc.



E and H Plane Waveguide Bends

MDL Precision Cast Bends combine accuracy with economy. Three types available: 90°, acute and obtuse, 90° miter. Available in beryllium copper or brazable aluminum alloys. Indexing lugs facilitate assembly to connecting waveguide. Formed Bends are also available.

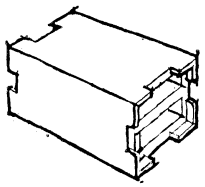


Side Wall Hybrid Junctions and Duplexers

MDL offers a complete line of Short Slot Hybrid Junctions from 400 Mc to 70 Kmc. A wide variety of standard junctions, flanges and adapters may be combined with appropriate TR tubes for custom Duplexers to meet your most rigorous system requirements.

Top Wall Hybrid Junctions

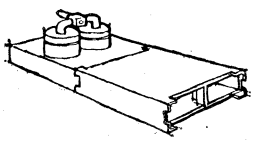
Have wide application in fields of high frequency radar and communications because of symmetry and inherently low Q. Uniplanar construction simplifies packaging especially where space is limited. Available to cover most frequencies from 1100 Mc to 17.5 Kmc.



MDL PRECISION MICROWAVE COMPONENTS and ASSEMBLIES

MDL offers a complete production, design, and development service for the user of microwave components and assemblies. Extensive production and test facilities, as well as a completely staffed engineering department, assure you of best results . . . whether your requirements are for standards or specials. Our manufacturing methods include precision (lost wax) castings, sand castings, and fabrication in either aluminum or copper base alloys. Test facilities cover 400 MC to 70 KMC. *Your requests for complete technical data or quotes will receive immediate attention.*

NEW DEVELOPMENTS — MDL welcomes the opportunity to work with you on new developments. Our extensive experience in solving microwave transmission problems can be of substantial help to you.

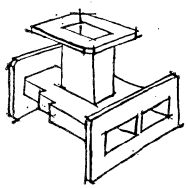


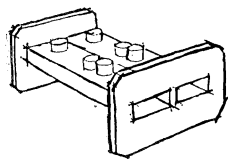
Balanced Mixers

A wide variety of balanced mixers are available for X-Band, S-Band, C-Band, XB-Band, and K_u-Band. Frequencies from 2.5 Kmc to 25 Kmc. Available in Beryllium copper or aluminum.

E and H Plane Folded Hybrid T's

A complete line of these high performance Hybrid T's are available covering frequencies from 400 Mc to 40 Kmc. Precision construction assures high isolation and low VSWR.



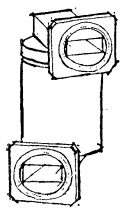


Dual and Single Waveguide Filters

A wide range of direct-coupled waveguide bandpass filters in aluminum or invar. Sealed units are available for high power use.

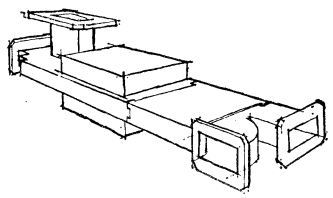
Rotary Joints

MDL Rotary Joints offer exceptional operating characteristics. The Q of the entire transition is very low, resulting in excellent VSWR. Precision construction minimizes "wow". Can be pressurized for high power applications.



X-Band Ferrite Circulators

The MDL Ferrite Circulator is a broad band microwave component developed around the non-reciprocal phase shift principle. It is a high performance component with a front to back ratio approaching 300 to 1 and is ideal for such uses as a low-loss broad band isolator, or in passive duplexing applications.



Engineering Representatives

Hicksville, Long Island, N. Y.
Hunter & Salsbury, Inc.
87 Broadway
WEIls 8-1080

Rochester 18, N. Y.
Reed-Tollefson Corporation
2815 Monroe Ave.
HIllside 5-0450

Philadelphia, Pa.
Lewis Slubin & Company
2305 Fairmount Ave.
STevenson 7-2072

Washington 5, D. C.
Brimberg Associates
221 Investment Bldg.
DEcatur 2-8000

Orlando, Florida
William R. Lehmann Company
P. O. Box 1224
Midway 4-8150

St. Louis, Missouri
Engineering Services Company
6635 Delmar Blvd.
VOlunteer 3-3661

Kansas City 11, Missouri
Engineering Services Company
4550 Main St.
JEfferson 1-7765

Wichita 18, Kansas
Engineering Services Company
8325 East Indianapolis
MUrray 3-3751

San Gabriel, California
J. E. Hachten Company
8413 Las Tunas Dr.
CUmberland 3-3860

Export Sales
Dage Corporation
219 East 44th St.
New York 17, N. Y.
MUrray Hill 2-6755

Other MDL Products

Waveguide to coax adapters • Waveguide to waveguide adapters • Attenuators • Temperature compensated fixed tuned and tunable cavities • Directional, bi-directional, and multi-slot couplers • Crystal Holders • Diplexers • Duplexers • Single, dual, and special flanges • RF and pressure gaskets • Single side band generators • Waveguide loads • Monopulse two and four antenna feeds • Complete RF duplexer and mixer assemblies • Phase shifters • Waveguide transformers and tapers • Standard, special, and dual waveguides • Direct reading and non-direct reading wavemeters.

Microwave Development Laboratories, Incorporated

92 Broad Street — Babson Park 57, Wellesley, Massachusetts
Telephone: CEdar 5-6252

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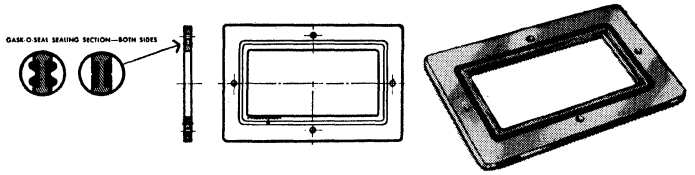
SAFE, SURE, SEALING FOR:

WAVE GUIDE SEALS SERIES 5600

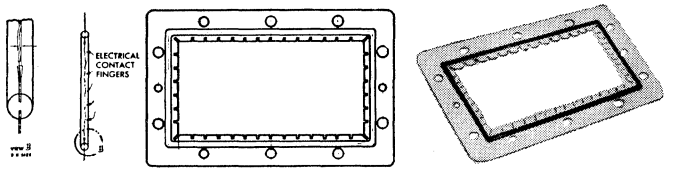
These seals provide near-perfect positive sealing while preventing R/F leakage, arcing and/or burning. Considerable savings are effected because they are re-useable and fool proof, both in assembly and inspection. No grooving or special surface finishes or other flange preparation is required.

They are available in standard sizes to fit EIA (RETMA) sizes from WR-90 thru WR-2300; are made for general purposes or high temperature usage. They are also available as "window" seals in sizes indicated, and as specials to meet requirements.



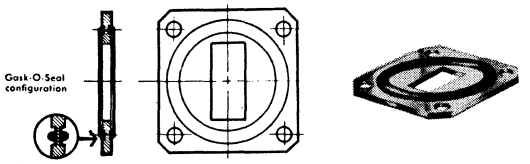
WAVE GUIDE SEALS SERIES 2010

The utmost in sealing effectiveness with complete electrical continuity is assured with these specialized wave guide seals. In addition they provide savings thru a high factor of reuseability.



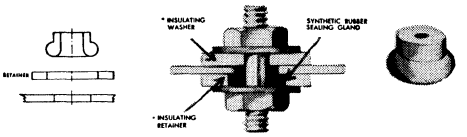
WAVE GUIDE SEALS SERIES 110556

These X-band wave guide seals are available to fit standard guides and as specials. They provide simplified assembly, eliminate grooving and prevent R/F leakage. They are also available as seals for X-band wave guide ends. The unique features of these seals assure the utmost in sealing effectiveness with electrical continuity.



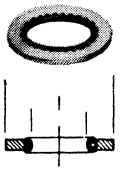
TERMINAL SEALS SERIES 5000

Specially designed to seal the style of terminal illustrated, these seals provide sealing effectiveness with good anti-arcing conditions. The gland only is furnished and they are available as standards in sizes 4, 6, and 10, for both general purposes and extreme temperature usage.

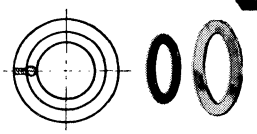


BOLT AND STUD SEALS SERIES 600 SERIES 800

Series 600 Stat-O-Seals® provide the finest mechanical sealing for bolts, studs, rivets and some other fasteners and fittings. The seal is mechanically bonded, one-piece construction with proven O-ring style configuration. They are very economical and easy to assemble. Available in sizes —8 thru 2" for nearly all types of fluids and uses from —80° to +375°F.



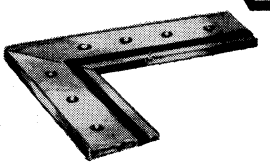
Series 800 Lock-O-Seals® provide unequalled sealing effectiveness for purposes intended. They are available in the small sizes 2 thru 6 and meet the same usage specifications as series 600.



FLANGE & ORIFICE SEALS SERIES 430 SPECIALS

Gask-O-Seals® are the finest seals for the purpose available. They provide positive sealing while affording many other advantages. They afford the design engineer with a design tool that allows considerable freedom from worries about leakage under difficult conditions. They can be made to meet almost any configuration requirement to seal almost any fluid, from high vacuum to 20,000 PSI, covering a temperature range from —85° to 350°F. (500° intermittent)

Strip-O-Seal® is an extension of the Gask-O-Seal, specially designed for very large flanged surfaces or small production runs, where curved configurations are not involved.



O-RINGS

Parker O-rings have been proved superior in actual use. They are available in all standard sizes and in specials and in compounds to meet nearly every requirement as to fluids, recommended pressures and temperatures, meeting all military as well as industrial specifications.

"Whatever you make, however you make it, Parker Seal Company* can seal it—positively!" Your inquiry is invited.

*Formerly Franklin C. Wolfe Company and Parker Rubber Division of Parker Appliance Company.

Parker SEAL COMPANY

CULVER CITY, CALIFORNIA and CLEVELAND, OHIO

A DIVISION OF PARKER-HANNIFIN CORPORATION

See YELLOW SECTION for Local Offices, Telephone, etc.

Narda—UHF and Microwave products from 200 to 90,000 Mc

Narda's full catalog includes a complete line of UHF and Microwave instruments, as well as bolometers and thermistors, all of the highest quality. Most of our products are available for immediate delivery; flexible production schedules permit prompt shipment of even those items not regularly on the shelf.

Narda's list of repeat customers reads like a "Who's Who" of American industry and universities. You'll experience the same satisfaction, when you choose among the instruments listed on this page and the next three. For additional information on any item, and a free copy of our latest catalog, write to the address shown below.

Waveguide Instruments L to E Band

DESCRIPTION — BAND → Frequency (kmc) → Waveguide (in.) →	L 1.12-1.70 6.66 x 3.41	LS 1.70-2.60 4.46 x 2.31	S 2.60-3.95 3 x 1½	C 3.95 x 5.85 2 x 1	XN 5.4-8.2 1½ x ¾	XB 7.05-10.0 1¼ x ⅝	X 8.2-12.4 1 x ½	XU 12.4-18. .702 x .391	K ‡ 18.0-26.5 ½ x ¼	V ‡ 26.5-40.0 .360 x .220	Q 33.0-50.0 .304 x .192	M 50.0-75.0 .228 x .154	E 60.0-90.0 .202 x .141
Adapter, Flange, Round to Rectangular									38B $ 35	V38T $ 40			
Adapter, Waveguide to Type N	616 $170	615 $179	614 $ 50	613 $ 40	612 $ 35	611 $ 30 611B $ 50	601 $ 25 601B $ 40						
Attenuator, Calibrated, 0-40 db	L754	LS754	S754 $375	753 $325	752 $300	751 $275	750 $215	749 $250					
Attenuator, Fixed, 3, 6, or 10 db*	726 $215	725 $215	724 $ 75	723 $ 75	722 $ 65	721 $ 60	720 $ 55	719 $ 60	718 $100	V717 $110	Q717 $125	M717 $125	E717 $150
Attenuator, Variable, 0-20 db	736 $170	735 $225	734 $120	733 $110	732 $100	731 $ 90	730 $ 75	729 $ 90	728 $100	V727 $110	Q727 $110	M727 $100	E727 $150
Attenuator, Shielded, Shaft Lock							730S $ 90						
Bend, Waveguide, E-Plane			354E $100	353E $ 75	352E $ 55	351E $ 35	350E $ 30	349E $ 35	348E $ 45	V347E $ 50	Q347E $ 65	M347E $ 60	E347E $100
Bend, Waveguide, H-Plane			354H $100	353H $ 75	352H $ 55	351H $ 35	350H $ 30	349H $ 35	348H $ 45	V347H $ 50	Q347H $ 65	M347H $ 60	E347H $100
Detector, Waveguide, Tuneable				513 $ 95	512 $ 90	511 $ 85	510 $ 75	509 $150	508 $125	V507 $200	Q507 $210	M507 $210	E507 $350
Detector, Waveguide, Bolo. & Thermistor	536 $210	535 $235	534 $110	533 $ 80									
Detector, Waveguide, Bolometer					532 $120	531 $105	530 $ 60	529 $ 80					
Detector, Waveguide, Thermistor					542 $ 75	541 $ 65	540 $ 60	539 $110					
Directional Coupler, Cross-Guide, 20 db	1016 $400	1015 $400	1014 $175	1013 $130	1012 $ 90	1011 $ 80	1010 $ 75	1009 $ 80					
Dir. Cplr., Hi Directivity, 3, 6, 10, 20 db*			1074 $375	1073 $250	1072 $160	1071 $130	1070 $100	1069 $120	1068 $175	V1067 $200	Q1067	M1067 $500	E1067
Dir. Cplr., Hi Directivity, Hi-Pwr., 40 db			1084 $450	1083 $375	1082 $240	1081 $200	1080 $165	1079 $180					
Dir. Cplr., Hi Directivity, Dual, 20 db			1034 $700	1033 $450	1032 $300	1031 $250	1030 $200	1029 $220	1028 $315	V1027 $360		M1027 $900	
Echo Boxes				833 $970			830 $1500						
Frequency Meter S to X Band				2350-10,500 mc 802B $785									
Frequency Meter, Waveguide					812 $120	811 $115	810 $110	809 $150		V807 $250	Q807 $325	M807 $300	E807 $500
Harmonic Generator										VM557 $160, VE557 $250, QE577 $340			
Horn, Standard Gain (16.5 db)	646 $900	645 $600	644 $175	643 $150	642 $125	641 $120	640 $100	639 $110	638 $110	V637 $110	Q637 $120	M637 $125	E637 $250
Impedance Meter, Waveguide	226 $950	225 $950	224 $445	223 $385	222 $335	221 $270	220 $250	219 $270	218 $500	V217 $600	Q217 $1100	M217 $995	E217 $1650
Impedance Meter, Coaxial	1500-12,400 mc 231N $360, 231C $390, 231TNC $475												
Impedance Meter, High Power				213 $2175	212 $1975	211 $1700	210 $1375	209 $1700					
Mixer, Crystal, Coaxial Input			552 $500	553 $500	554 $550	555 $550							
Mixer, Crystal, Waveguide Input			564 $500	550 $500	551 $550	556 $600	565 $600	566 $600	567 $600	V568 $700			
Mixer, Harmonic	1-4 Kmc-Coax 524 $550			523 $525	522 $475	521 $425	520 $425	519 $475	518 $500	V517 $550			
Probe, R-F, Tuneable	900-18,000 mc 229 $125												
Reactance, Variable, High Power				913 $2775	912 $2575	911 $2300	910 $1975	909 $2300					
Reflection Stds.: -00, -05, -10, -15, -20*			414 $300	413 $225	412 $200	411 $175	410 $125	409 $200					
Short, Tuneable			314 $150	313 $125	312 $100	311 $ 75	310 $ 75	309 $ 75	308 $140	V307 $150	Q307 $155	M307 $160	E307 $250
Tee, Hybrid	956 $250	955 $250	954 $150	953 $120	952 $ 95	951 $ 75	950 $ 60	949 $ 55	948 $ 75	V947 $ 90	Q947 $110	M947 $120	E947 $175
Tee, Series	946 $175	945 $175	944 $100	943 $ 85	942 $ 65	941 $ 50	940 $ 40	939 $ 45	938 $ 50	V937 $ 60	Q937 $ 75	M937 $ 80	E937 $110
Tee, Shunt	936 $175	935 $175	934 $100	933 $ 85	932 $ 65	931 $ 50	930 $ 40	929 $ 45	928 $ 50	V927 $ 60	Q927 $ 75	M927 $ 80	E927 $110
Termination, 1.02 VSWR	306 $210	305 $180	304 $ 60	303 $ 50	302 $ 35	301 $ 30	300 $ 25	299 $ 30	298 $ 30	V297 $ 35	Q297 $ 95	M297 $ 90	E297 $150
Termination, Sliding, 1.005 VSWR	386 $350	385 $350	384 $100	383 $ 75	382 $ 70	381 $ 60	380 $ 50	379 $ 55	378 $ 70	V377 $ 75	Q377 $175	M377 $175	E377 $225
Termination, High Power	326 $1350	325	324 $465	323 $420	322 $360	321 $225	320 $225	319 $200					
Tube Mount, Shielded							980B $135						
Tuner, Double Stub, Type N C, SC, TNC	900-12,400 mc 903N $90, 903C $125, 903SC $150, 903TNC $150												
Tuner, E-H			964 $325	963 $275	962 $225	961 $175	960 $170	959 $200	958 $250	V957 $300	Q957 $350	M957 $350	E957 $500
Twist, Waveguide, 90°			364 $175	363 $125	362 $ 75	361 $ 65	360 $ 40	359 $ 60	358 $ 69	V357 $ 70	Q357 $120	M357 $120	E357 $120
Waveguide, Straight 6", w/Flanges	346 $150	345 $140	344 $ 75	343 $ 50	342 $ 35	341 $ 30	340 $ 25	339 $ 30					
Waveguide, Straight 3", w/Flanges									33B $ 35	V337 $ 40	Q337 $ 50	M337 $ 50	E337 $ 75
Waveguide clamp	2L $ 15	2LS $ 15	2S $5.50	2C $5.00	2XN $4.50	2XB $4.50	2X $4.00	2XU $4.00	2K $4.50	2V $5.50			
Waveguide Stand	Model 3 $4.50												

*Specify value desired, e.g.: V717-6, M1067-20, etc.

‡Standard models use UG595/U rectangular flanges in K band and UG599/U rectangular flanges in V band.

Microwave Test Instruments

Frequency Power Meter
Model 107
500-1500 mc
$1150.

●

Radar Performance Checker
Model 116
All Frequencies
$485.

●

VSWR Amplifier
Model 441
All Frequencies
$200.

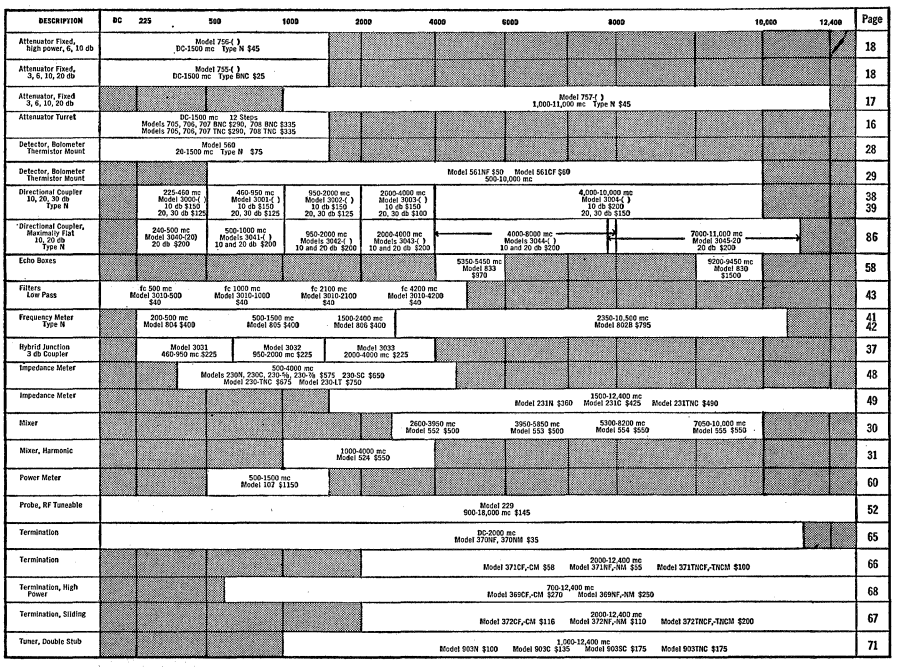
●

Tuned Pre-amp
Model 442
All Frequencies
$200.

●

Laboratory Training Set
Model 117
X Band
$1900.

Coaxial and UHF Equipment



Bolometers & Thermistors

The complete line of Bolometers (barretters) and Thermistors for all frequency ranges, including cylindrical (821), crystal (610), disc (603), and miniature (604), configurations.

For more information, consult the Narda sales representatives in these cities:

Albuquerque • Atlanta • Cedar Rapids • Chicago • Dallas • Dayton • Denver • Detroit • Kansas City • Mount Vernon • No. Hollywood • Orlando • Palo Alto • Pittsburgh • Seattle • St. Louis • Syracuse • Upper Darby • Waltham • Washington, D. C. • Westlake • Wichita • Arnprior • Montreal • Toronto
OVERSEAS: Amsterdam • Athens • Brussels • Copenhagen • Heidelberg • London • Munich • New Delhi • Oslo • Paris • Rome • Santiago • Stockholm • Sydney • Tel Aviv • Tokyo • Vienna • Wellington, New Zealand • Zurich

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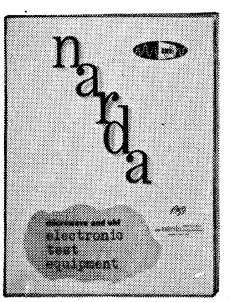

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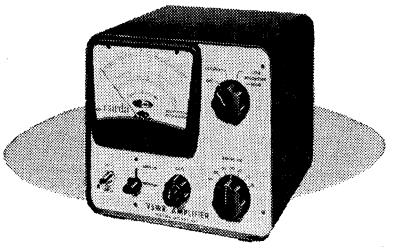
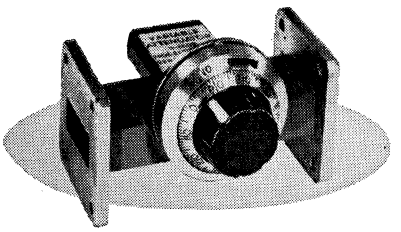
Narda-UHF and Microwave products from 200 to 90,000 Mc



BATTERY-OPERATED VSWR AMPLIFIER

Transistorized and battery-operated for complete independence from line voltage deviations. 0.1 microvolt sensitivity at 200 ohms over both "normal" and "extended" scales. Protective circuit permits any switching operation or cable connection to be made or broken without danger to bolometer; blowouts can not occur. Covers frequency of 1,000 cps ± 1%; plug-in frequency networks available for 315-3,000 cps. Bandwidth: 25-30 cps. Range: 70 db (60 db in 10 db steps, 10 db continuous).

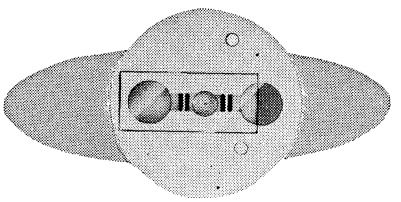
Model 441 . . . $200



VARIABLE ATTENUATORS FIXED CALIBRATED PADS

Variable attenuators — 0 to 20 db range; VSWR under 1.15; all waveguide sizes.
Fixed calibrated pads available in all waveguide sizes with 3, 6, or 10 db calibration.

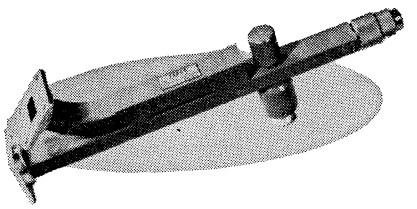
13 models, from $55 to $200.



DISC BOLOMETERS AND THERMISTORS

Coaxial bolometer elements available for 200-ohm operation at 4.5 or 8.75 ma bias. Thermistors with 200 ohms resistance at 13 ma. For power measurement and detection to 10 mw.

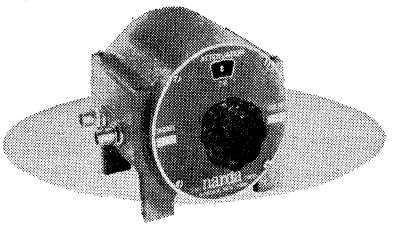
$25.00 each.



HARMONIC AND CRYSTAL MIXERS

Mixers serve as converters in coaxial lines and waveguides with microwave receivers and spectrum analyzers. NARDA Harmonic Mixers hold a silicon crystal element with provision for the injection of a standard frequency.

Priced from $425.



TURRET ATTENUATORS

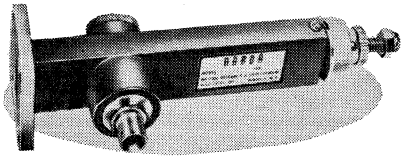
A UHF-only attenuator, representing considerable savings in costs for this application. Each model offers a Designer or Development Engineer twelve steps of attenuation from d.c. to 1,500 mc, with a VSWR of 1.25. Model 705 provides 0 to 30 db attenuations; model 706 — 0 to 20 db; model 707 — 0 to INF db.

All models . . . $275 each.

COAXIAL ATTENUATORS

Double pi-section attenuators for high power rating and broad frequency characteristic. Available in 6 or 10 db values, dc to 1500 mc. VSWR equals 1.2. Frequency variation is ±1 db; calibration frequency equals 1000 mc; calibration accuracy equals ±0.2 db.

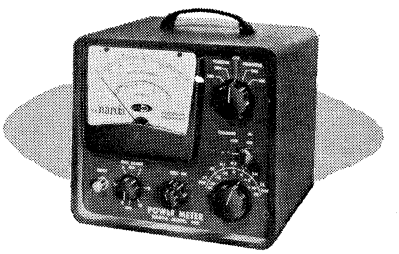
6, or 10 db Models . . . $40 each.



WAVEGUIDE DETECTORS

Designed for broad band operation with low VSWR and maximum versatility. May be used with a variety of crystal, bolometer (barretter) or thermistor elements, for absolute power measurement when used with appropriate bolometers and thermistors, as well as for detection of relative power levels. Also fixed tuned models.

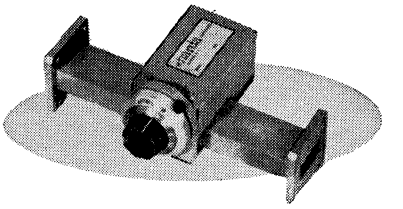
13 models available from $75 to $125.



TRANSISTORIZED, BATTERY-OPERATED MICROWAVE POWER METER

Fully transistorized and self-balancing to provide accurate, automatic direct-reading measurements of cw or pulsed power. Provides the widest power measuring range available, with 0.001 to 0.01 mw and 0.003 to 0.03 mw scales, in addition to the five standard scales up to 10 mw. Powered by a nickel-cadmium battery, which is rechargeable overnight or during operation with built-in battery charger, it provides complete independence of filament heating errors and line voltage variations. Accuracy: 3% of full scale reading.

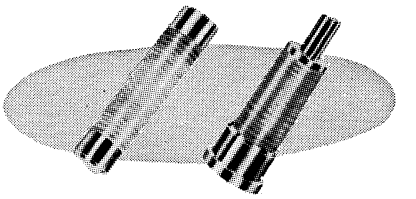
Model 440 . . . $250



CALIBRATED VARIABLE ATTENUATORS

Precision attenuators of the parallel vane type, providing a maximum VSWR of 1.15; maximum insertion of 0.5 db; calibration accuracy — 0.3 db; calibration chart supplied. Calibration is precise and permanent, and not affected by humidity or temperature variations.

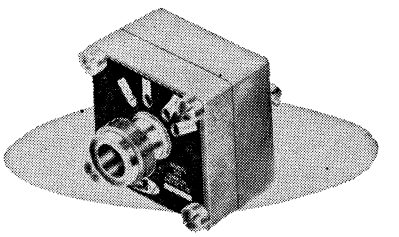
Seven models from $200 to $375.



BOLOMETERS AND THERMISTORS

Ruggedized construction; coin silver contacts. Barretter types available for 4.5 and 8.75 ma bias; 50, 100, 200, 400 ohm values. Thermistor types 100 or 200 ohm operation.

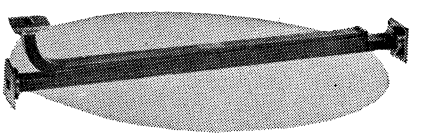
N821B & N610B, $10.00 each.



COAXIAL DETECTORS

Mounts for both bolometers and thermistors of the mica disc type, from 500 to 10,000 mc. Usable with any of the four types of bolometers and thermistors; a unique arrangement permits rapid change of elements and shows at a glance which type is in the detector, as well as its bias current requirements.

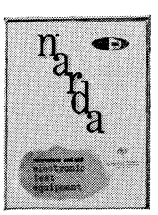
Model 561 (not including element) $50.



HIGH DIRECTIVITY COUPLERS

3, 6, 10, 20 and 40 db couplers, all with directivity exceeding 40 db. 40 db (high power) coupler may be used at full rated power of the waveguide size. Standard cover flanges terminate both ends of primary line; low VSWR termination and standard cover flange on secondary arm.

$95 to $400.



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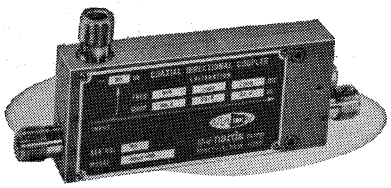
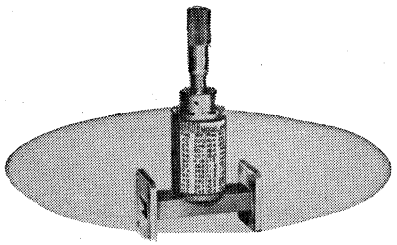
Narda-UHF and Microwave products from 200 to 90,000 Mc



COAXIAL DIRECTIONAL COUPLERS

Only Narda offers coaxial directional couplers in 10 and 30 db values, as well as 20 db. Flat coupling — values within 1 db of nominal over full octave frequency range. Calibration provided to ±0.2 db accuracy. Directivity exceeding 20 db. May also be used at lower frequencies than specified. 225 to 10,000 mc.

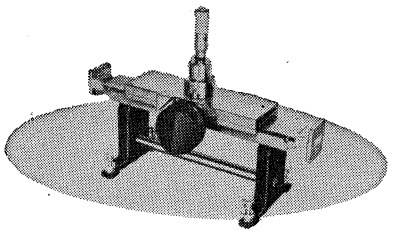
Five models, from $100.



WAVEGUIDE FREQUENCY METERS

Each consists of a section of waveguide with a resonant cavity attached symmetrically to the broad wall. Coupling is through an inductive iris, designed so unit is electrically equivalent to a straight section of waveguide. Power dip is at least 10% over the frequency range; accuracy equals 0.08%.

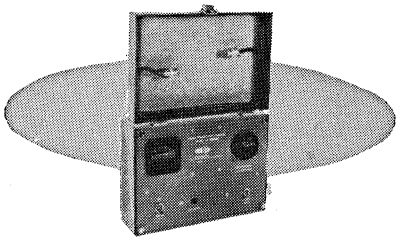
Five models from $110 to $150.



HIGH POWER IMPEDANCE METERS and VARIABLE REACTANCES

Meters have fixed value output coupling of 45 db, nominal. Reactances can vary magnitude of standing wave ratio from 1.02 to 2.0. Phase of standing wave is separately variable. Maximum residual VSWR: 1.02. (1.03 for 12.4-18.0 kmc Meter)

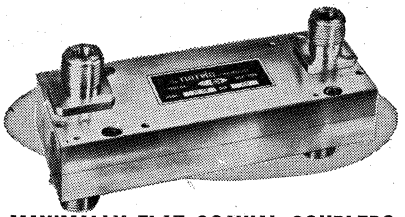
Meters: $1375 to $2175
Reactances: $1975 to $2775



RADAR PERFORMANCE CHECKER (Transistorized)

Used with an echo box, for rapid pre-flight or production line measurement of over-all radar performance. Completely portable; no power source needed. Accuracy: 2 db. Resolution: 2 db. Range: +3 db to —12 db on panel dial.

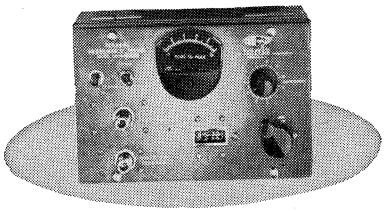
Model 116T . . . $485.



MAXIMALLY FLAT COAXIAL COUPLERS

A new series of coaxial directional couplers, pioneered by Narda, presenting the flattest frequency response of any coupler manufactured today. Coupling variation is only ± 0.2 db over a full octave; deviation of mean value from nominal is only ± 0.3 db. Calibration accuracy is ± 0.1 db and 5 calibration points are engraved on the nameplate of each unit. Intermediate points may be determined at a glance. Connectors are Series N Female; others available on special order. Models are available covering frequencies from 240 to 11,000 mc, most in both 10 and 20 db versions.

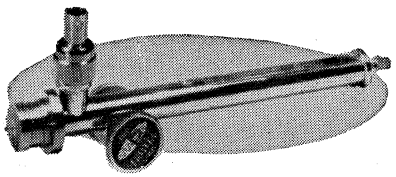
10 models . . . $200



S to X BAND FREQUENCY METER

The only single instrument covering 2,350 to 10,500 mc., and less expensive than any combination covering same frequencies. Completely self-contained; built-in detector and indicating meter; nomograph type calibration chart converts digital counter readings to frequency in mc., to rated accuracy of 0.2%.

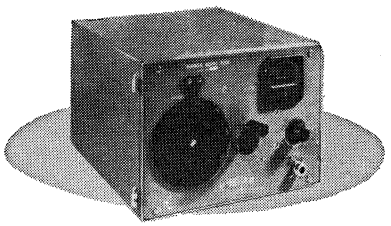
Model 802B . . . $785.



RF PROBE

A precision tuneable RF Probe with optional detector (included). Fine wire probe is adjustable in depth over a wide range by a fine-pitch threaded knob. Probe pickup may be tuned over the range of 900 to 18,000 mc. Insertion loss: 25 db or less in most slotted lines.

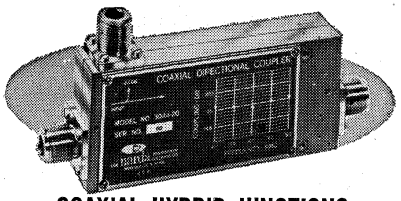
Model 229 . . . $125.



ECHO BOXES

C Band and X Band Echo Boxes with high Q resonant cavities used for rapid testing and evaluation of radars. Frequency indication is direct reading in megacycles; resonance indicator is panel microammeter. Complete with carrying case.

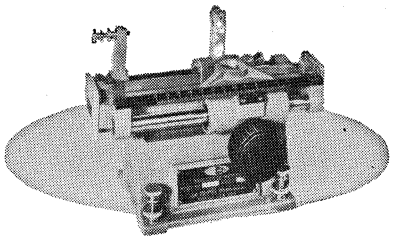
C Band (Loaded Q: 50,000) . . . $ 970
X Band (Loaded Q: 90,000) . . . $1500



COAXIAL HYBRID JUNCTIONS

For use in duplexers, mixers and other circuits requiring power division into two lines. Signal into one terminal appears at two opposite terminals, equal in amplitude, but shifted 90 degrees. Features in-line terminals for operation of TR tubes between a pair of hybrids; ruggedized construction; equal power split, ± 0.25; VSWR: 1.2; isolation: 20 db. Three models cover frequencies of 46-950, 950-2000, 2000-4000 mc.

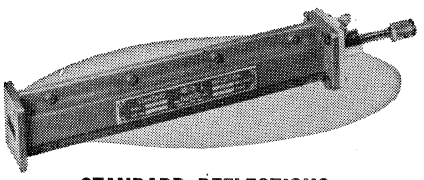
All models . . . $225 each



IMPEDANCE METERS

Carriage mounting and drive mechanism are integral with the transmission line casting, for permanent accuracy and freedom from slope errors. Angle-mounted, scale and vernier. Removable supporting stand. Coverage from 2600 to 90,000 mc; coaxial models, from 1500 to 90,000 mc—all accurate for VSWR's of 1.01.

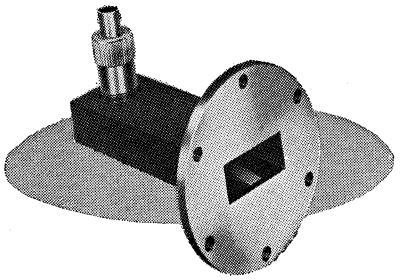
13 models from $250 to $425.



STANDARD REFLECTIONS

Narda offers five values of reflections for each of six different waveguide sizes. Provides calibrated reflections or VSWRs for use in standardizing reflectometers or calibrating slotted line impedance meters. Five values of reflection coefficient in each waveguide size.

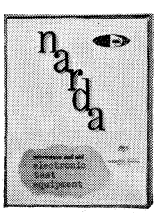
Six models from $125 to $300.



BOLOMETER AND THERMISTOR BROADBAND MOUNTS

A new series of Narda matched mounts, offering the optimum in accuracy and flexibility, with instant replacement of element. Bolometers and thermistors, available from stock, plug in without tools and without need for adjustments. VSWR is extremely low over the full waveguide band. No tuning required.

$60 to $210



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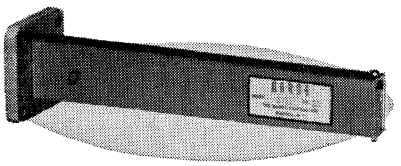
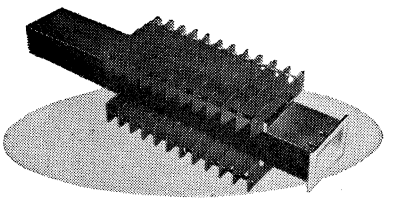


WAVEGUIDE TERMINATIONS

Narda Waveguide Terminations provide an exceptionally low VSWR (less than 1.02) over the entire frequency range of the waveguide. Power is in excess of 1 kw peak, 1 watt average. Standard cover flange input.

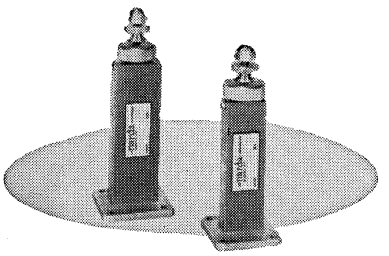
13 models from $20 to $45.



HI POWER TERMINATIONS

An improved type capable of handling extremely high power without deteriorating under high temperatures. Designed for operation over the entire waveguide band with average VSWR approx. 1.05. Heat dissipating fins at regions where most power is absorbed.

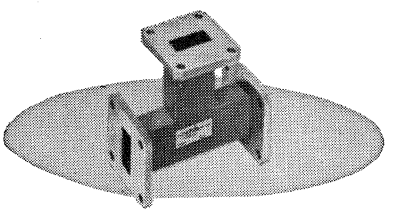
Seven models . . . $125 to $700.



ADJUSTABLE WAVEGUIDE SHORTS

Tuneable shorts of the trap or non-contacting type for minimum r-f loss for use in many tuning and measurement applications. Tuned by a knurled lead screw with locking nut, except for model covering 12.4 to 18.0 kmc, which uses micrometer drive. Models to cover bands from 2.60 to 90.0 kmc.

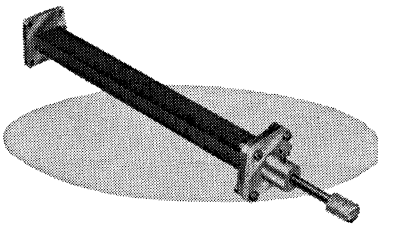
13 models from $40 to $90.



TEE SECTIONS

Waveguide tee sections for making connections in microwave circuits corresponding to series and shunt connections at lower frequencies. Very tight tolerances permit use as a power divider. Branches are terminated with standard cover flanges.

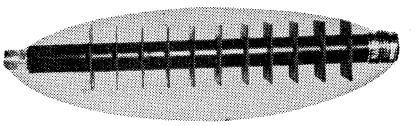
Thirty models from $35 to $275.



SLIDING TERMINATIONS

The most convenient means for evaluating the residual VSWR of slotted lines. VSWR of the element is 1.01 or less, from 1100 to 90,000 mc. The sliding feature makes these terminations particularly suitable for evaluating residual VSWR of impedance meters.

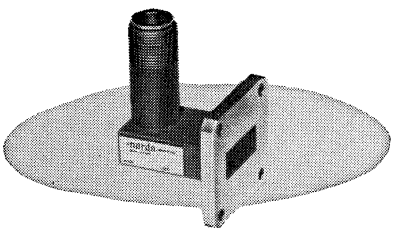
13 models from $60 to $90.



COAXIAL HI POWER TERMINATIONS

Useful over the complete frequency range from 700 to 12,400 mc, with a VSWR of 1.20 or less and under 1.1 from 1000 to 9000 mc. Designed for power levels up to 200 watts average and 50,000 watts peak. Efficient heat-dissipating fins permit withstanding temperatures in excess of 500° F.

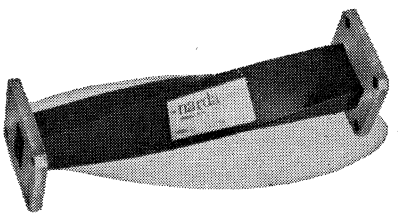
Model 369, NF & NM . . . $250
Model 369, CF & CM . . . $270



ADAPTERS

These adapters provide a low VSWR, lossless transition from rectangular waveguide to type N coaxial line. Broadband design provides bilateral VSWR below 1.25 over the complete waveguide frequency range. Small but rugged, for both laboratory and field use.

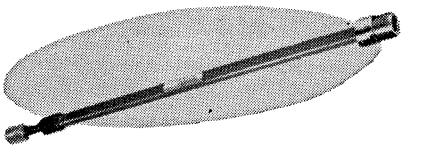
Seven models from $25 to $175.



TWISTS

Narda waveguide twists provide a smooth 90 degree twist in waveguide orientation. Standard models use brass waveguide and two flanges equivalent to standard cover flanges. Other flange combinations, waveguides and lengths, available on special order.

13 models from $40 to $175.



COAXIAL TERMINATIONS

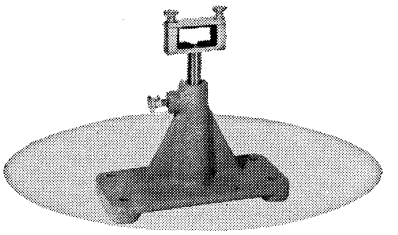
Narda Coaxial fixed and sliding Terminations are the first and only to cover the entire frequency range S to X band; provide accurate reference for coaxial component VSWR measurements. VSWR of the terminations is 1.05 or less. Travel of sliding termination is in excess of half wavelength at lowest frequency.

Fixed: $55 to $58 Sliding: $110 to $116

UHF FREQUENCY METER DETECTORS

The only direct reading frequency meter detectors available for the UHF range. Absorption type meters, with 0.2 db insertion loss, each includes resonant cavity, coaxial switch, crystal detector, current meter, sensitivity control, and type N input and output terminals. 200-500 mc; 500-1500 mc., 1500-2400 mc.

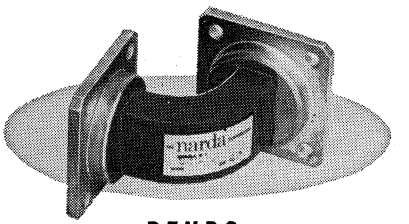
Three models . . . $375 each.



STANDS AND CLAMPS

Heavy cast iron Model 3 stands for use with Model 2 Series Clamps. Rectangular base for stability and closer spacing when required. Knurled screw provided for height adjustment. Clamps are felt lined to provide secure clamping action without marring surfaces or finishes.

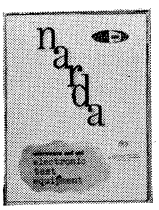
$3.50 to $5.50.



BENDS

Narda E — and H — Plane waveguide bends for use where a 90 degree angle is required with negligible reflection of the microwave signal. VSWR equals 1.05 maximum. Standard cover type flanges. Special flanges, materials and dimensions available on special order.

13 models from $25 to $100.



Write for your free copy of Narda's new 1959 catalog. Address: Dept. EEM-3.

the narda microwave corporation

118-160 HERRICKS ROAD, MINEOLA, L. I., N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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P A R A M I

MISS DISTANCE INDICATOR

Proven in Field Operations ✻ *Procurable by Catalog Number*

PARAMI

is an electronic system for measuring the separation between a missile and target. A real time, digital record of miss-distance is produced at a remote ground station from which the closest approach of intercept can be read in 10 to 15 seconds.

Features...

Radial separation of missile and target to 4,990 feet recorded in 10-foot increments. 2-foot readout available.

Practical range of operations to 100 miles line of sight.

All weather operation, day or night.

Accuracy assured by inflight calibration.

Data permanently recorded in real time.

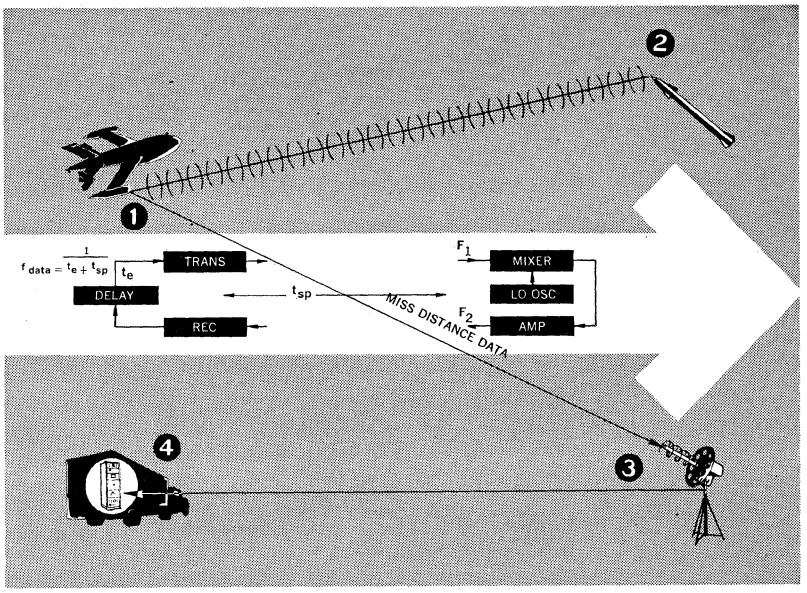
195 samples per second at closest approach. (780 samples per second available on order.)

Ripple firings recorded.

Activation of target devices at preset ranges including "Go No-Go" scoring.

Inherent reduction in multipath, glint, and scintillation errors.

Mobile installations practical for operations on uninstrumented ranges.

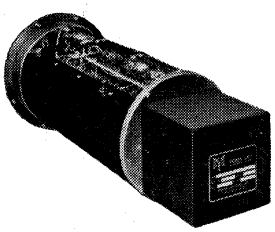


How It Works:

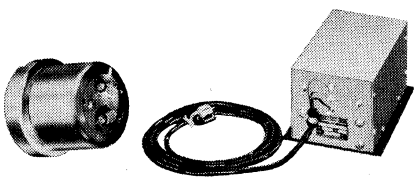
A pulse is transmitted from the target transponder. This signal is received and retransmitted by the missile transponder on a different frequency. When the signal has completed its journey between the two units, it is delayed 20 microseconds, reshaped and again transmitted, completing one ring-around.

Three delays make up the time of a ring-around; the electronic delays in each transponder, and the round trip radio delay.

The ground station contains a simple computer that subtracts the two periods of electronic delay and counts in tens of feet one-half of the round trip radio delay, or the distance we want.

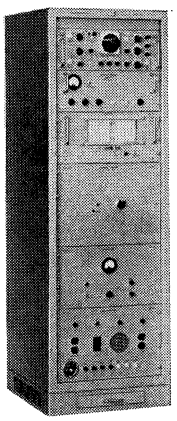


1. Target Transponder with Power Supply



2. For each missile type, a transponder is designed for easy installation without modifying the missile.

3. Receiving antenna



4. Ground Station

	Distance from Target	Overall System Accuracy
MISSILE TRANSPONDER	0-200′	10′
	0-3000′	10′
PROXIMITY SCORES (Adjustable)	0-100′	10′
	0-400′	10′
TARGET LOCATOR ASSEMBLY	1-100 mile range	2%
	Azimuth	5°
	To 70,000′ altitude	2%

PARSONS means creative electronics

✻*As the official scorer of the USAF William Tell Weapons Meet, PARAMI proved to be over 80% reliable.*

For operational results and detailed information concerning PARAMI, please contact:

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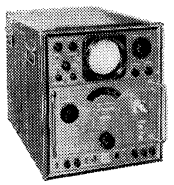
POLARAD
PROVEN RELIABILITY

MICROWAVE SPECTRUM ANALYSIS EQUIPMENT

VISUAL MICROWAVE ANALYSIS 10 to 44,000 mc

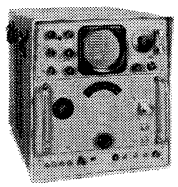


Model TSA

DIRECT-READING SPECTRUM ANALYZER

SPECIFICATIONS

Five sensitive plug-in tuning units
Dispersion: 400 kc to 25 mc
Resolution: 25 kc
Internal Marker: ±14 mc
Attenuation: R-F: internal 100 db continuously variable (STU-1, STU-2A, STU-3A)
I-F: 50 db continuously variable



Model TSA-S

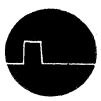
COMBINATION SYNCHROSCOPE-SPECTRUM ANALYZER

PROVIDES TIME AND FREQUENCY DISPLAY

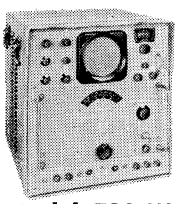
SPECIFICATIONS

Five sensitive plug-in tuning units
Dispersion: 400 kc to 25 mc
Bandwidth: 5 kc, 50 kc, 500 kc and 5 mc
Internal Marker: ±14 mc
Sweep Rate Synchroscope: 2, 10, 100, 1,000, 10,000 100,000 μsec per screen diameter

FREQUENCY DISPLAY: Shows power-frequency spectrum



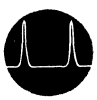
TIME DISPLAY: Shows Signal waveform



Model TSA-W

WIDE DISPERSION SPECTRUM ANALYZER

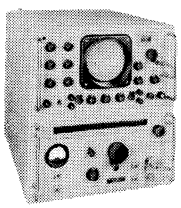
NARROW AND WIDE PULSE ANALYSIS



70 mc dispersion displays pulses narrow as 0.1 μsec. For wide pulses, dispersion may be adjusted down to 100 kc.

SPECIFICATIONS

Five sensitive plug-in tuning units
Dispersion: 100 kc to 70 mc (2 ranges)
Resolution: 7 kc and 50 kc
Internal Marker: ±40 mc
Screen Display: Linear or log



Model SA-84

MULTI-BAND, SINGLE-UNIT SPECTRUM ANALYZER

Complete frequency coverage, 10 - 40,880 mc. in one single self-contained unit.

SPECIFICATIONS

No additional tuning units required.
Dispersion:
10 to 55 mc: 500 kc to 5 mc, adjustable
55 to 40, 880 mc: 500 kc to 25 mc, adjustable
Resolution: 20 kc
Internal Marker: ±14 mc

Set of BANDPASS FILTERS, 750 to 12,000 mc, available to eliminate spurious signals and harmonics in reception and spectrum analysis equipment. Especially designed for use with broad-band single-unit spectrum analyzers.

To test missiles, radars, microwave components, telemetering and multi-pulse transmissions

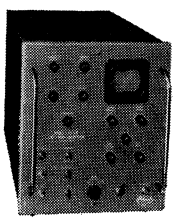
ALL POLARAD SPECTRUM ANALYZERS FEATURE:

- 1 to 30 cps adjustable sweep rate
- Direct-reading UNI-DIAL tuning control
- High accuracy, resolution and sensitivity
- Frequency accuracy, ±1%
- Non-contacting klystron cavity chokes for noiseless tuning
- Five-inch flat-face CRT

Display Unit—Models TSA, TSA-S and TSA-W.
Five interchangeable plug-in tuning units:

Model No.	Equipment	Frequency Range
DU	Spectrum Display and Power Unit	
STU-1	R-F Tuning Unit	10 to 1,000 mc
STU-2A	R-F Tuning Unit	910 to 4,560 mc
STU-3A	R-F Tuning Unit	4,370 to 22,000 mc
STU-4	R-F Tuning Unit	21,000 to 33,000 mc
STU-5	R-F Tuning Unit	33,000 to 44,000 mc

Sensitivity: (minimum discernible signal)		
STU-1	10 to 400 mcs	−85 to −95 dbm
	350 to 1,000 mcs	−80 to −90 dbm
STU-2A	910 to 2,200 mcs	−85 to −95 dbm
	1,980 to 4,560 mcs	−75 to −87 dbm
STU-3A	4,370 to 11,000 mcs	−77 to −90 dbm
	8,900 to 22,000 mcs	−65 to −85 dbm
STU-4	21,000 to 33,000 mcs	−57 to −75 dbm
STU-5	33,000 to 44,000 mcs	−50 to −65 dbm



Model SD-1

MULTI-PULSE SPECTRUM SELECTOR

Permits spectrum analysis of individual microwave pulses in a pulse group when used with a Polarad Spectrum Analyzer.

Any pulse in a complex coded signal may be isolated for examination.

WRITE FOR SPECIFICATIONS on any instrument shown. Polarad representatives in principal cities.

POLARAD ELECTRONICS CORPORATION
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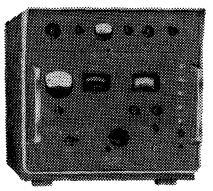
POLARAD MICROWAVE SIGNAL GENERATION EQUIPMENT

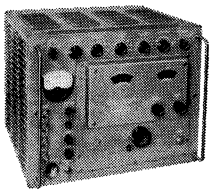


Model PMR

U H F SIGNAL GENERATOR

400 to 1,000 mc
Single unit covers the entire frequency range.

Interchangeable modulators:
Pulse (capabilities shown right) or FM.

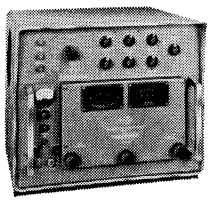


Models MSG-1 and MSG-2

MICROWAVE SIGNAL GENERATORS

950 to 4,600 mc

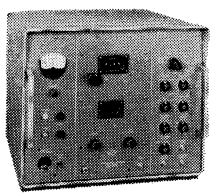
MSG-1 950 to 2,000 mc
MSG-2 2,000 to 4,600 mc



Model PMX

MICROWAVE SIGNAL GENERATOR

4,450 to 11,000 mc
Two interchangeable plug-in or r-f generator units cover the frequency range.
Basic Unit GB-2: Power Supply and Modulator
Generator Unit G-48: 4,450 to 8,000 mc
Generator Unit G-711: 6,950 to 11,000 mc

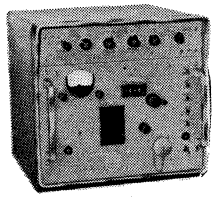


Model MSG-34

ULTRA-BROADBAND MICROWAVE SIGNAL GENERATOR

4,200 to 11,000 mc in one instrument

Equivalent in range to two signal generators. Direct-reading DIGITAL Frequency Indicator.



Model PMK

MICROWAVE SIGNAL GENERATOR

10,000 to 21,000 mc
Two interchangeable plug-in generator units cover the frequency range.
Basic Unit GB-3: Power Supply and Modulator
Generator Unit G-1015: 10,000 to 15,500 mc
Generator Unit G-1521: 15,000 to 21,000 mc

POLARAD offers a fully integrated line of Microwave Generating Equipment for measuring: receiver sensitivity, noise figure, signal to noise ratio, image rejection, beacon sensitivity, bandwidth, standing wave ratio, antenna gain and pattern, conversation gain or loss, attenuation, filter characteristics and multipulsed systems such as beacons, DME, Tacan.

ALL MODELS FEATURE: Continuously variable attenuator calibrated directly in —dbm. Internal modulation, pulse and FM. Internal square wave modulation. Synchronization outputs, delayed and undelayed. Provisions for external multipulse and pulse modulation. Rugged construction. Non-contacting short type choke in klystron cavity.

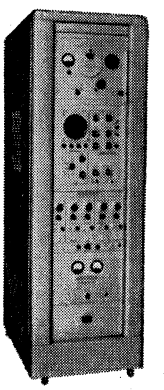
SPECIFICATIONS FOR SIGNAL GENERATORS SHOWN AT LEFT

(PMR, MSG-1, MSG-2, PMX, MSG-34 and PMK)

Frequency Accuracy: ±1%
Calibrated Power Output: 400 to 11,000 mc: 1 milliwatt
10,000 to 21,000 mc: 10 milliwatts

	MODULATION CAPABILITIES	
	400 to 4600 mc	**4200 to 21,000 mc**
Internal Square Wave:	40 to 4,000 pps	10 to 10,000 pps
Internal Pulse Modulation:		
Width:	0.5 to 10 μsec	0.2 to 10 μsec
Repetition Rate:	40 to 4,000 pps	10 to 10,000 pps
Delay:	2.5 to 300 μsec	2 to 2,000 μsec

CODE MODULATED MULTI-PULSE MICROWAVE SIGNAL GENERATOR



Model B
950 to 10,750 mc
For testing beacons, missiles, radar, navigational systems such as DME, Tacan, H.F. Loran.

FEATURES:
Four interchangeable oscillator units. Five independently adjustable pulse channels each featuring variable pulse width and delay. Built-in precision oscilloscope.

SPECIFICATIONS

Tuning Unit No.	Frequency Range
BL-1	950 to 2,400 mc
BS-1	2,150 to 4,600 mc
BC-1	4,450 to 8,000 mc
BX-1	7,850 to 10,750 mc

WRITE FOR COMPLETE SPECIFICATIONS AND PRICES

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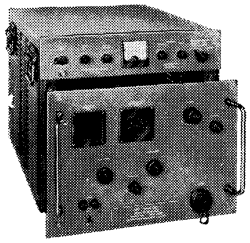
POLARAD
PROVEN RELIABILITY

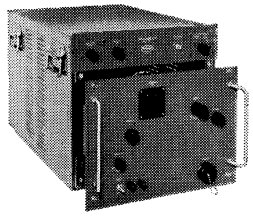
MICROWAVE SIGNAL GENERATION EQUIPMENT

EXTREMELY HIGH FREQUENCY MICROWAVE SIGNAL GENERATORS & SIGNAL SOURCES

12,400 to 50,000 mc



EHF GENERATOR



EHF SOURCE

Provides cw or modulated signals of known frequency for field, production line and laboratory testing of microwave equipment, components and systems.

FEATURES:
EHF Microwave Signal Generators
18,000 to 39,700 mc. 7 plug-in tuning units. Direct-reading calibrated attenuator and frequency meter. Internal 1,000 cps square-wave modulation, external pulse and FM.

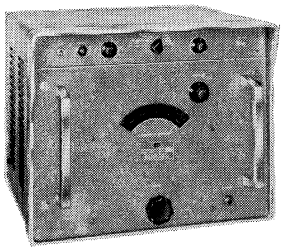
FEATURES:
EHF Microwave Signal Sources
18,000 to 50,000 mc. 9 plug-in tuning units. Internal 1,000 cps square-wave modulation. Capable of external modulation, both pulse and FM.

SPECIFICATIONS

EHF SIGNAL GENERATORS Basic Unit Model HU-2A		EHF SIGNAL SOURCES Basic Unit Model HU-1
Tuning Unit Model No.	**Frequency Range**	**Tuning Unit Model No.**
G1822	18,000 to 22,000 mc	S1822
G2225	22,000 to 25,000 mc	S2225
G2427	24,700 to 27,500 mc	S2427
G2730	27,270 to 30,000 mc	S2730
G3033	29,700 to 33,520 mc	S3033
G3336	33,520 to 36,250 mc	S3336
G3540	35,100 to 39,700 mc	S3540
	37,100 to 42,600 mc	S3742
	41,700 to 50,000 mc	S4150

Model SG-1218 Signal Generator and **Model SS-1218 Signal Source**
Available with a frequency range of 12,400 to 17,500 mc.

MICROWAVE SIGNAL SOURCE



Model KSS

1,050 to 11,000 mc

A stable source of microwave energy at relatively high levels of output power. For testing radars, microwave systems, antennas, filters, and components on the production line. **Basic Unit, Model HU-4:** Power supply and Modulator. Four interchangeable plug-in tuning units:

Tuning Unit No.	Frequency Range	Power Output Range
S-12	1,050 to 2,250 mc	80 to 400 mw
S-24	2,140 to 4,600 mc	40 to 250 mw
S-48	4,450 to 8,000 mc	15 to 50 mw
S-711	7,850 to 11,000 mc	14 to 40 mw

Modulation: Internal square wave, 10 to 10,000 pps. External square wave, pulse or FM.

FEATURES: UNI-DIAL tuning with dial accuracy of ±1%. Adjustable attenuator. Low incidental AM or FM on cw operation.

MICROWAVE SWEEP GENERATOR

Model CSG 1,000 to 16,000 mc

SPECIFICATIONS—Model CSG

Provides a high-power microwave signal adjustable from single frequency to a 2:1 swept frequency range.

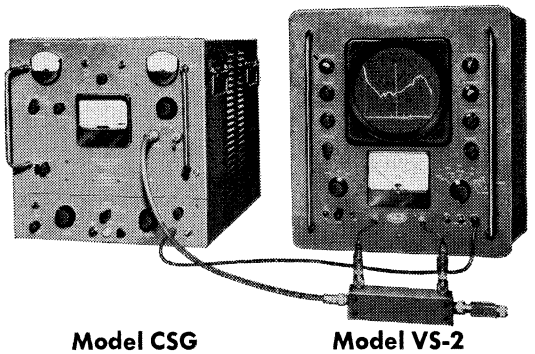
Sweep Rate: .001 to 100 cps, linear frequency
Internal AM: 1,000 cps & 456 kc square wave
External: Square wave, FM and pulse.

Basic Unit E-B1: Modulator and Power Supply.
Five Interchangeable Plug-In Tuning Units:

Tuning Unit	Frequency Range	Power Output
E12	1,000 to 2,000 mc	70 to 800 mw
E24	2,000 to 4,000 mc	70 to 750 mw
E37	3,600 to 7,200 mc	15 to 500 mw
E611	6,700 to 11,400 mc	15 to 200 mw
E816	8,500 to 16,000 mc	3 to 75 mw

RAPID SCAN RATIO SCOPE

Model VS-2



Model CSG **Model VS-2**

For instantaneous microwave analysis (VSWR, attenuation) at a single frequency or over an entire swept frequency range.

Model VS-2 used with sweep generator Model CSG. Displays the ratio of two input signals (incident and reflected wave, for example), gives a visual plot of VSWR as a function of frequency. Front panel meter shows signal ratio at a single frequency, or average over a swept frequency range. Bright calibrated 7" CRT display, accurate 5% full scale.

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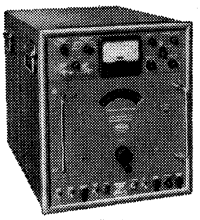
POLARAD — PROVEN RELIABILITY

MICROWAVE RECEPTION EQUIPMENT



Model R

MICROWAVE RECEIVER

400 to 46,700 mc

Four instruments in one:

- AM-FM receiver
- Field intensity receiver
- Pulse, pulse-time or pulse-position demodulator
- Sensitive power meter

For quantitative analysis of microwave signals, and the monitoring of all types of radio and radar communication.

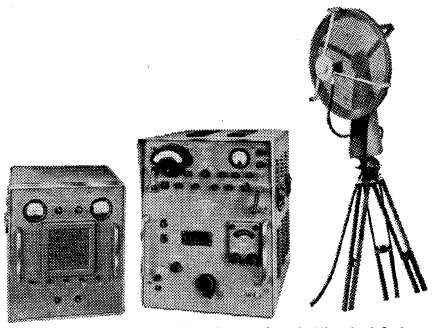
FEATURES: UNI-DIAL control with direct-reading frequency dial. AFC and AGC. Audio, video, recorder and trigger outputs. Output level read directly in db.

Basic Unit Model R-B: Power Supply, Signal Metering Circuits and I-F Amplifier Chassis.

Eight Interchangeable Plug-in Tuning Units:

Tuning Unit No.	Frequency Range	Sensitivity (Minimum Detectable Signal)
Model RR-T	400 to 1,000 mc	−90 dbm
Model RL-T	950 to 2,040 mc	−80 dbm
Model RS-T	1,900 to 4,340 mc	−80 dbm
Model RM-T	4,200 to 7,740 mc	−80 dbm
Model RX-T	7,300 to 11,260 mc	−80 dbm
Model RKS-T	9,500 to 15,600 mc	−65 dbm
Model RKU-T	14,700 to 22,000 mc	−65 dbm
Model RQ-T	20,260 to 31,260 mc	−65 dbm
	30,260 to 46,700 mc	−55 dbm

Reception Capabilities: AM, FM, cw, mcw, pulse
Frequency Dial Accuracy: ±1%
I-F Bandwidth: 3 mc
Video Bandwidth: 2 mc
Image Rejection: For Models RR-T thru RX-T— Greater than 60 db
For Models RKS-T and RKU-T— Bandpass filter
Input: Models RR-T through RX-T; 50 ohms
Models RKS-T, RKU-T & RQ-T: Waveguide
Range of Linearity: With AGC—60 db



Power Supply — Monitor and Tuning Unit — Calibrated Antenna

CALIBRATED MICROWAVE FIELD INTENSITY RECEIVER

Model FIM
1,000 to 10,000 mc

For accurate measurements of the frequency and absolute power level of conducted or radiated microwave energy. Combines a **calibrated receiver,** a **calibrated antenna system** and an **internal calibrated signal generator.** The **first** single test system to measure **both** absolute level of r-f interference, and susceptibility of other components to such interference.

FEATURES: UNI-DIAL control; single knob tunes both receiver and internal signal generator. Direct-reading frequency dial. Calibrated meter indicates average, peak or quasi-peak value of r-f signals. Calibrated signal generator output (1 milliwatt), external modulation capabilities. Audio, video and recorder outputs. Highly sensitive, extremely rugged. Supplied with system of calibrated antennas listed below.

Monitor Unit Model FIM-B. Power Unit Model FIM-P.

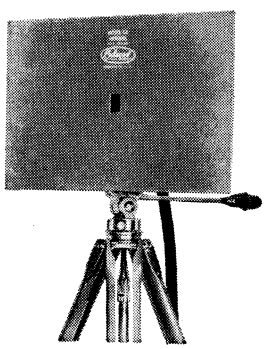
Four interchangeable plug-in tuning units:*

FIM-L	1,000 to 2,240 mc
FIM-S	2,140 to 4,340 mc
FIM-M	4,190 to 7,740 mc
FIM-X	7,360 to 10,000 mc

*U.S. Patent, 2,774,243

Frequency Calibration Accuracy: Better than ±1%
Input R-F Voltage Range: 20 microvolts to 3 volts
Impulse Bandwidth: 5 mc
Image and Spurious Response Rejection: Better than 60 db
Attenuation: 0 to 80 db in steps of 20 db

Approved Class A MIL SPEC under MIL-1-22600 and Ramo-Wooldridge Weapons System Specification WDD-M-PRO-2



CALIBRATED AND TEST ANTENNAS

1,000 to 10,000 mc
Calibrated Test Antennas
1,000 to 26,000 mc
Test Antennas

FEATURES: Rugged, weatherproof construction. Standard coaxial and waveguide fittings.

CALIBRATED TEST ANTENNA SPECIFICATIONS		TEST ANTENNA SPECIFICATIONS	
Model	Frequency Range	Model	Frequency Range
CA-B	1,000 to 10,000	UH1	400 to 1,000
CA-L	1,000 to 2,240	L	1,000 to 2,300
CA-S	2,140 to 4,340	S	2,150 to 4,600
CA-M	4,190 to 7,340	M	4,450 to 8,000
CA-X	7,360 to 10,000	Ku	12,400 to 18,000
		K	18,000 to 26,500
		Ka	26,500 to 40,000

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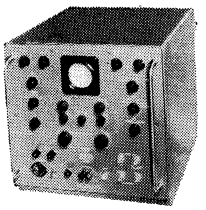
POLARAD MICROWAVE LABORATORY EQUIPMENT



PULSE JITTER TESTER

Model PJ-1

Measures:

Relative jitter: 5, 10 and 100 millimicroseconds full scale

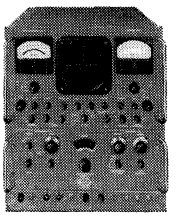
Pulse width pitter: 5, 10 and 100 millimicroseconds full scale

Repetition rate jitter: 5, 10 and 100 millimicroseconds and 1, 10 and 100 microseconds full scale

Displays:

Jitter magnitude

Jitter waveform



SERVO-ANALYZER

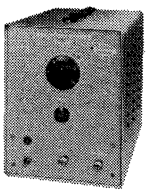
Model SV-1

Combines a precision multiple signal generator and oscilloscope. Feeds a modulated reference test signal through a servo, computer or other system circuit, and compares the response on a calibrated CRT scope. Tests amplitude, phase and transient response, response of magnetic and servo amplifiers, all AC and DC servo systems. Signal generator and oscilloscope may operate independently.

Frequency Range: .001 to 100 cps in 5 ranges

Outputs: Low frequency sine wave; sine modulated supressed carrier. Transient response signals: ramp, triangular, square wave and impulse.

Phase Measurement: Read directly, ±1% accurate.



PRECISION NOISE GENERATOR

Model N-1

1,000 cps to 500 mc
1 to 20 db

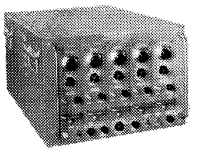
Provides stable, accurate noise output to measure directly the noise figure of vacuum-tube and transistor amplifiers and receivers in the 1,000 cps to 500 mc range.

Output: 1-19 db, variable in 1 db steps

Fine Adjustment: 0-1 db interpolation between each step

Dial Calibration: Noise figure indicated directly in db

Accuracy: 0.25 db



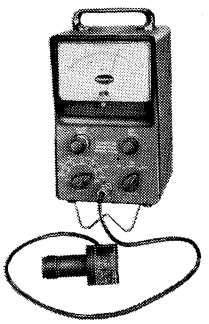
CODED MULTI-PULSE GENERATOR

Model MP-1a

Provides five independently adjustable pulse channels for generation of precise coded multi-pulse trains.

Modulation: Group repetition rate, 10-10,000 cps

Individual pulses, in group:
Width: 0.2 to 2 μsec
Delay: 0 to 300 μsec



TRANSISTORIZED MICROWAVE POWER METER

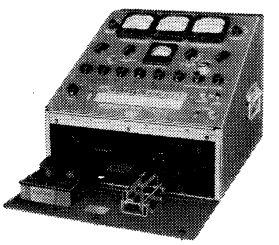
Model P-3

10 to 39,000 mc

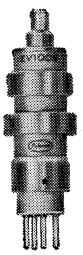
Measures absolute r-f power instantly without tuning. Line or internal battery operated. Rugged, weighs only 6 pounds. Twelve interchangeable thermistor mounts cover the frequency range.

KLYSTRON TUBE TESTER

Model K-200



Tests klystron tubes, both internal and external cavity tubes, pencil triodes, rocket and lighthouse tubes.



ALL-CERAMIC REFLEX KLYSTRON TUBES

Maximum shock, vibration and heat resistance. Guaranteed for operation up to 250° C; no cooling required. Low noise figure. High frequency accuracy, stability and freedom from microphonics.

Tube No.	Frequency Range
ZV 1012	500 to 3,000 mc
ZV 1010	700 to 3,000 mc
ZV 1009	1,500 to 6,000 mc

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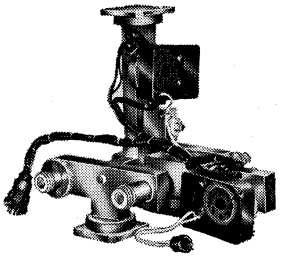
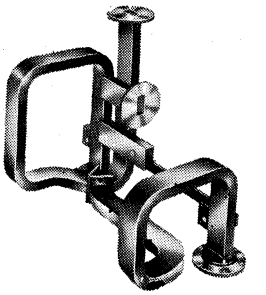
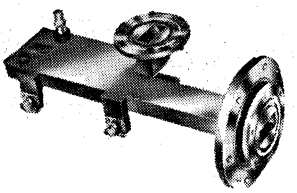
SPECIALISTS

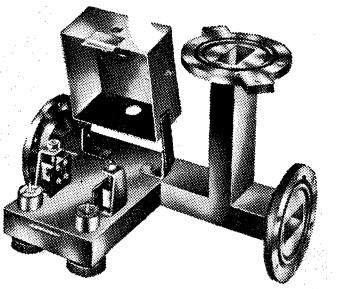
in WAVEGUIDES for MICROWAVE LINK SYSTEMS



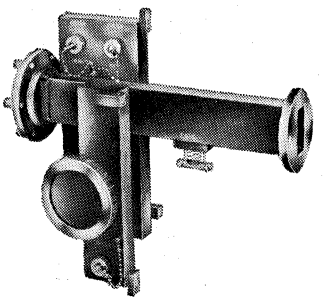


PORTCHESTER is unique in it's contribution to the field of Microwave in that it **SPECIALIZES** in **LINK EQUIPMENT.** Our complete facilities, devoted to this field exclusively, provide streamlined, low cost, high efficiency production and design.

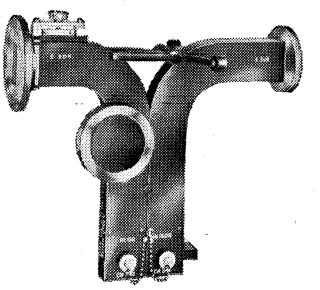


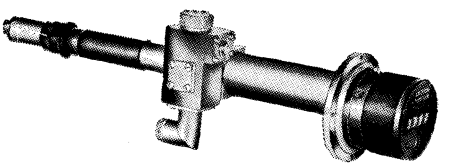


PORTCHESTER'S more than ten years of specialized experience is ready to provide you with engineering, development, production and performance testing of • **TEES** • **LOADS** • **CONVERTERS** • **HYBRIDS** • **REFERENCE CAVITIES** • **CROSSGUIDE COUPLERS** • **DUPLEXERS** • **WAVEMETERS** • **DIPLEXERS** • **TUNING UNITS** • **WAVEGUIDE FILTERS** • **ATTENUATORS** • **BENDS & TWISTS** • **DISCRIMINATORS** • **ANTENNA FEED HORNS** • **CRYSTAL MOUNTS** • **KLYSTRON MOUNTS** • **WAVEGUIDE CAVITIES** •



FOR COMPLETE DETAILS AND QUOTATIONS.
WRITE, WIRE, PHONE.





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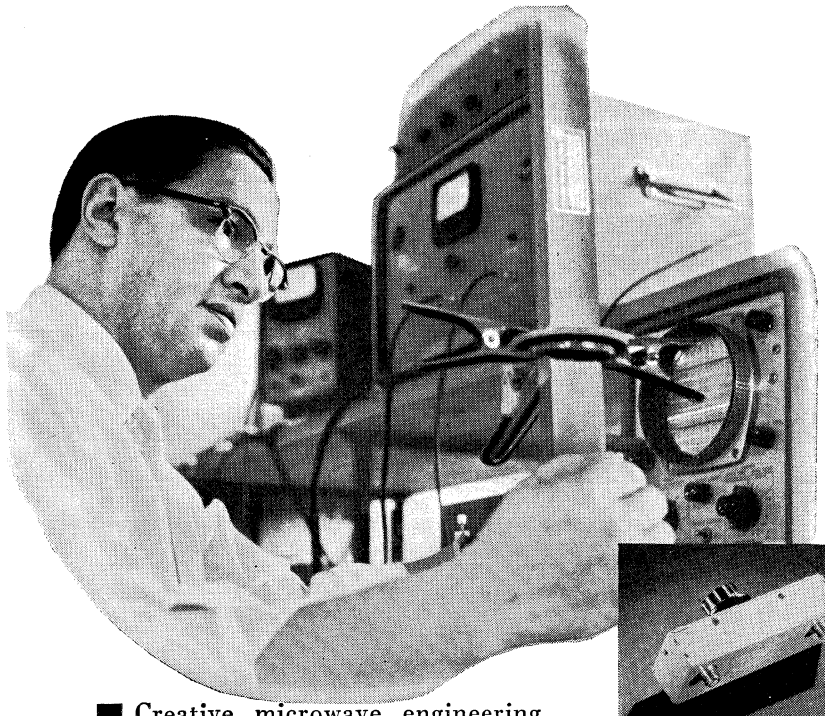
make the Difference



■ Creative microwave engineering talents work best when equipped with *extensive test and production facilities.* Here at PREMIER, our inventive, experienced engineers have at their disposal test and production equipment on a par with the most advanced in the entire microwave industry.

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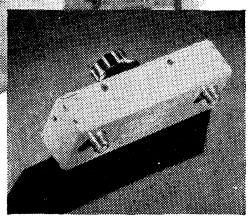
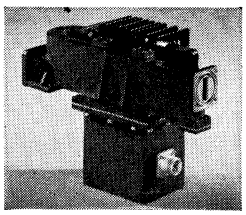
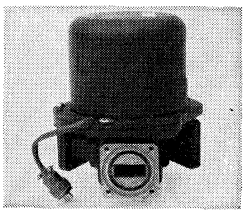


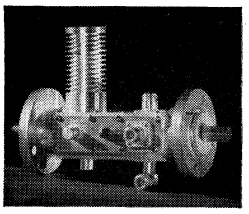
COAXIAL VARIABLE ATTENUATOR
Frequency Range-2670-2930 mc
Attenuation—25 db at 1.75 VSWR



HIGH POWER VARIABLE ATTENUATOR
Power Level—300 kw peak for 8.5-9.6 Kmc
Attenuation—.1-40 db at 1.15 VSWR



WAVEGUIDE SWITCH
VSWR-1.06 maximum
Isolation-100 db minimum



COAXIAL DIRECTIONAL COUPLER
Coupling Values—20 to 50 db
Directivity—greater than 30 db

PRECISION IS PREMIER TRADE MARK

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THE WAVEGUIDE HOUSE

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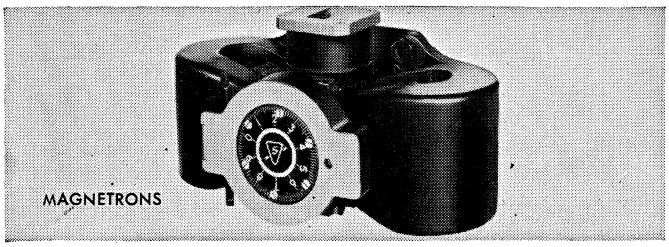
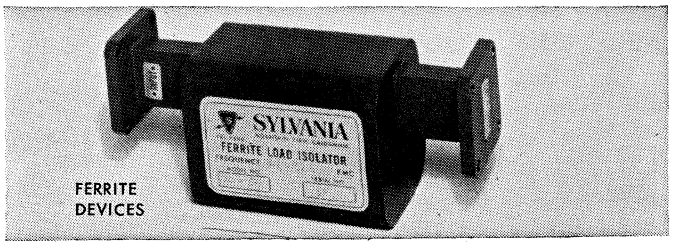

MAGNETRONS



FERRITE DEVICES

SYLVANIA MICROWAVE COMPONENTS & TUBES

"Rocket" Planar Triodes

Sylvania Rocket Tubes are planar-electrode disc-seal triodes for use as oscillators and amplifiers at frequencies up to 3300 mc. Design permits broadband operation. Tuning is simpler and covers a greater continuous range than that of many other types of UHF tubes.

2C36—is a pulse-modulated oscillator for frequencies up to 1200 mc.
2C37—is designed for use as a c.w. oscillator up to 3300 mc. Plate disc is flat, grid disc folded.
5764—is a pulse-modulated oscillator for use up to 3300 mc.
5765—is for use as a c.w. oscillator without external feedback in the range from 900 to 3000 mc.
5767—is a c.w. oscillator for use up to 3300 mc. Both discs are folded.
5768—is intended for use as a c.w. amplifier-multiplier up to 3000 mc.
6018—is intended for use as a c.w. amplifier-multiplier up to 3000 mc.
6BA4—High gain, low noise, UHF television amplifier.
6481 (RT434)—c.w. amplifier for use up to 3000 mc.
6503—c.w. amplifier for use up to 3000 mc.

Microwave Crystal Diodes

Sylvania manufactures microwave crystals for radar, countermeasure and test applications. All frequencies from 1000 to 35,000 mc are covered within the series.

Type	Purpose	Frequency
1N21B	Mixer	3000 mc
1N21C	Mixer	3000 mc
1N21D	Mixer	3000 mc
1N21E	Mixer	3000 mc
1N23B	Mixer	9375 mc
1N23C	Mixer	9375 mc
1N23D	Mixer	9375 mc
1N23E	Mixer	9375 mc
1N25	Mixer	1000 mc
1N25A	Mixer	1000 mc
1N26	Mixer	24000 mc
1N26A	Mixer	24000 mc
1N53	Mixer	25000 mc
1N53A	Mixer	25000 mc
1N53B	Mixer	25000 mc
D938	Mixer	35000 mc
1N78	Mixer	16000 mc
1N78A	Mixer	16000 mc
1N78B	Mixer	16000 mc
1N286	Mixer	10000-23000 mc
1N1132	Tripolar Mixer	3000-12000 mc
1N31	Video Detector	9375 mc
1N32	Video Detector	3000 mc
1N76	Video Detector	10000 mc
1N358	Tripolar Video Detector	1000-12000 mc
1N358A	Tripolar Video Detector	1000-12000 mc
1N369	Tripolar Video Detector	3000-12000 mc
1N369A	Tripolar Video Detector	1000-12000 mc
1N446	Video Detector	26500-40000 mc

NOTE: Reverse polarity and matched pairs are available for all mixer crystal types except 1N286 and 1N1132.

Magnetrons

Sylvania magnetrons are designed for military and commercial radar applications.

2J42	9375 Mc-Fixed	14 KW
2J42H	9375 Mc-Fixed; High Alt.	14 KW
2J42B	9375 Mc-Fixed; Ruggedized	14 KW
4J52A	9375 Mc-Fixed	—
6027	9375 Mc-Fixed	18 KW
6027H	9375 Mc-Fixed; Ruggedized	18 KW
5789	34800 Mc-Fixed	32 KW
6551	24000 Mc-Fixed	40 KW
6874	9000-9600 Mc-Tunable	190 KW
6799	34800 Mc-Fixed	100 KW
7006	9000-9600-Tunable; High RRV	190 KW
7098	9300-9500-Tunable; Ruggedized	60 W
M4063	34800 Mc-Fixed; Ruggedized	20 KW
M4064	34800 Mc-Fixed; Ruggedized	70 KW

TR and ATR Tubes

Sylvania's TR/ATR line emphasizes new developments in high power and coaxial types.

Type	Description	Frequency, mc
6164	Broadband TR	8490-9578
6163	ATR	9050
TR860	Coaxial TR	(classified)
TR610	Dual TR	2700-2900

Counter Tubes

Sylvania decade counter tubes provide visual and electrical read-out for a broad field of counting and programming applications.

Type	Rated Speed	Outputs
6476	4 KC	10
6476A	4 KC	10
6802	4 KC	4
6879	5 KC	3
6909	100 KC	4
6910	100 KC	10
7155	100 KC	3

Trigger Tubes

OA5—Cold cathode trigger tube capable of dissipating one watt of energy. Designed in T 5½ bulb size.

6483—Cold cathode trigger tube capable of dissipating one watt of energy. Designed in T-3 bulb size.

6873—Ruggedized cold cathode trigger tube with increased trigger sensitivity and higher operating voltage capabilities. T ½ bulb.

SYLVANIA

SYLVANIA ELECTRIC PRODUCTS INC.
Special Tube Operations
500 Evelyn Ave., Mountain View, Calif.

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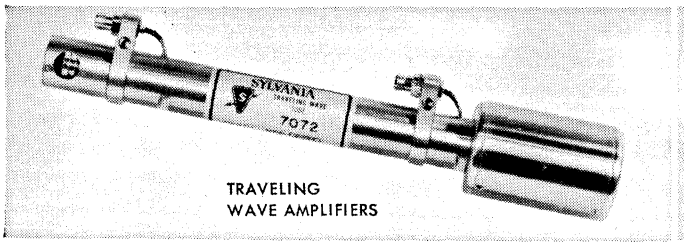
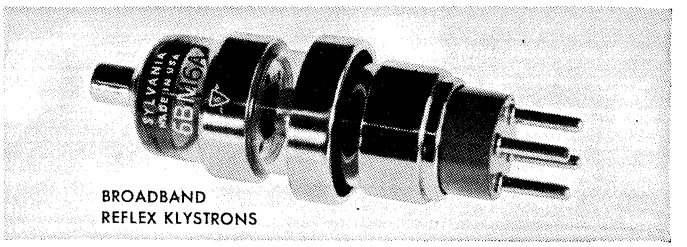


TRAVELING
WAVE AMPLIFIERS



BROADBAND
REFLEX KLYSTRONS

SYLVANIA MICROWAVE COMPONENTS

Rugged, Reliable Traveling-Wave Amplifiers

Broadband amplifiers for airborne, shipboard, and ground based equipment. Fully tested to complete military-type specifications. Ideal for countermeasures, radar, communications and test equipment.

Lightweight Permanent Magnet Types

Type	Frequency (KMC)	Minimum Output
TW-4006	1-2	10 mw
TW-4007	1-2	1 watt
TW-4002	2-4	10 mw
7072	2-4	1 watt

Compact Solenoid Types*

Type	Frequency (KMC)	Minimum Output
6753	1-2	10 mw
6752	1-2	2 watts
TW-538	1-2	0.5-1 KW, pulse
6493	2-4	10 mw
6559	2-4	2 watts
6698	2-4	0.5-1 KW, pulse
TW-613	8-11.5	5 mw
TW-591	8-10.5	0.5 KW, pulse

Rugged, Reliable Backward Wave Oscillators*

Compact voltage-tuned broadband oscillators for wide-range search receivers and test equipment.

Type	Frequency (KMC)	Power Output
6699	1-2	20-150 mw
6496	2-4	20-150 mw
BW-623	4-8	20-150 mw

*Mating Solenoid available for all types.

Long-Life Reflex Klystrons for Microwave Relays

These reliable klystrons are widely proven in microwave relay service. Fully tested to the equipment specification. Maximum frequency stability results from special tuner design.

Type	Frequency (KMC)	Power Output
6974*	4.6-5.0	1 watt
6468	5.3-6.6	0.07-1 watt
6469	5.8-7.125	0.07-1 watt
6470	6.3-7.5	0.07-1 watt
K-841B	6.125-6.425	1 watt
K-840B	6.575-6.875	1 watt
K-839B	7.125-7.425	1 watt

*Special Linear Tuner.

Broadband Reflex Klystrons

These versatile klystrons are ideal for search receivers, signal generators, and microwave relays. Extreme design flexibility achieved with external cavity design.

Type	Frequency (KMC)	Power Output
6BM6	0.55-3.8	50-175 mw
6BM6A*	0.55-3.8	50-175 mw
6BL6	1.6-6.5	60-250 mw

*Pulse type.

Waveguide Windows

Type	Freq. Range, mc	Waveguide
BW342	8730-9270	UG-52A/U
BW369	9205-9285	UG-40A/U
BW382	9300-9320	RG-52/U
BW416	9365-9385	UG-40A/U
BW586	8490-9578	UG-40A/U

Ferrite Devices

Sylvania Ferrite Devices are available in a wide range of frequency and power levels. The new Tee Circulators perform the same electrical function as standard phase-shift circulators, and occupy one-fourth the space.

	Type	Frequency (KMC)	Isolation (db)	Insertion Loss (db)
BROADBAND Type N Coaxial Isolators	FD-154	1.3-2.1	10	1
	FD-151	2-4	10	1
	FD-153	2-2.7	15	1
	FD-155	2.6-3.2	80	.5
	FD-152	2.7-3.6	15	1
BROADBAND Waveguide Isolators	FD-492	3.95-5.85	18	1
	FD-502	5.85-8.2	20	1
	FD-512	7.05-10	24	1
	FD-522	8.2-12.4	30	1
	FD-911	12.4-18	24	1
	FD-531	18-26.5	24	1

	Type	Frequency (KMC)	Power	Isolation (db)	Insertion Loss (db)
High Power Waveguide Isolators	FD-483	2.8-3.6	3 KW, avg	15	0.8
	FD-963	4.6-5	20 W, CW	25	1
	FD-977	5.3-5.5	120 KW, pk	15	1
	FD-503	5.925-6.425	20 W, CW	40	0.8
	FD-503A	5.925-6.425	20 W, CW	60	1
	FD-504	6.575-7.125	20 W, CW	60	1
	FD-962	7.1-8	20 W, CW	35	1
	FD-505	7.125-7.75	20 W, CW	60	1
	FD-525	8.2-10.2	100 KW, pk	30	1
	FD-524	8.5-9.5	100 KW, pk	20	1
	FD-1013	8.5-9.6	125 KW, pk	15	0.8
	FD-1037	8.5-9.6	125 KW, pk	25	1
	FD-523	9.5-10.5	100 KW, pk	15	0.5

	Type	Frequency (KMC)	Power	Isolation (db)	Insertion Loss (db)
Ferrite Circulator Duplexers	FD-C-501	5.925-6.425	150 W, avg	25	0.5
	FD-C-502	6.425-6.875	100 W, avg	25	0.5
	FD-C-503	7.125-7.75	100 W, avg	25	0.5
	FD-C-521	8.2-10	100 W, avg	29	0.5

	Type	Frequency (KMC)	Power	Isolation (db)	Insertion Loss (db)
Tee Circulators	FD-TC-501	5.925-6.425	20 W, avg	22	0.5
	FD-TC-522	8.77-8.83	20 W, avg	22	0.3

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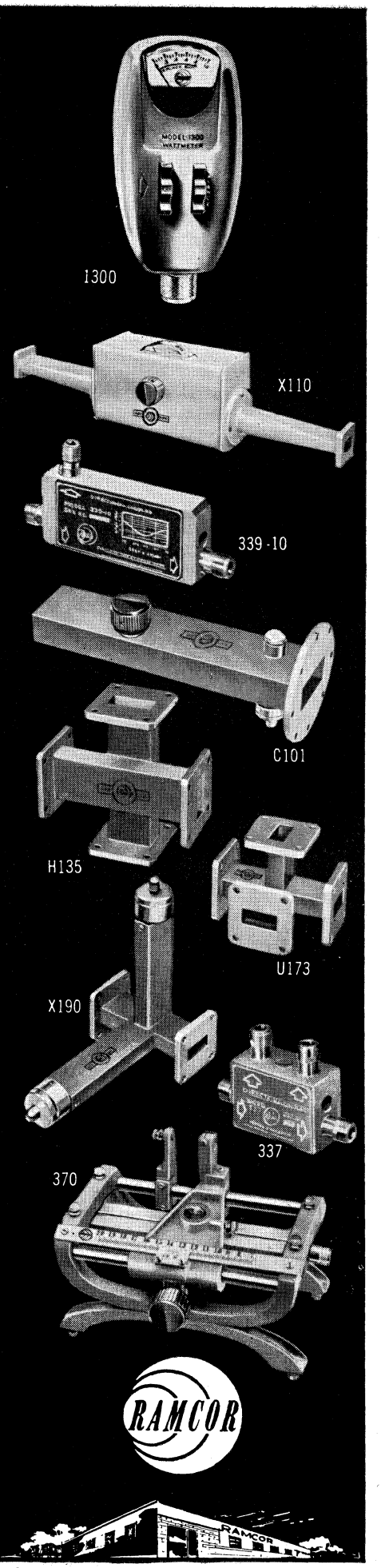
RELIABILITY + ACHIEVEMENT

RAMCOR

RAMCOR has combined the experience of recognized leaders in Electronic and Microwave fields with proven precision, quality, and manufacturing capability. By formalization of these efforts RAMCOR has expedited a program geared to meet the instrumentation requirements in both the Military and Commercial fields.



MICROWAVE EQUIPMENT

Freq. KMc / W. G.	L 1.12-1.70 6½"x3¼"		S 2.65-3.95 3"x1½"		C 3.95-5.85 2"x1"		J 5.85-8.2 1½"x¾"		H 7.05-10.0 1¼"x⅝"		X 8.2-12.4 1"x½"		U 12.4-18.0 .702"x.391"	
Adapters	L101	$170	S101	$ 50	C101	$ 40	J101	$ 35	H101	$ 30	X101	$ 25		
Attenuators Calibrated 20 db			S105	375	C105	325			H105	275	X105	200	U105	$250
Attenuators, Precision Rotary Calibrated					C110	500			H110	350	X110	250		
Attenuators, Variable			S115	110	C115	100	J115	90	H115	80	X115	60	U115	75
Attenuators, Fixed			S118	75	C118	65	J118	65	H118	60	X118	55	U118	60
Bends "E"			S120	100	C120	75	J120	55	H120	35	X120	25	U120	35
Bends "H"			S122	100	C122	75	J122	55	H122	35	X122	25	U122	35
Detectors—Shorts, Adjustable					C125	125			H125	115	X125	110	U125	145
Detectors, Fixed											X128	75		
Directional Coupler Bi-Directional, 10 db			S130	650	C130	400					X130	175		
Directional Coupler L135 Cross Guide 20, 30 db			S135	125	C135	110			H135	56	X135	48	U135	56
Directional Coupler Multi-Hole 10 db			S137	360	C137	225			H137	120	X137	95	U137	100
Horns			S150	175	C150	150			H150	85	X150	80	U150	80
Mixers														
Switches					C160						X160			
Slotted Line					C165	110	J165	110	H165	110	X165	90	U165	110
Tee, Series	L170	175	S170	90	C170	80	J170	60	H170	45	X170	35	U170	40
Tee, Shunt	L172	175	S172	90	C172	80	J172	60	H172	45	X172	35	U172	40
Tee, Hybrid	L173	220	C173	110	C173	95	J173	75	H173	60	X173	50	U173	55
Termination, High Power			S175	250	C175	225			H175	125	X175	125	U175	125
Termination, Low Power			S178	45	C178	35			H178	25	X178	20	U178	25
Termination, Sliding			S180	95	C180	75	J180	70	H180	60	X180	50	U180	55
Tuner, E-H			S190	225	C190	175	J190	150	H190	135	X190	130	U190	130
Tuner, Slide Screw			S192	225	C192	185			H192	130	X192	125	U192	130
Universal Probe Carriage:	Model 90 This carriage mounts the C. J. H. X & U165 Ramcor Waveguide Slotted Section and Ramcor 370 Coaxial Slotted Line. $125.													

COAXIAL EQUIPMENT

Attenuator — Variable
Model 715 (⅞ coax)
600-4,000 mc

Directional Couplers Type N

	*10db	20db	30db
Model 335 225-460 mc	$150	$125	$125
Model 336 460-950 mc	$150	$125	$125
Model 337 950-2,000 mc	$150	$125	$125
Model 338 2,000-4,000 mc	$150	$100	$100
Model 339 4,000-10,000 mc	$200	$150	$150

* Other couplers available from 25 to 225 mc.

Adapters Type N to ⅞
Model 310 $25

Detectors Type N
Model 324 .10-10.0 kmc $75
Model 325 .05-.12 kmc $50
Model 326 2.20-4.50 kmc $50

Tuner — Double Stub Type N*
Model 385
1.000 to 12,400 $90
* Other fittings available upon request.

Slotted Line
Model 370 Type N
3-12 kmc $200

Termination Type N*
Model 378
2.000 to 12,400 mc $55
*Other fittings available upon request.

Thermistor Mount
Model 385, Type N-In BNC-Out
10 mc to 10.000 mc $75

Termination Sliding Type N*
Model 380
2.000 to 12,400 mc $110
* Other fittings available upon request

All prices and data subject to change. For further information contact RAMCOR

RADAR MEASUREMENTS CORPORATION • 190 DUFFY AVENUE, HICKSVILLE, N. Y.

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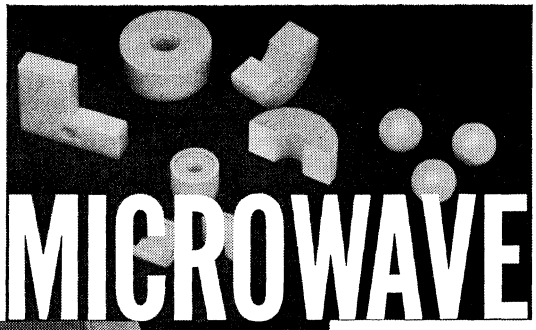
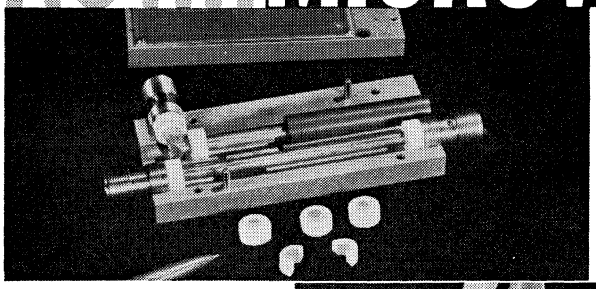


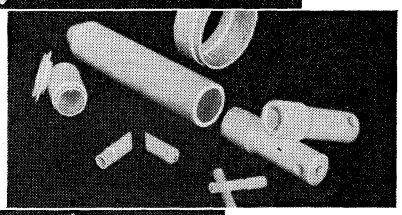
NOW...MICROWAVE INSULATORS

and dielectric components

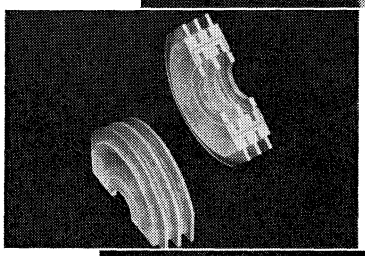


CUSTOM MACHINED

to ±.001" and less from

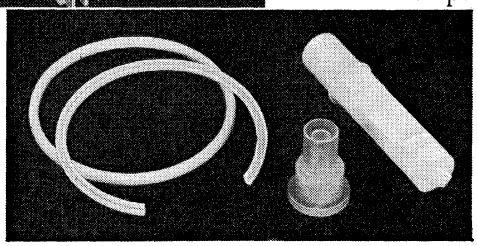


TEFLON®
KEL-F®
Styrenes
Phenolics
Nylons and others



Your prototype and production microwave insulators can be machined *best* by a specialist in machining plastics for the electronics industry...TRI-POINT.

Tri-Point machines *only* plastics...has developed special techniques to obtain high precision *consistently* and *economically*. In machined Teflon, Tri-Point is the leader...extrudes its own machining-grade Teflon rod, tube...precision-machines "impossible" components for leading electronics manufacturers.



Get details and quotations, promptly, from Pat Ruggieri

TRI-POINT PLASTICS, INC.

175-177 I.U. Willets Road
Albertson, L.I., N.Y. • MAyfair 1-5800

PIONEERS in TEFLON Extrusion... PLASTICS Machining

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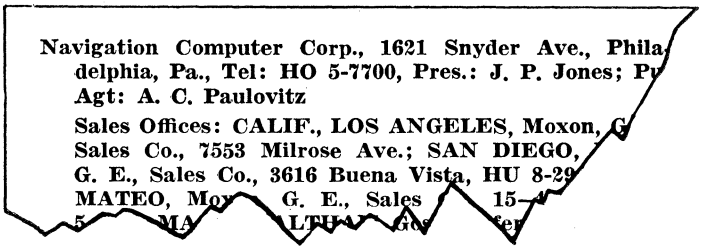
MANUFACTURERS' DIRECTORY... *fingertip reference to 5,000 suppliers*...and their local sales offices

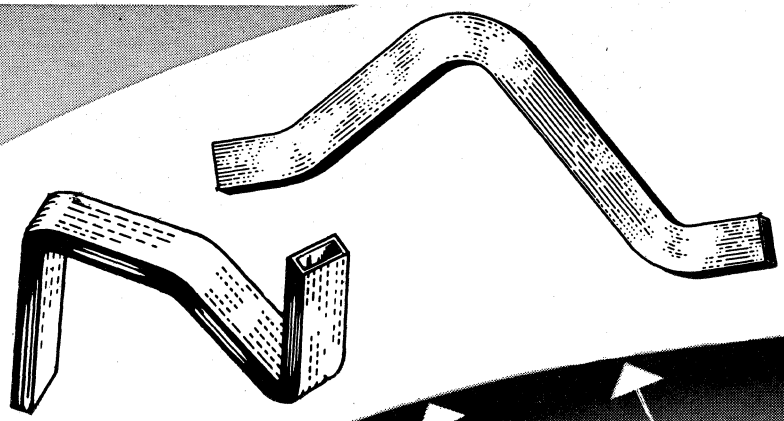


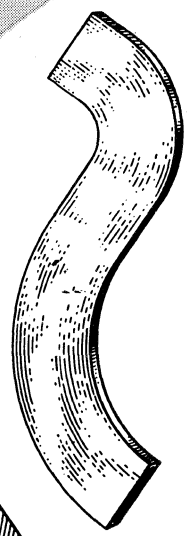
The names, addresses, phone numbers and key personnel of more than 5,000 manufacturers are listed alphabetically in the Manufacturers' Directory. What's more, their sales office closest to you can be located quickly.

Refer to the YELLOW SECTION for MANUFACTURERS... SALES OFFICES

Tell Them You Saw It In **eem**

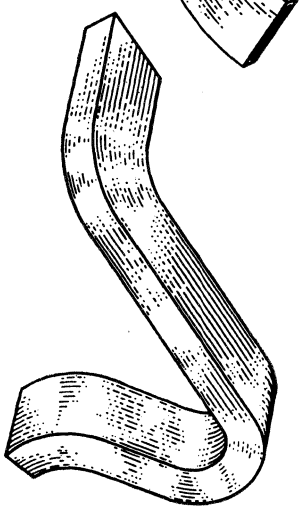
COSTS NO MORE TO HAVE THE *finest* when you buy . . .

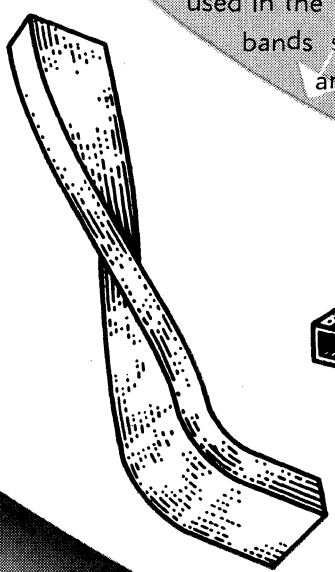


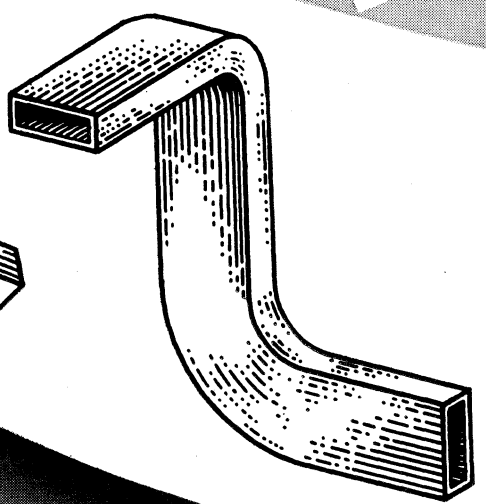


UNIWAVE'S *Microsmooth* BENDS AND TWISTS IN WAVEGUIDES

Uniwave's unique "Microsmooth" forming process produces a slick, uniformly smooth interior in the bending and twisting of waveguides to any shape. Energy-absorbing hot spots, draw marks, creases, burrs and ripples are eliminated — providing for absolute, distortion-free wave travel. This process maintains close tolerances on inner dimensions while bends in any plane can be combined with offsets, twists and sharp radii. Uniwave's "Microsmooth" process is currently used in the production forming of waveguides for bands such as the C, X and K. Quotations are furnished to customer's blueprints for all sizes, shapes, lengths, materials and quantities.







BLUEPRINT QUOTES IN 24-48 HOURS ON PRODUCTION QUANTITIES

UNIWAVE, INC.

GRAND & MARINE STREETS
FARMINGDALE, L. I., N. Y.
CHapel 9-8180

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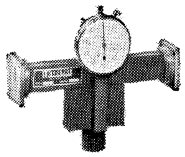
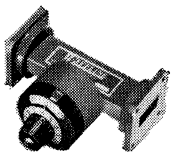
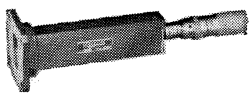
MICROWAVE TEST EQUIPMENT
WAVEGUIDE ASSEMBLIES



PRECISION CALIBRATED ATTENUATORS
8 units cover 2.60 to 40.0 Kmc/Sec
.5 to 40.0 db range at ± 0.2 db accuracy
Rugged design - broadband operation - low VSWR



CALIBRATED - SHIELDED ATTENUATORS
611 — 8.2 to 12.4 Kmc/Sec
711 — 12.4 to 18.0 Kmc/Sec
.3 to 35 db
1.15 Max VSWR

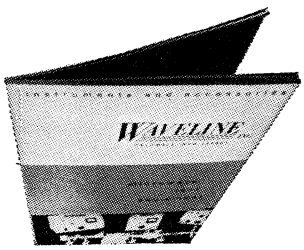


WAVEGUIDE ADJUSTABLE SHORTS
Non-contacting shorts — micrometer or knob adjustments — non backlash.
Type 661 8.2 to 12.4 Kmc/Sec

MICROWAVE NOISE SOURCES
Waveguide tube mounts and power sources provide direct reading noise measurements 2.6 to 40.0 Kmc/Sec.
2200-8-DR
18.0 to 26.5 Kmc/Sec

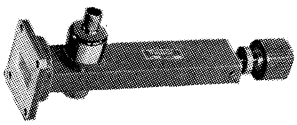
Precision Test Instruments
2600 to 90,000 MCS.

A complete line of test instruments . . . precision built . . . rugged in design . . . easy to operate and maintain . . . for laboratory or field use . . . versatile. Dependability and low cost are achieved by the latest volume production techniques. A 90 page catalog available upon request describes over 600 instruments and presents photos, electrical and mechanical data, charts, curves and engineering information.



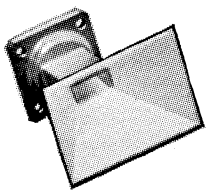
ATTENUATORS
SLOTTED LINES
WAVEGUIDE COUPLERS
TERMINATIONS
FREQUENCY METERS
PHASE SHIFTERS
DETECTOR MOUNTS
PRECISION TUNERS

SHIELDED LEVEL-SET VARIABLE ATTENUATOR
8.2 to 12.4 Kmc/Sec
.2 to 20.0 db Locking



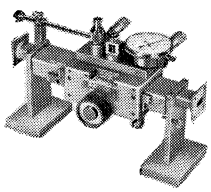
DETECTOR MOUNTS
Broadband Crystal — Bolometer mounts fixed and tunable — non contacting shorts — R.F. chokes — twenty types cover all bands —
Type 614
8.2 to 12.4 Kmc/Sec

STANDARD GAIN HORNS



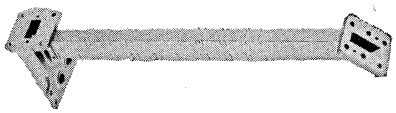
8 units cover 2.60 to 40.0 Kmc/Sec — 15 db gain — 30° beam width — low VSWR rugged design — gold plated — calibrated

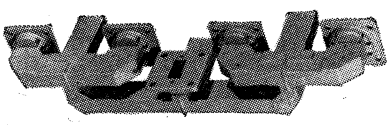
SLOTTED SECTIONS

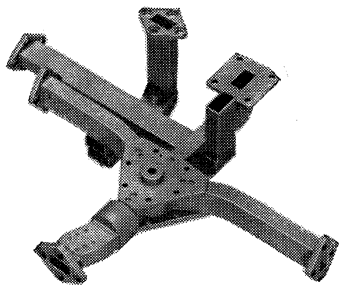


Designed to provide maximum accuracy and sensitivity. Nine units cover 2.60 to 40.0 Kmc/Sec.
Type 764

Cavity Machined to Tolerance of .0005 ins.
Cavity Brazed to Tolerance of ± .001







TYPICAL RIGID PRODUCTION SPECIFICATIONS
Angular ± 0° 15'
Squareness and Parallelism .002 in. per in.
Machined Dimensions ± .002 in.
Brazed Dimensions ± .005 in.
Surface Finish 32
Pressure 15 PSI
Material 6061-T6 Alum. Alloy

CUSTOM MICROWAVE ASSEMBLIES
Brass . . . Aluminum Magnesium

Complete facilities for the design, development and production of assemblies to the customer's special requirements. Utilization of the most modern manufacturing techniques makes possible the low cost, high volume production of all Microwave assemblies including extremely complex units such as those pictured here.

Phone CApitol 6-9100
TWX Caldwell, N. J. 703

WAVELINE INC.
CALDWELL, NEW JERSEY

For the name of our sales engineer in your area please refer to the complete listing in the Field Salesmen Index.

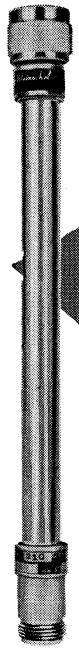
See YELLOW SECTION for Local Offices, Telephone, etc.

WEINSCHEL

PRECISION COAXIAL ATTENUATORS AND TERMINATIONS

DC to 12.4 KMC

Our experience in making coaxial attenuators and terminations with our own stable film resistors since 1947 is your assurance of quality and long term repeatability. We invite inquiries for applications requiring special tolerances or higher power ratings.



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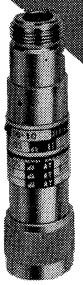

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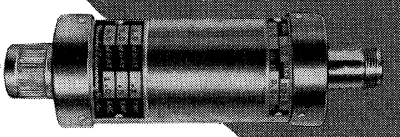


10

Precision Fixed Coaxial Attenuators

Accuracy and stability assured by rigid testing and careful calibration.

DC to 12.4 KMC with our own Metal Film and Cracked Carbon Film Resistors. Connectors: N, BNC, TNC, C, SC, and 7/8".

TYPICAL MODELS

50 ohm impedance Type N connectors, stainless steel

Model 10

10 Watt power pads
Frequency: DC to 1 KMC
Attenuation: 1 to 10 db
Maximum input VSWR: 1.15, Bilateral

Model 50

Frequency: DC to 1 KMC, Usable to 2 KMC
Attenuation: 1 to 50 db
Maximum input VSWR: 1.15, Bilateral

Model 210

Frequency: 1 to 10 KMC
Attenuation: 1 to 20 db
Also in ruggedized version to meet MIL-A-3933 and MIL-T-945A (Model 530)

STABLE, PRECISION COAXIAL TERMINATIONS

DC to 10 KMC (50 ohms)
Made with ***Weinschel*** Film Resistors

Power: 1 watt, 1 KW peak available with Type N, C, SC, BNC, and TNC connectors

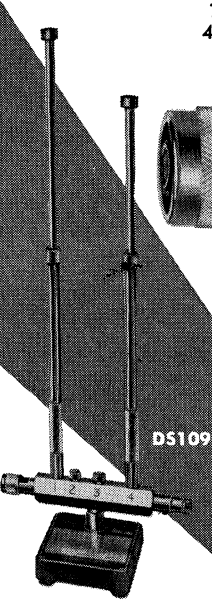
Maximum VSWR of Model 535 with male or female Type N connectors

DC to 1 KMC:	**1.03**
1 to 4 KMC:	**1.05**
4 to 10 KMC:	**1.15**

535MN

535FN

We supply individual VSWR calibrations at seven frequencies: DC, .4, 1, 2, 4, 7.5, and 10 KMC. Other frequencies upon request.



DS109

DOUBLE STUB TUNERS

- chart on base for easy matching
- collet-type locks prevent accidental movement of stubs
- adjustable spacing between stubs
- adjustable height

FREQUENCY RANGES

DS 109	.75 to 10 KMC
DS 109L	.4 to 4 KMC
DS 109LL	.2 to 2 KMC

for ACCURACY and STABILITY *Weinschel* PRECISION COAXIAL ATTENUATORS

DC to 1 KMC Accuracy (at DC)

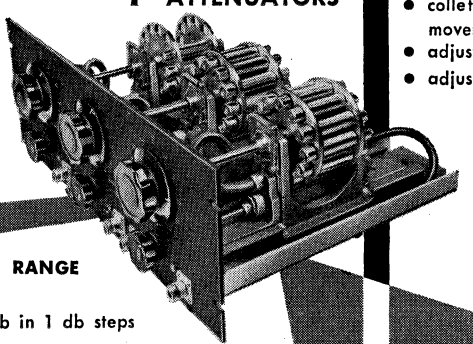
1 to 5 db:	.02 db
6 to 10 db:	.05 db
20 to 50 db:	.10 db

RF Calibration Accuracy

1 to 30 db:	.1 db
40 to 50 db:	.2 db

We supply individual calibrations at 400 and 1000 MC and, upon request, at other frequencies.

STEP ATTENUATORS



ATTENUATION RANGE

Model 60
2 drums, 0-60 db in 1 db steps

Model 64
3 drums, 0-64 db in .1 db steps

Model 640
3 drums, 0-110 db in 1 db steps

Impedance—50 ohms
Connectors—Type N

Our facilities for attenuator calibration are the most accurate facilities available commercially.

WE CO

Weinschel Engineering

KENSINGTON, MARYLAND

See YELLOW SECTION for Local Offices, Telephone, etc.

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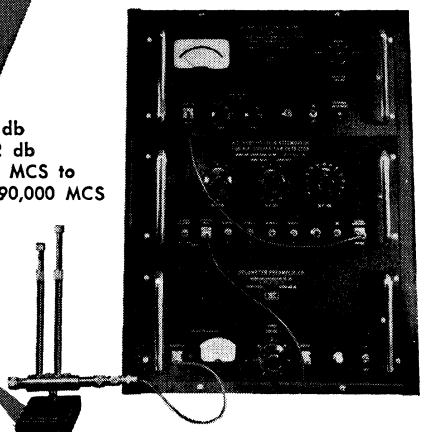
INSERTION LOSS TEST SETS

MEASURE ATTENUATION Directly up to 30 db Single Channel INSERTION LOSS Test Set

Maximum Systems Error: . .1 db
Resolution About ..... .02 db
Frequency Range: ..... 20 MCS to 90,000 MCS



KEY INSTRUMENTS

Bolometer Preamplifier, Model BA-1B

Features wide dynamic linear range, extremely low noise level, cannot burn out barretter.

AF Substitution Attenuator for RF Square Law Detector, Model CF-1

Calibrated directly in rf power ratios; has high input impedance, low output impedance.

Audio Level Indicator, Model IN-1

Precharging circuit reduces required observation time. Has adjustable indicator time constant, low noise level.

Double Stub Tuner, DS-109

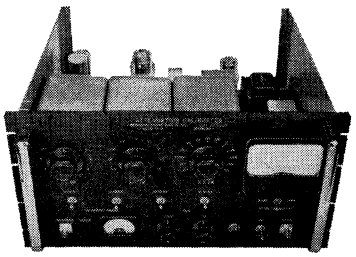
For theory, method, required instruments and recommended accessories, request Application Notes #1.

Dual Channel INSERTION LOSS Test Set

.01 db Precision for 20 db Measurement with Changes of .1 db in Level of r.f. Source

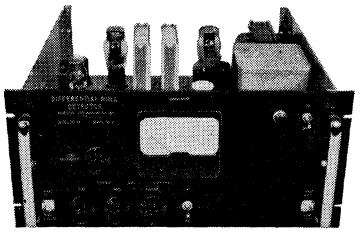
Systems Accuracy .02 db/10 db. 20 db attenuation range, direct. 40 db range with partial r.f. substitution. Frequency range: **20 MCS to 90,000 MCS**

KEY INSTRUMENTS



Attenuation Calibrator, Model BA-5

Combines Precise Audio Substitution Attenuator, Bolometer, Preamplifier and Level Indicator.



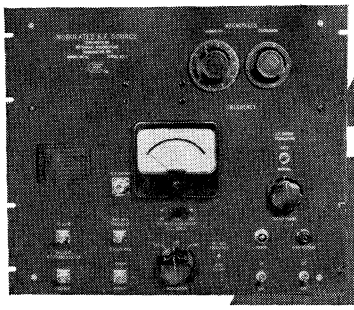
Differential Null Detector, Model ND-1

Specifically designed for two channel loss measurements

For theory, method, required instruments and recommended accessories, request Application Notes #4.

MODULATED RF SOURCES

50 to 10,500 MCS, 100% Square Wave MODULATED RF SOURCES offer High Amplitude and Frequency Stability



Model MS-6

Output Amplitude Independent of Load

Feedback circuit maintains constant incident power, allowing use of full generator output without power consuming impedance masking.

Amplitude Stability

After one hour warm-up, and without feedback circuit: ± 0.1 db/hr. With regulator and external directional coupler, the incident power will change less than 0.2 db for a change in load of from 25 to 150 ohms. With a voltage probe, the voltage variation is reduced by 10:1 by feedback.

Model No.	Frequency MCS	Minimum Peak Power Output (100% Sq. Wave Modulated)
MS-1	50-250	80MW
MS-2	250-920	200MW
MS-3	900-2000	100MW
MS-4	2000-4200	60MW
MS-5	4000-7300	40MW
MS-6	7200-10,500	30MW

WEINSCHEL

WE CO

Weinschel Engineering

KENSINGTON MARYLAND

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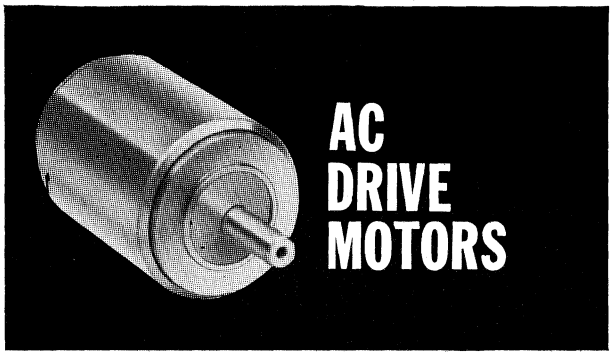
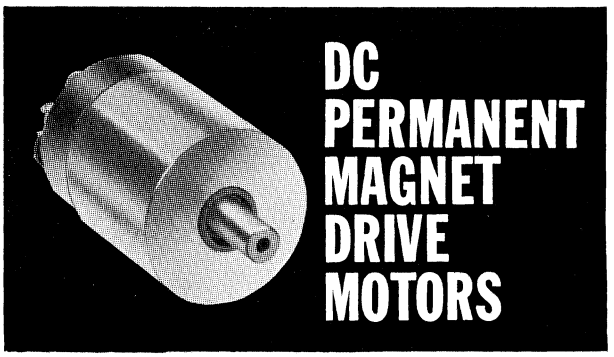
SUB-FRACTIONAL AC & DC MOTORS BY AMERICAN ELECTRONICS, INC.

American Electronics, Inc. is staffed and equipped for the complete design, development and manufacture of sub-fractional AC and DC motors and electro-mechanical systems — for the avionics, electronics and instrumentation industries. Experienced engineering know-how has established a reputation for continual product improvement through new and advanced designs. A staff of application engineers, highly skilled in specification analysis, assure you of the right design for the right application. Standards of reliability and performance are unsurpassed, and automated manufacture keeps prices at a minimum. In-process inspection is performed with certified test equipment and gages on each part and sub-assembly. Final testing is performed under the Quality Control System, which meets MIL-Q-5923-C.



Induction, hysteresis synchronous. Fixed, variable and high frequency—60,400; 320/1000; up to 2000 cps. Standard frame diameters: 1.450, 1.665, 2.000, 2.500, 3.000, 3.312. Output: 0.5 to 750 watts. Built to MIL-M-7969-A. Non-destructible squirrel cage rotor, dynamically balanced. Straight-through machining performed from one reference; and uniformly machine-wound stator for reliability, longer life. Available with gear box, brake, clutch, standard or high pressure blower.

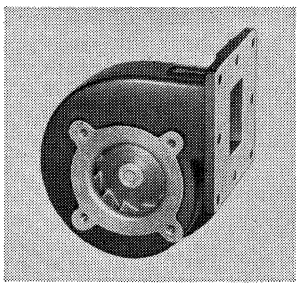


1.125″ diameter motor output: 40 watts intermittent, 20 watts continuous. (Available in 0.875 diameter with proportionate output.) Built to MIL-M-8609. Range: 12 to 120 volts. Standard frame diameters: permanent magnet—0.875, 1.125; wound-field—1.500, 1.625, 2.688, 3.500. Output: 0.5 to 400 watts.

Commutator with high silver content provides greater conductivity, less friction. Sized brush ports assure accurate alignment, uniform pressure. High impact-strength commutator end bell, and bi-directional brushes tested at altitudes up to 120,000 feet. Available with gear box, brake, clutch, governor, filter, standard or high pressure blowers.

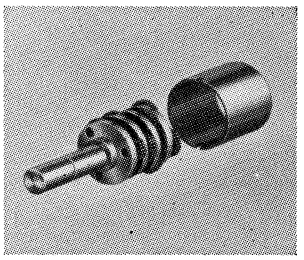
FOR PRECISION SERVO COMPONENTS & SYSTEMS SEE CLASSIFICATION 4900

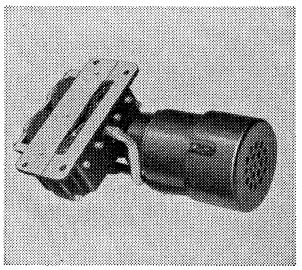
ELECTRO-MECHANICAL SYSTEMS



CENTRIFUGAL AND VANE AXIAL BLOWERS – Two- and four-pole blower motors with greater air delivery. High speed, light weight. Dynamically balanced blower wheels and fans provide freedom from noise and vibration – dependable service and long life. Clockwise or counter-clockwise rotation, air-over or air-away, single or double ended.

GEAR BOXES – Planetary system to fit your individual application. Standard gear housing diameters: 1 3/16 and 7/8 in. Standard planetary systems may be supplied in five stages with ratios up to 16,807:1; others upon request.





ELECTRO-MECHANICAL SYSTEMS—Components forming a building-block type of construction permit the use of standard motors and accessories with only slight modifications.

Write, Wire or Phone for further details or consultation in your office.

ELECTRO-MECHANICAL DIVISION
AMERICAN ELECTRONICS, INC.
4813 Telegraph Road
Los Angeles 22, California

Representatives in Principal Cities

See YELLOW SECTION for Local Offices, Telephone, etc.

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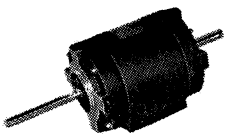
ASHLAND MOTORS

Made Right! Priced Right!

Make Ashland your prime source, too, for precision-engineered and precision-made Synchronous, Torque, Induction or Gear Motors. Quality-controlled Ashland rotating electrical components are compact, rugged and offer the utmost efficiency and long life under specified conditions. Both standard and custom-designed models are available to order for critical commercial or military applications. WRITE OR CALL TODAY.

ASHLAND TORQUE MOTORS



Used in Recorder, Servo and positioning applications, these excellent Capacitor start and run Motors **will not overheat in continuous duty.** Ashland Torque Motors have an almost unmeasurable external flux field. They may be had in either 3 5/16" or 3 7/8" diameter to meet exact speed/torque specifications.

MODEL	FREQ.	MAX. TORQUE	PHASES	POLES	DIA.	LENGTH
C74NKP-2	60-cy.	34 oz-in	1	4	3 5/16"	4 3/8"
A70KKP-1	60-cy.	17 oz-in.	1	4	3 5/16"	3 1/8"
C78PKP-1	60-cy.	70 oz-in.	1	4	3 5/16"	5 1/2"
A88KZU-1	400-cy.	24 oz-in.	1	12	3 7/8"	5 61/64"
A705NMQKM-1	400-cy.	6 oz-in	3	8/4	3 5/16"	2 1/16"

VERSATILE INDUCTION MOTORS

Ashland self-cooled or totally enclosed Induction Motors are suitable to a wide variety of applications, and can be made to meet your most precise specifications. Close tolerances and superior design assure the greatest efficiency and long life. They are supplied in frame sizes from 1 3/4" to 3 7/8".

MODEL	NOM. HP	RPM	VOLTS	FREQ.	PHASE	AMPS	DIMENSIONS
D72KMP-1	1/125	750	115	60	1	.2	3 3/4 x 3 5/16" dia.
A70KKM-1	1/100	1625	115	60	1	.4	3 1/8 x 3 5/16" dia.
A70MJN-1	1/50	3300	115	60	1	.3	3 1/8 x 3 5/16" dia.
D84QKU-1	1/25	1625	220	60	1	1.0	4 61/64 x 3 7/8" dia.
A82SJM-1	1/15	3250	115	60	1	1.0	4 23/64 x 3 7/8" dia.
A84UJU-1	1/10	3250	115	60	1	1.2	4 5/64 x 3 7/8" dia.
A88WXU-1	1/6	3450	208	60	3	1.0	5 5/64 x 3 7/8" dia.
A88YZM-1	1/3	5000	115	400	1	4.0	5 5/64 x 3 7/8" dia.
A42MLM-1	1/50	6200	120	400	1	.5	2 1/16 x 1 3/4" dia.
A52LLM-1	1/75	7200	115	400	1	.45	2.830 x 2" dia.

PROMPT DELIVERY. WRITE FOR NEW ASHLAND CATALOG.

HYSTERESIS SYNCHRONOUS MOTORS

Ashland Hysteresis Synchronous Motors, widely used in the Recorder industry, are designed for superior and precise performance. Available in single or dual speed models, these high quality Motors can be made to meet your most exacting torque and speed specifications and can be modified to suit any physical requirements.

MODEL	RPM	AMPS	HP	START TORQUE	FULL LOAD TORQUE	DIA.	LENGTH
D84GZU-1	600	0.5	1/200	8.4 oz-in	8.4 oz-in	3 7/8"	4 61/64"
D80GDU-1	900	0.4	1/200	5.6 oz-in.	5.6 oz-in	3 7/8"	3 61/64"
D80KBU-7	1800	0.4	1/100	5.6 oz-in	5.6 oz-in	3 7/8"	3 61/64"
A82MBU-1	1800	0.65	1/50	11.2 oz-in	11.2 oz-in	3 7/8"	4 23/64"
F86RBU-1	1800	1.1	1/20	32.0 oz-in	32.0 oz-in	3 7/8"	5 23/64"
A84QJU-1	3600	1.1	1/20	14.1 oz-in	14.1 oz-in	3 7/8"	4 61/64"
D84HCEZU-11	600/1200	0.4	1/300 1/150	4.0 oz-in	5.6 oz-in.	3 7/8"	4 61/64"
D86MBKDU-1	900/1800	0.65	1/100 1/50	11.2 oz-in	11.2 oz-in	3 7/8"	5 23/64"
F76NALBU-1	1800/3600	0.5	1/75 1/40	7.5 oz-in	7.5 oz-in	3 5/16"	5 1/4"
D84KBEZU-1	600/1800	0.5	1/300 1/100	5.6 oz-in	5.6 oz-in	3 7/8"	4 61/64"

RELUCTANCE SYNCHRONOUS MOTORS

Ashland Reluctance Motors are widely known for their excellent performance characteristics. Used in facsimile, timing and other critical applications requiring phasing, these superior Motors are carefully designed to your requirements. Available to order in 60 or 400-cycle models.

MODEL	FREQ.	RPM	AMPS	HP	Start TORQUE	Full Load TORQUE	TEMP. RISE
A80MFU-3	60	1800	0.45	1/50	11.2 oz-in.	12 oz-in.	30°C
A80PFU-1	60	1800	0.88	1/30	16 oz-in.	18.6 oz-in.	55°C
A82QEU-1	60	3600	1.0	1/25	11.2 oz-in.	11.2 oz-in.	35°C
A88UFU-1	60	1800	2.0	1/10	24 oz-in.	56 oz.-in.	65°C

ASHLAND GEAR MOTORS are also available to special order for precision applications. Rotor and stator assemblies are available for special pump applications. All items can be made to full military specifications.

See page 609 for data on Ashland Fans and Blowers

ASHLAND ELECTRIC PRODUCTS, Inc. 32-02 Queens Boulevard Long Island City 1, N. Y.

See YELLOW SECTION for local offices, telephones, etc.

SAVE TIME

When ordering products shown in this book or writing for additional information, please be sure to mention *Electronic Engineers Master—eem* and specify:

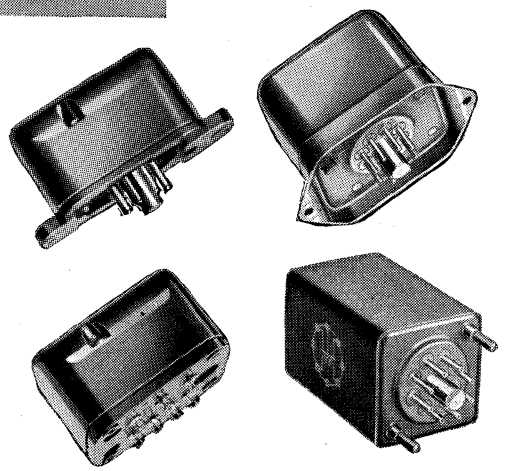
Manufacturers' Catalog Numbers
and Page Numbers

This will avoid confusion and expedite delivery.

THE MARK OF QUALITY

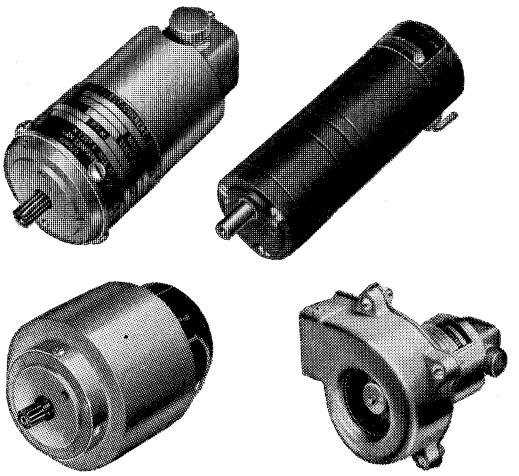
BARBER COLMAN

Ultra-Sensitive Relays, D-C Motors...A-C Motors



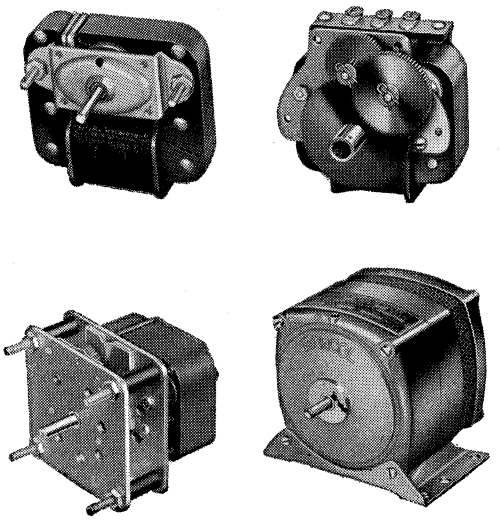
polarized ultra-sensitive relays

Operating on input powers of 40 to 1000 microwatts, the Barber-Colman Micropositioner, a polarized d-c relay, is ideal for use as a differential relay in electronic plate circuits, a null detector in resistance bridge circuits, and an amplifier in photo-electric circuits. Can be operated in excess of 100 cps. This ultra-sensitive relay is widely used in many control applications — in nucleonics, communications, instrumentation, process control, railway signal transmission, and aircraft control and remote positioning. Various types: Octal plug-in; solder lug; hermetically sealed; screw terminal.



compact, powerful d-c motors...up to 1/10 hp.

Looking for a d-c fractional hp motor of unusually high quality, high dependability? Specify Barber-Colman, the *versatile* line of small motors in both permanent magnet and split series types . . . in various mountings and speeds, and outputs up to 1/10 hp. Ideally suited to power electro-mechanical actuators, switches, blowers, and programming devices. Also excellent for use as tachometer generators. Barber-Colman small d-c motors are also available with lightweight radio noise filters to meet radio interference requirements of USAF. Whatever your problem involving d-c motors, consult Barber-Colman Company for an expert solution.



high torque shaded pole a-c motors . . . up to 1/20 hp.

Barber-Colman shaded pole induction motors are available in unidirectional, reversible, and synchronous types up to 1/20 horsepower with or without reduction gearing. Unidirectional motors are designed for long life and dependable service driving cooling fans and blowers for electronic equipment and powering office machines and other industrial equipment. Reversible motors are ideal for follow-up and positioning mechanisms and are easily adapted for control by electronic circuits. Synchronous motors combine accurate timing and high torque with small dimensions and light weight. Geared-head motors are available with hundreds of reductions, open or enclosed, to fit a wide range of applications. Barber-Colman engineers will be glad to help select the right motor for your application.

BARBER-COLMAN COMPANY

DEPT. F, 1410-7 ROCK STREET ROCKFORD, ILLINOIS

See YELLOW SECTION for Local Offices, Telephones, etc.

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custom builders:

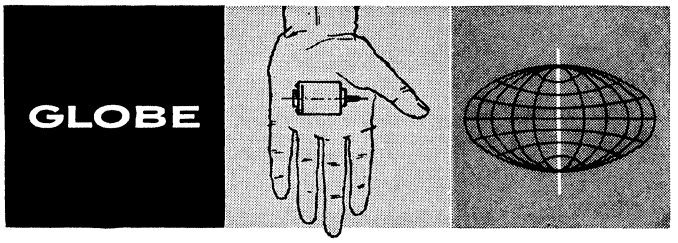
Each motor or device is custom engineered to your application requirements. MIL specs and special development are routine.

prototypes fast:

Globe Industries maintains enormous inventories of standard parts around which custom motors and devices are built. Prototypes can be delivered within weeks. Engineering resources are ample to provide the prototype you need in a hurry; large capacity manufacturing resources speed production orders to you.

engineering representatives:

Consult the EEM Index for the name of the Globe Industries representative nearest you. He is a trained specialist in the motor and motorized device field. A phone call or a letter to him will bring information fast.



GLOBE INDUSTRIES, INC.

1900 Stanley Avenue

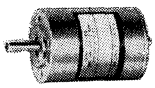
Dayton 4, Ohio

Baldwin 2-3741 **TWX—DY 276**

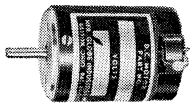
Manufacturers of Precision Miniature Electric Motors and Motorized Devices

motors
gear units
blowers
fans
servos
governors
generators
vibrators
actuators
motorized time delay switches
gyros
clutches
brakes
motorized devices

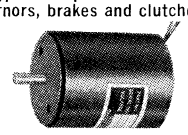
GLOBE MOTORS



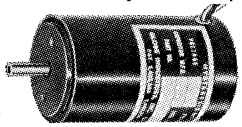
Type SS, d.c. "Moto-Mite*," sub-miniature permanent magnet motor of extremely rugged, precision design. Available with 19 standard windings or any special winding for a variety of applications. O.D. 7/8", length 1 3/8". Weight is about 2 oz. Typical output is 0.5 oz. in. at 10,000 rpm. Governors are available.



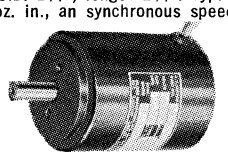
Type MM, d.c. "Moto-Mite*," precision made, high performance permanent magnet motor. Great flexibility in design details suit it to many applications. O.D. 1-3/16", length 1 3/4" or 2-3/32". Typical output is 0.9 oz. in. at 10,000 rpm. Governors, brakes and clutches available.



Type SC, "Moto-Mite*," sub-miniature 400 or 60 cycle motor. Available either as hysteresis-synchronous or induction type. Suitable as power motor, control motor or timing motor. O.D. 1-1/16", length 1-17/32". Typical SC output is 0.12 oz. in. at synchronous speeds.



Type MC, "Moto-Mite*," hysteresis-synchronous or induction 400 or 60 cycle motors of simplified precision design. Characteristics easily altered to meet application requirements. O.D. 1 1/4", length 2 1/4". Typical output is 0.8 oz. in., an synchronous speeds.



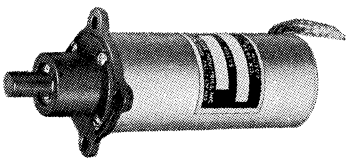
Type FC "Moto-Mite*", hysteresis-synchronous or induction 400 or 60 cycle motors for a.c. voltages to 200. O.D. 1.675", length varies to 2 1/4" max. Typical output is 1.2 oz. in. at synchronous speeds.

Not shown: Type LL, d.c. motor. Typical output 1.5 oz. in. at 10,000 rpm. **Type WM** wound field d.c. motor. Typical shunt type output 0.5 oz. in. at 10,000 rpm. **Type WL** wound field d.c. motor. Typical shunt type output 1.0 oz. in. at 10,000 rpm.

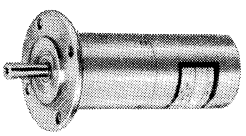
Type VS 7/16" thick flat d.c. motor. Typical output 0.4 oz. in. at 10,000 rpm. **Types BD & BL** 1 1/2" dia. d.c. motors with continuous duty ratings to 1/25 hp.

*trademark

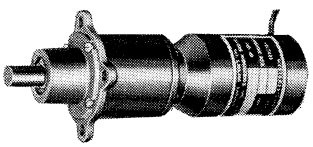
GLOBE GEAR REDUCED MOTORS



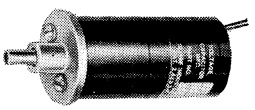
Combination of a d.c. motor and a very rugged planetary gear reducer of high efficiency. 101 standard odd and even ratio reductions available from 4:1 to 46656:1. Typical LL output with planetary gearing is 1000 oz. in. at 7 rpm. continuous duty. Break away torques to 2500 oz. in.



Sub-miniature d.c. planetary gear reduced motor, 21 planetary gear reductions available from 3.82:1 to 3687:1. 28 spur gear reductions also available from 2.56:1 to 16833:1. Typical SS output with planetary gearing: 300 oz. in. at 5 rpm continuous duty.



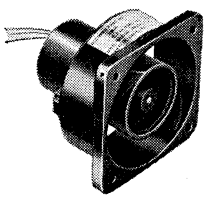
Combination of a 400 or 60 cycle a.c. motor and planetary gear reducer. O.D. is 1 1/4". Such packages are typically built around a wide range of standard parts which can include clutches and brakes. D.C. packages can include governors and filters.



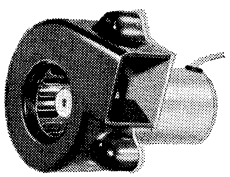
Miniature a.c. spur gear reduced package for 400 cycle timing, power or control applications. O.D. is 1-1/16".

WRITE FOR COMPLETE A.C. AND D.C. MINIATURE MOTOR AND MOTORIZED DEVICE CATALOG. PLEASE USE YOUR LETTERHEAD.

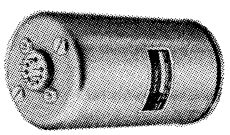
GLOBE MOTORIZED DEVICES



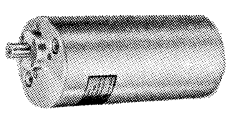
A lightweight a.c. or d.c. small centrifugal blower with excellent life and reliability characteristics for cooling in confined spaces. Globe makes a complete line of blowers and fans designed to deliver an even, nonpulsating flow of air. Free air deliveries to 36 cfm (centrifugal), to 169 cfm. (axial), to 300 cfm. (open axial fan).



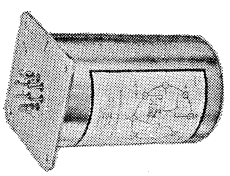
A lightweight a.c. or d.c. small centrifugal blower with excellent life and reliability characteristics for cooling in confined spaces. Globe makes a complete line of blowers and fans designed to deliver an even, nonpulsating flow of air. Free air deliveries to 36 cfm (centrifugal), to 169 cfm. (axial), to 300 cfm. (open axial fan).



Miniature rate gyro designed to meet military specifications and various applications. Capable of measuring rates up to 20° per second, detect rates 1/2° per second.



Miniaturized actuator package having exceptionally high torque output. Can be equipped with noise filter, follow-up potentiometer, limit and centering switches, reversing relays and dynamic braking circuit, and is water-proof. Size is 2 in. O.D. by 5-1/16 in. long.



Miniature timer package accommodates 5 or more SPDT switches. Accuracy for each switch is ±5% of total timing cycle under all environmental conditions.

See YELLOW SECTION for local offices, telephones, etc.

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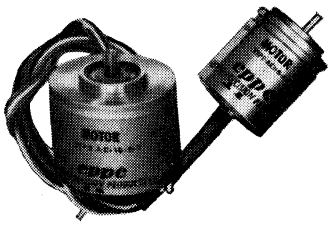
cppc for ANY

SYNCHROS

Size 8 Size 10 Size 11 Size 15 Size 22

Pancake BuOrd High Temp. (450°F)

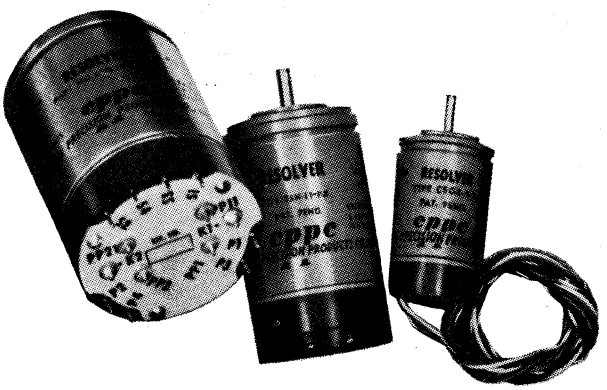
Highest accuracy in production quantities (7′ max. error is typical); lowest nulls; lowest phase shift; corrosion resistant construction, stainless steel or aluminum housings. Double ended shafts available. An extremely wide variety of synchros available as Transmitters, Receivers, Control Transformers, Differentials, Resolvers.



SERVO MOTORS

Size 8 Size 10 Size 11

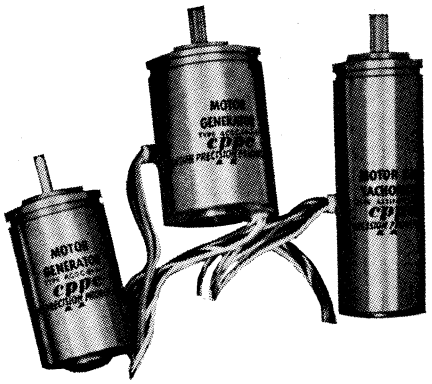
High torque for size. Will withstand 125°C. 26 volt and 115 volt units available. Types for transistor circuitry.



PRECISION COMPUTING RESOLVERS

Size 8 Size 10 Size 11 Size 15 Pancake

Highest accuracy (functional error .03% to .1%). Excellent nulls, low phase shift. Units to resist 450°F. Resistive, feedback winding or thermistor compensation available. Types for transistor circuitry. BuOrd shafts and Mk 4 Mod O brush block obtainable.



MOTOR GENERATORS

Size 8 Size 10

Minimum length and weight. Suitable for error rate damping in servo systems for high stability. Motor rate tachometers available. Types for transistor circuitry.

CLIFTON PRECISION

CLIFTON

Order from Local Electronic Parts Distributor or Write for List.

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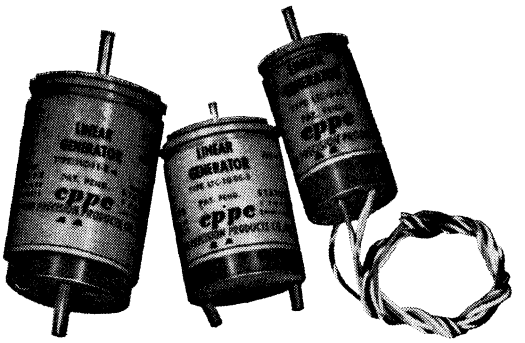
ROTARY COMPONENT



LINEAR TRANSFORMERS

(Induction Potentiometers)

Size 8 Size 10 Size 11

These units feature low secondary impedances. Can be designed to work with wide range of load impedances. Infinite resolution. Linearity .5%. Wide variety. Can be temperature compensated.

GEARHEAD MOTORS

Size 10

Size 10 with size 11 mounting dimensions

Available with off center shaft for more highly accurate meshing. Oversize pitch diameter gears on smaller pinions for increased life and reliability. All bearings are ABEC class 5 or better.

D.C. MOTORS **Size 8** Smooth rotation at low speeds. Reversible. Speed Linearly proportional to voltage. 28 or 14 volt input. Leads or terminals. Available with governor which maintains constant speed within ±1%.

These pages describe only partially our wide line of Precision Rotary Components. Write or telephone for CPPC's latest catalogue which gives complete electrical data and drawings. Special units are available to withstand severe vibration and shock, extremely high temperature, and radioactive environments.

Most units available for immediate delivery. Two plants (Clifton Heights, Pa. and Colorado Springs, Colo.) to serve you.

Home Sales Office: 9014 West Chester Pike, Upper Darby, Pa., HIlltop 9-1200 (Suburban Philadelphia).

PRODUCTS CO., INC.

HEIGHTS, PA.

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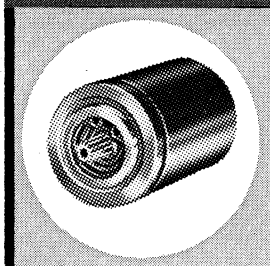
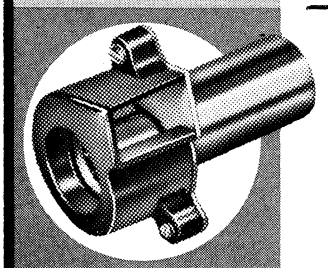
IMC PRECISIONEERED MOTORS



700 FRAME SERVO MOTOR

INPUT: 6-57 volts; 2 phase at 400 cps
FREQUENCY RANGE: 400-1000 cps
NUMBER OF POLES: 2, 4 and 6 poles
TYPICAL PERFORMANCE: 26/26 at 400 cps; No Load Speed: 6,200 rpm; Stall Torque: 0.30 oz. in.; Power: 3 watts/ø; Inertia: 0.65 gm cn2; Acceleration: 33,000 rad/sec2; Impedance: 133 + j117 ohms
WEIGHT: 1.6 ounces
DIMENSIONS: 0.750 Dia. x 1.062 Length

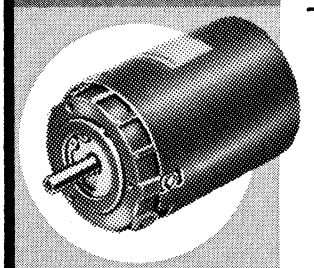
Bulletin 7F3



900 FRAME AC MOTOR

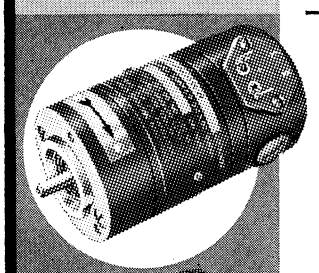
FREQUENCY: 320-1000 cps
AIR DELIVERY: (1½" Blower)*; 10 cfm @ 0"sp; 8 cfm @ 0.2"sp
RPM: 7000 @ 400 cps
WEIGHT OZ.: 7
WEIGHT OF MOTOR OZ.: 4½
*Also available in 1" blower size

Bulletin 9F4



1600 FRAME MOTOR

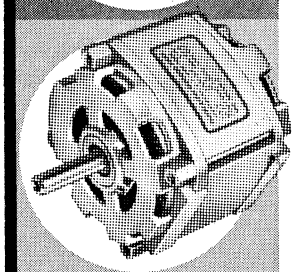
HORSEPOWER: 1/300-1/10
FREQUENCY: 25-1000 cycles—var. 50-1000 cycles
VOLTAGE: 26-208
POLES: 2, 4, and 6 poles
PHASES: 1, 2, or 3
TYPES: Induction or Synchronous
BEARINGS: Ball or Sleeve
Available non-cooled or self-cooled
APPLICATIONS: Blower, Fan, Gear, Recording and Control



2000 FRAME DC MOTOR

INPUT: 6-115 volts DC
OUTPUT POWER: 1/75 to 1/10 hp depending on speed, duty cycle and cooling
LIFE: 1000 hr brush life; 250 hrs at high altitude.
Available with gear speed reducer and/or speed governor, shunt, series, or compound wound.

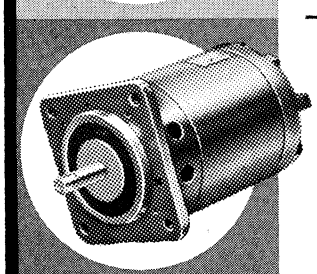
Bulletin 20F2



2900 FRAME HYSTERESIS MOTOR

VOLTS:	115	**T.P.I. (oz.in.):**	4.5
CPS:	60	**T.P.O. (oz.in.):**	5.0
WATTS INPUT:	24	**T.St. (oz.in.):**	4.0
AMPERES:	.22	**CAPACITOR (mfd):**)	2.5
NUMBER OF POLES:	4	**220 VOLTS A.C.:** ∫	
RPM:	1800	**WEIGHT:**	1 lb.
H.P.:	1/125		

Hysteresis Catalog



3800 FRAME AC MOTOR

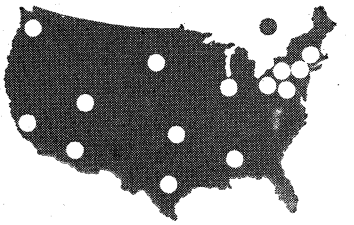
INPUT: 26-230 volts AC; 1, 2 and 3 phase
INPUT FREQUENCY: 25-400 cycles
NUMBER OF POLES: 2, 4, 6, 8 and 12 poles
OUTPUT POWER: Induction motors—to 1 hp; Torque motors—10 to 200 oz. in. stall torque; Hysteresis synchronous motors—1/200 to 3/4 hp (can be wound for single, dual or three speed.)
BEARINGS: Ball or Sleeve
WEIGHT: 8-11 lbs.
MOUNTING: Round or square flange and/or base

Bulletin 38F6

IMC's versatile engineering staff is available to meet your specific design requirements.

INDUCTION MOTORS CORP.

570 Main St., Westbury, L. I., N. Y., Phone: EDgewood 4-7070
6058 Walker Avenue, Maywood, California



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Hollywood 3-5694

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Fryco
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Scottsdale, Arizona
Whitney 5-2261

MINNESOTA & WISCONSIN
D. A. Schultz Co.
801 Southeast Eighth St.
Minneapolis 14, Minn.
Federal 9-7701

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Memac Sales Co.
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Chicago, Ill.
Kildare 5-1033

MASSACHUSETTS & NEW ENGLAND STATES
Gerber Sales Co.
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Brookline, Mass.
Beacon 2-2425

COLORADO, UTAH & WYOMING
E. K. Kelley
336 East 4th St.
Loveland, Colo.
Normandy 7-3663

METROPOLITAN NEW YORK, NEW JERSEY & WESTCHESTER
Harold Ellis
Oakland Gardens Station
Flushing 64, N. Y.
Murray Hill 2-5844

Ben Miller
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Syracuse 72-5198

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Central 5-9931

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Emory Des. and Equipment
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Seattle, Wash.
Mu. 0186

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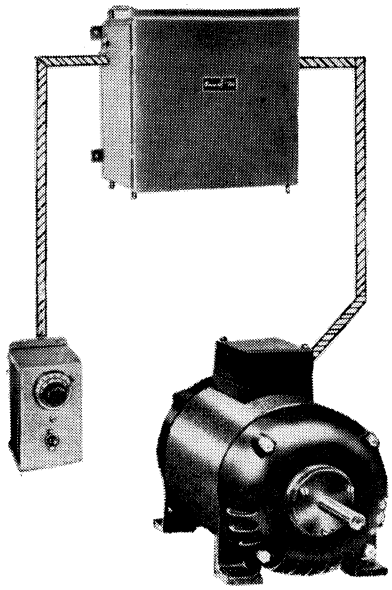
Servo-Tek Adjustable ZERO FULL Speed Drives



← "PRECISION" SERIES

SPEED RANGE Infinitely adjustable from zero to rated speed. Useful speed range at constant torque is in excess of 100:1. Continuous duty rating at all speeds.

REGULATION Both line and load regulation are better than ½ of 1% of rated speed.

HORSEPOWER Various models from ¾ hp down to 1/200 hp. Motors of ¼ hp and larger are totally enclosed.

REMOTE CONTROL A 10-turn potentiometer provides precise adjustment at any convenient location.

GEARED MOTORS Motors are available with integral gear reducers.

BRAKING-REVERSING Relay - controlled braking and reversing models available.

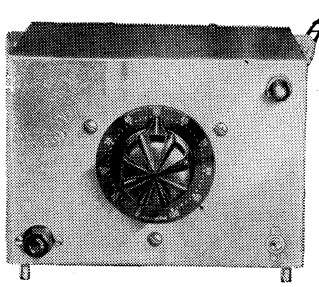
MAINTENANCE Fully encapsulated construction results in long service life. Plug-in construction requires only a screwdriver for servicing.

OTHER MODELS Servo-Tek manufactures drives with silicon rectifiers and adjustable autotransformers, as well as other thyratron drives with less exacting specifications. Write for information including details of your proposed use.

"MOTORFORMER" SERIES →

- **S-M-O-O-T-H adjustment from zero to full rated speed.**
- **Full rated torque at any speed.**
- **No warm-up required.**
- **17 models — from 1/20 to ¾ hp.**
- **Reversing and dynamic braking available on all models.**
- **Geared motors supplied from stock!**

Immediate delivery on all models. Complete catalog with prices available upon request.



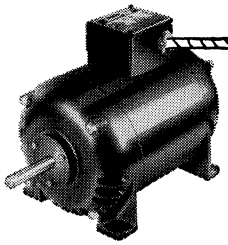
All "MOTORFORMER" drives use silicon rectifiers . . . seemingly the ultimate in efficiency and low maintenance. Worthy companion to the unsurpassed Servo-Tek "Precision" Drives.

LOW COST!

typical price

$239.00

½ HP with MOTOR



Servo-Tek PRODUCTS CO.

Main Office
1086 Goffle Road, Hawthorne, N. J. • HAwthorne 7-3100

Western Office
SERVO-TEK OF CALIFORNIA, INC.
14736 Arminta Street, Van Nuys, Calif. • STate 6-0690

See additional advertisements Sections 4900 and 2900

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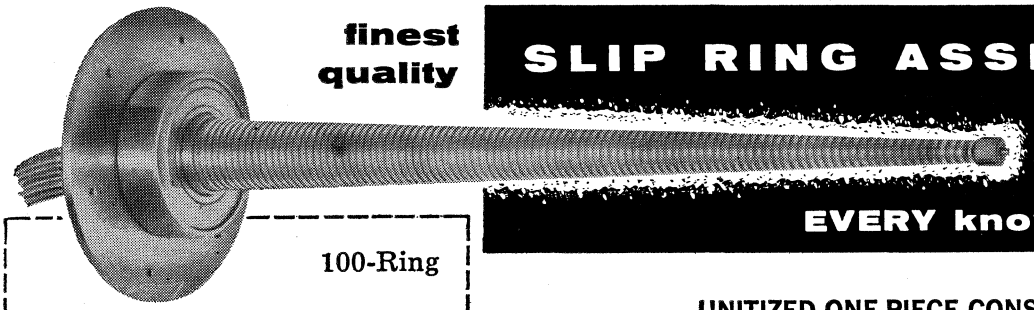
finest quality

SLIP RING ASSEMBLIES

made by EVERY known process



100-Ring
Missile Guidance Slip Ring
Low Torque, Low Noise.

SLIP RINGS
BRUSH ASSEMBLIES
COMMUTATORS
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UNITIZED ONE-PIECE CONSTRUCTION

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Newest version of the first commercially available log-linear ratemeter. The 229 Series sets the standard for precision count rate measurements in the research, medical and industrial fields. Six linear scales—one log scale—integral highly regulated power supply—other unique features. Favorably priced—can be used with scintillation, halogen or organic counters. Recorder jack included. Ideal for chromatogram analysis.

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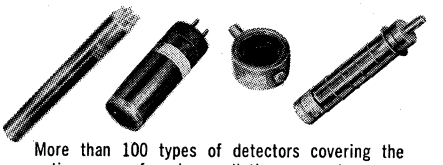
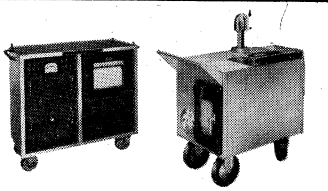


More than 100 types of detectors covering the entire range of nuclear radiation . . . unique configuration and "special application" devices. The Anton Neutron Detector Catalog and the Anton a, b, γ Detector Catalog belongs in your radiation facility reference file.



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Portable and rack mounted a, b, γ air particle monitoring units. Moving paper and fixed paper instruments available. Produced to latest AEC and military specifications.

HAND AND FOOT MONITORS

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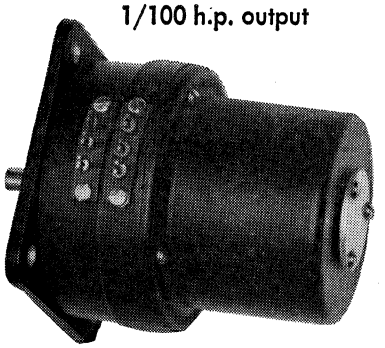
THE ELECTRONIC INDUSTRY'S ONLY ANNUAL CATALOG AND BUYING DIRECTORY THAT'S KEPT UP-TO-DATE THROUGHOUT THE YEAR

for full details refer to the inside back cover

MODEL GS SYNCHRONOUS MOTOR

WITH INTEGRAL START MOTOR — CONSTANT ANGULAR ROTATION ± 0.1 DEGREES — NO LOAD TO FULL LOAD!

1/100 h.p. output



A phonic wheel type motor capable of operating from vacuum tube amplifiers on signal frequencies from 60 to 3600 cps. It was designed to provide the extremely accurate and invariable speed required for driving fork-synchronized facsimile equipment. Its unique characteristics will be found the answer to many problems involving the need for constant angular rotation or precise synchronization.

The Model GS Motor can be operated single phase in the plate circuit of a single-ended amplifier or as a two phase motor when driven by a push-pull amplifier. The latter is recommended since the two-phase connection runs quieter and provides more power with less heating. The motor current is about 75 milliamperes per phase. The power input may be as high as 20 watts.

TIMES FACSIMILE CORPORATION

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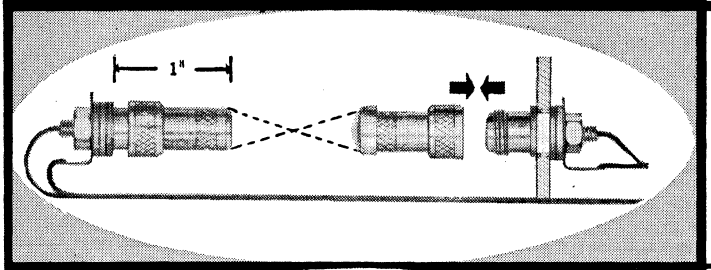
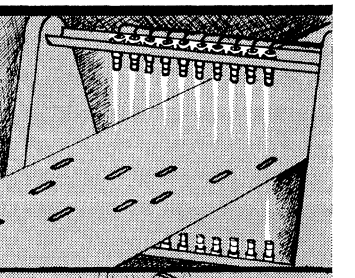
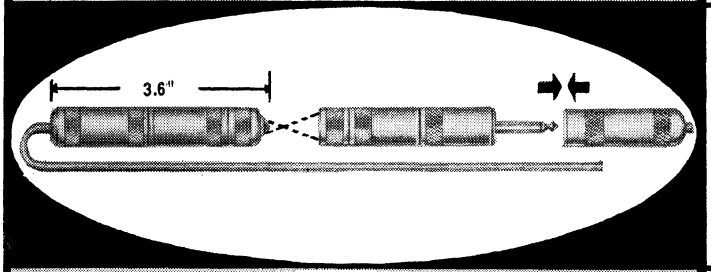
Electronic Eye Systems

a **basic** eye for every purpose

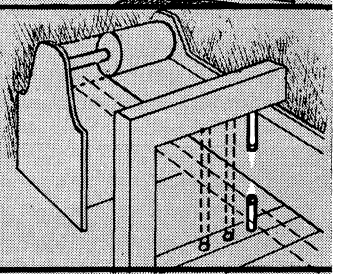


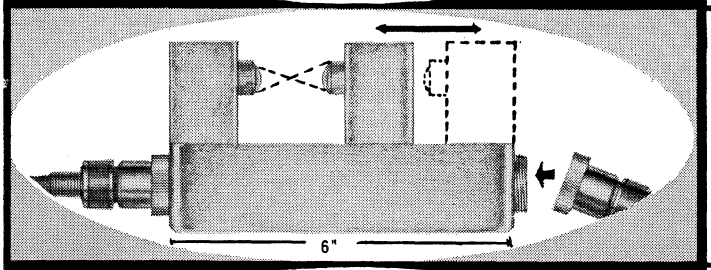
READ PUNCHED CARDS or PROGRAM TEMPLATES — This miniature cell is ideal where space is limited and movements are to be detected in a compact area. Sensitive to color. Quick change connectors. Operates with any "electric eye" system. Ideal for working on punch cards or for programming templates. Beam up to 6". Order Model P2-AN. $15.00



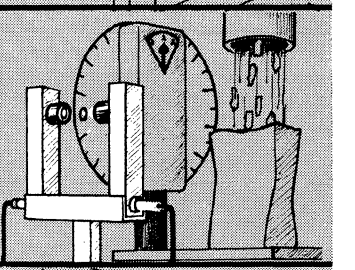


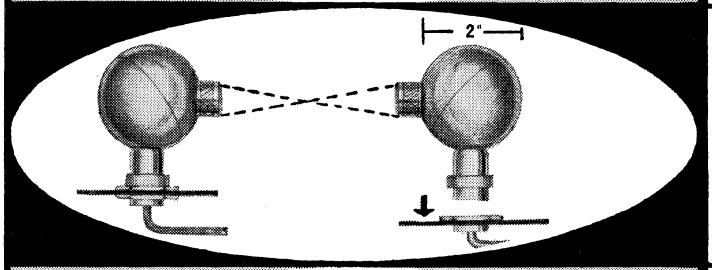
REGISTER and CUT-OFF CONTROL—This "eye" is ideal where space is limited and several units can be placed side-by-side to form a screen or count several items. The plug-in units are "portable," if desired, for preset positions. Light beam up to 36"; longer beam available. Order Model F3-AN. $21.00



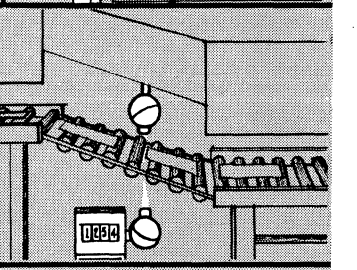


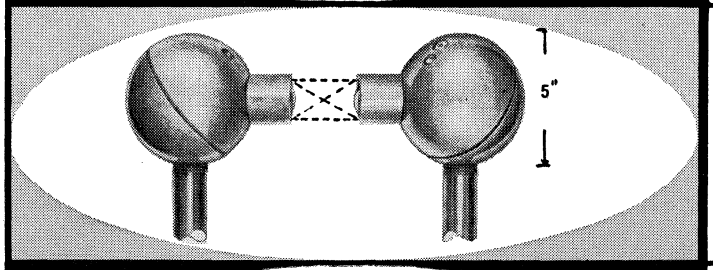
WEIGH , FILL, CONVEYOR CONTROL— This "U" type eye is an assembly to "wrap-around" any moving web, wheel or member which will make or break the light beam. Side viewing light source and eye receiver is adjustable in mounting channel or each unit may be detached and mounted separately. Order Model U6-AN. $50.00





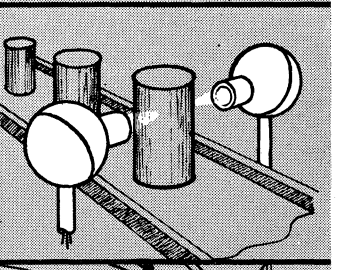
COUNTING WITHOUT TOUCHING — "Sphere-eye" is adjustable in any direction; any angle. Reflection or transmission. Complete plug-in unit small as a cue ball. Splashproof. Optical lens holder adjustable for focus and beam size. Aluminum housing is supported on plug-in mounting. Order Model S2-AN. Operates with any make photo-electric control. $50.00

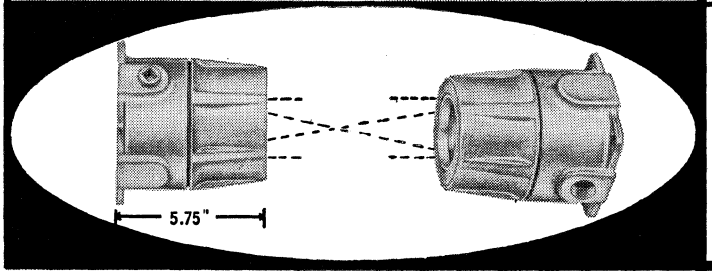




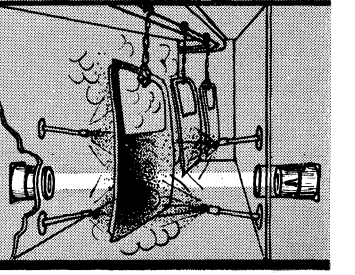
COUNT ANY SIZE, SHAPE OBJECTS — The most versatile eye ever patented. Continuously adjustable control, lens direction and lens focus. Aluminum housing, durable and waterproof. Long distance beam. This type is a completely self-contained control. Model S5-AN. $85.00

Also furnished as housings for photo tube and projectors for any make control system. Model TS5-AN. $50.00





PAINT SPRAYING CONTROL — This explosion-proof housing is ideal for industrial applications approved for class one, group "D". Our model X5-AN control eye is a compact chassis design. Light projector beam can operate the eye receiver up to 50'. Order Model X5-AN (less housing), explosion-proof housing, 6" x 6" x 6". Model HX5. ..... Complete $225.00



Write for complete literature on above Items and Timers, Liquid Level Controls, Smoke Density Indicators, Temperature Control.

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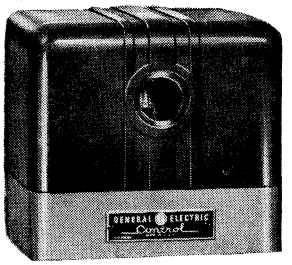
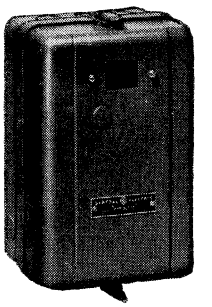
GENERAL ELECTRIC PHOTOELECTRIC RELAYS AND ACCESSORIES



CR7505-K100G3 Relay

The CR7505-K100G3 photoelectric relay and accessories provide a complete line of inexpensive, but thoroughly reliable, apparatus for general-purpose indoor applications which include counting, diverting, controlling, signaling, limiting, and protecting. Underwriters' Laboratories listed.

The CR7505-K100G3 includes phototube and thyratron, has a contact rating of 10 amp a-c, may be used to start f-hp motors directly, and can operate all motor starters up to and including NEMA Size 4.

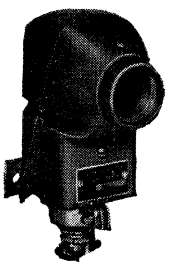


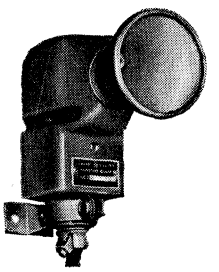
CR7505-K201, -K202 Relays

These photoelectric relays will perform the same type of functions as the -K100 with greater speed and sensitivity. These relays operate on either light increase or decrease, depending on connections. The relays will operate from light flashes on interruption of 1/15 second between impulses, with not less than 1/15 second between flashes. The d-c phototube circuit permits remote location of phototube with no loss in sensitivity.

Accessories for Use with -K100G3

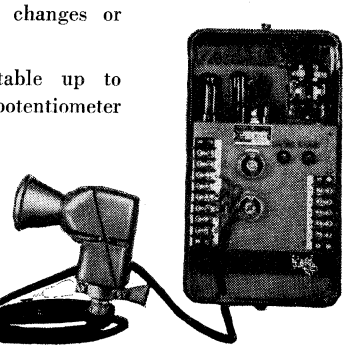
Light-source transformer, 933B195, rated 115/230 volts, 50/60 cycles, primary; 4.8/5.2 volts secondary; mounted in 4-in. by 4-in. by 2⅛-in. enclosure. Lens-barrel assembly CR7505-B207G1, 3 in. in diameter, for mounting directly on relay; two light sources, -C201G1 with 1½-in. lens and -C203G1 with 3-in. lens; two phototube holders with six feet of special phototube cable and a plug for connecting to tube socket in the relay, -P211G1 with 1½-in. lens, and the -P212G1 with 3-in. lens. With 1½-in. lens, maximum operating distance is 12 ft; with 3-in. lens, maximum operating distance is 30 ft. Sensitivity of -K100G3 may be increased five times by use of -B207G1 lens-barrel assembly.





CR7505-N210, -N211, -N212 Relays

These three relays are similar in circuit design and are especially adapted for photoelectric applications where a device must respond to rapid light changes or high operating rates.



A time-delay feature, adjustable up to ½ second by means of a potentiometer dial, is provided to delay the dropout of the magnetic delay in cases where the relay would be energized for such a short time that the period would not be sufficient to perform the external control operation desired.

The relays will respond to light changes as small as ½ foot-candle, providing there is sufficient light on the phototube.

Separate phototube holders are required for these units.

Maximum Distance between Light Source and Phototube, Feet	Maximum Operating Rate per Min	Type of Relay Contacts	Minimum Light Level to Operate Relay, Foot-candles*	Nominal Voltage	Line Frequency	Self-contained Phototube	Enclosure, NEMA Type	Minimum Required Duration Light Change (Seconds)	Volt-amperes Required (Excluding Light Source)	Nomenclature, CR 7505-
30	150	DPDT	40 fc	115	50/60	Yes†	I	0.2	10	K100
70	450	DPDT	2 fc	115/230	50/60	Yes†	III/V	0.07	10	K201
70	450	DPDT	2 fc	115/230	50/60	Yes†	IV or VII	0.07	10	K202
210	600	DPDT	1 fc	115/230	50/60	No	III/V	0.001‡	60	N210
210	600	DPDT	1 fc	115/230	25/50/60	No	IV or VII	0.001‡	60	N211
210	600	DPDT	1 fc	115/230	25	No	III/V	0.001‡	60	N212

*Light level measured in foot-candles at the phototube lens with a standard meter, with entire lens illuminated. †May use separate phototube holder. ‡Relay will respond 0.015 sec after light change. Internal timing circuit permits operation on pulses as short as 0.001 sec and may be adjusted to keep energized up to 0.5 sec.

NEMA ENCLOSURE TYPES: I—Protection only, III—Weather-resistant, IV—Watertight, V—Dust-tight, VII—Explosion-proof.

See YELLOW SECTION for Local Offices, Telephone, etc.

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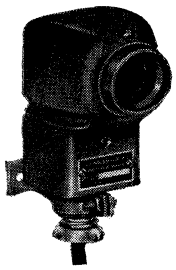
GENERAL ELECTRIC ELECTRONIC TIMERS AND DEVICES

Photoelectric Accessories for Use with -K201 and -N210 Series

The light sources are of die-cast aluminum construction. The -C201G1 light source has a 1½-in. lens, focusable from 2 feet to infinity. The -C202G1 has a double lens for short focus, for a concentrated spot approximately ¼ in. in diameter at a distance of 2½ - 4 in. in front of the lens. The -C203G1 light source has a 3-in. lens, with high-intensity beam for long-distance operation. The -C201G2, -C202G2, and -C203G2 are identical in operation with the G1 group, but have rubber gaskets between the front and back covers which makes them weather-resistant and dust-tight in accordance with NEMA Standards.

4.8 volts is required for all the above light sources and the following transformers are recommended:

Light-source transformer, Cat. No. 933B195, is rated 115/230 volts, 50/60 cycles, primary; 4.8/5.2 volts secondary, and is mounted in 4-in. by 4-in. by 2⅛-in. enclosure. Model No. 9T53Y8058 is rated the same as Cat. No. 933B195, except it will operate on 25/50/60 cycles and is of weather-resistant construction. Approximate dimensions, 5⅝ in. by 3⅝ in. by 3⅝ in.

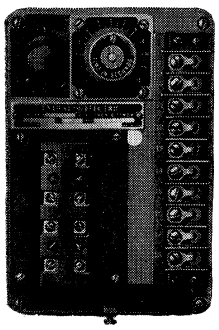


The -C208 light source is explosion-proof and can be made watertight by applying a rubber gasket which is furnished. It has a 3-in. lens and a self-contained step-down transformer for 115/230-volt operation.

The *phototube holders* are similar in construction to the light sources. The -P202G2 has a 1½-in. lens and the -P203G2 has a 3-in. lens. Both come with a 9-ft phototube cable with spade terminals.

CR7504-A142 Electronic Timer

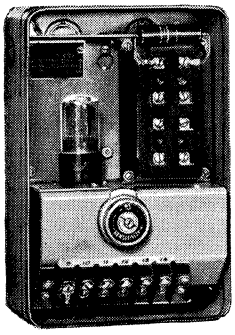
The -A142 timer is for timing applications of short time duration (-A142G1, 0.06 to 1.2 sec; -A142G2, 0.6 to 12 sec; and -A142G3, 6 to 120 sec) where long life, low maintenance, and high repetitive accuracy is required.



The -A142 has double-pole, double-throw contacts; can be used to start f-hp motors directly. Time-range dials read directly in seconds.

Two different types of operation available; immediate-start for timing operations or delayed-start for providing a time delay. Power supply, 115/230 volts, 50/60 cycles; power consumption, 15 watts.

CR7511-A126 Resistance-sensitive Relay



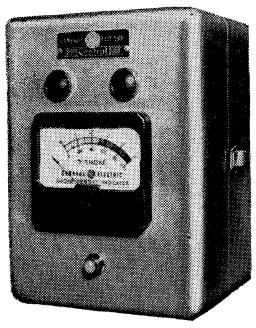
This relay is used to obtain a reliable contact from the touch of two conductors through which only small currents flow. It will operate motors, lights, contactors, and solenoids whenever there is sufficient change in the resistance of a circuit, including liquid-level-control applications. In this way, large amounts of power can be controlled from a low-current high-resistance input.

It has 10-amp a-c contact rating, two single-pole, double-throw, contacts for controlling two independent circuits. Enclosure is weather-resistant and dust-tight.

Voltage-sensitive Relay, CR7511-B113G2

The voltage-sensitive relay (similar to illustration above) is an extremely useful device whenever a change in voltage is to be detected. It may be used in such applications as elevator-motor overspeed detection, and turning on meters when a voltage variation takes place. Input impedance permits low burden on the system.

CR7505-R201G1 Smoke-density Indicator



This control and associated equipment can be used to indicate smoke density, gas density, or the density of any fluid where density is directly related to the light transmission through the fluid. It can be used to warm furnace operators of excessive smoke conditions, to turn on blowers or relevant equipment at any smoke-density level, and when used with a suitable recorder, a continuous permanent record of smoke density is always available.

The indicator has a semi-dust-tight enclosure (NEMA Type 1A) and an industrial-type relay, 45 amp make-break and 10 amp carry, at 115 or 230 volts, a-c. Simple calibration adjustments are made with four locking-type knobs on the panel, while indicating lights and a smoke-density instrument are on the front cover of a panel.

For complete information, consult your nearest G-E Apparatus Sales Office or Distributor, or write direct to Section 640-496, General Electric Company, Schenectady 5, New York.

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LINDLY & COMPANY, INC.

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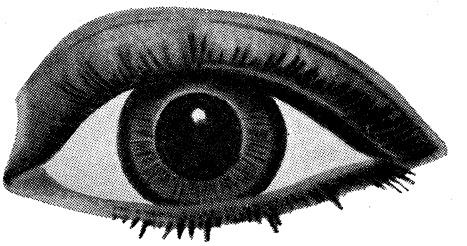
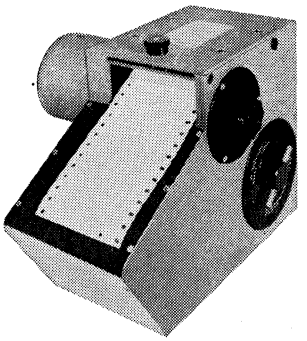


a foremost designer and manufacturer of specialized photoelectric and other electronic equipment.

We invite your inquiries in the fields of pure research and development, as well as particular product manufacture and development.

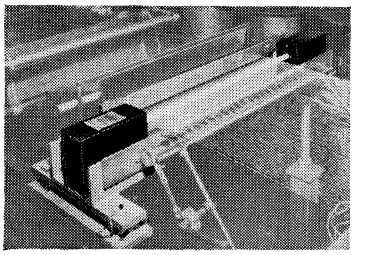
STATISTICAL RECORDER



Automatically determines down-time and/or running-time of up to 68 machines and other equipment (simultaneously). Sequence and duration of events is recorded by a dry system. A voltage, applied to marking fingers, records information on paper, will keep for an indefinite period of time. A single 100 foot roll of paper lasts approximately 3 weeks, depending on speed desired. Light brushing of the fingers daily is the only maintenance required.

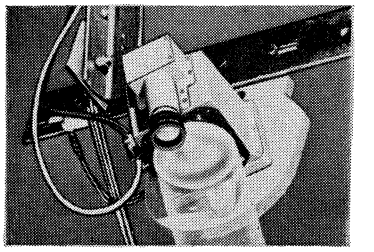
PHOTOELECTRIC DEVICES

Designed to detect a .01% change in light, or a change of 2.6 x 10^{-12} lumens . . . can detect deviations from the norm of solids, liquids and visible gases. Currently in widespread use in Textile industry.



LINDLY AUTOMATIC YARN INSPECTOR

Extremely sensitive optical-electronic device for detecting inconsistencies in yarn diameter. An electronically constant source of light passes through a lens and aperture arrangement, rendering the light parallel, and screening out the unused portion. The light, falling on a double apertured optical system, is spread to cover the photosensitive portion of the phototube. A minute change in light intensity produces an electrical pulse, which is amplified and used to operate a relay to open or close a circuit.



LINDLY PHOTO-SCANNER

Consists of a scanning head and an electronic control unit. Head contains light source, photoelectric tube, precision optical system, and an oscillating mechanism. Light, reflected from scanned surface, passes through optical system to photoelectric tube. Deviations from normal reflected light are detected, amplified, and used to actuate system according to desired purpose. Electronic circuit is designed to overlook extra large deviations, so that breaking light beam with hands will not actuate system. To prevent detection from spurious effects, Scanner must pass a deviation from norm twice before system is actuated.

LINDLY

Other LINDLY Devices

Based on advanced electronic, magnetic, and photoelectric engineering principles and design.

- High-speed Infra-red Detection Devices
- End Break Detector
- Automatic Yarn Defect Analyzer
- Fabric Inspector

ELECTRO-MAGNETIC DEVICES

Manufactured in different sizes, for many speeds.

LINDLY CLUTCH-BRAKE

Highly sensitive, quick-acting clutch can stop a rotating spindle within milliseconds. Models available to stop any weight up to 10 pounds.

MAGNETIC TENSION DEVICE

Inherently stable, easily adjusted unit permits uniform tension from 1 to 40 grams. Can be used in nylon warping industry, adaptable to wire and other fields.

LINDLY & COMPANY, INC. • 248 HERRICKS ROAD • MINEOLA, NEW YORK

See YELLOW SECTION for Local Offices, Telephone, etc.

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Photographic Equipment & Accessories

Section 3800 is reserved for future use. The following products comprise this section:

- CAMERAS
- CONTROLS, PHOTOGRAPHIC EXPOSURE
- DEVELOPERS, CHEMICAL
- FILM, PHOTOGRAPHIC
- FILTERS
- INDICATORS, PHOTOGRAPHIC EXPOSURE
- LAMPS
- LENSES, OPTICAL & CAMERA
- MACHINES, BLUEPRINT, PHOTOCOPY & WHITEPRINT
- METERS, EXPOSURE, PHOTOGRAPHIC
- MIRRORS (ALL TYPES) PRISMS, OPTICS
- PHOTOFLASH EQUIPMENT, ELECTRONIC
- PHOTOMETERS
- RECORDERS
- REELS, CONTINUOUS PROJECTION
- SPLICING EQUIPMENT, FILM
- STANDS, PROJECTOR
- STEREOSCOPE
- TAPE-TO-FILM, TRANSFER EQUIP.

For suppliers of the above products, please refer to the PRODUCT DIRECTORY (Green Section). Then, refer to the MANUFACTURERS' DIRECTORY (Yellow Section) for their closest sales office.

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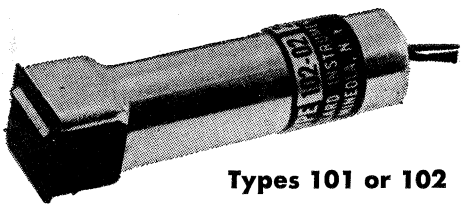
ALLARD INSTRUMENT CORP.

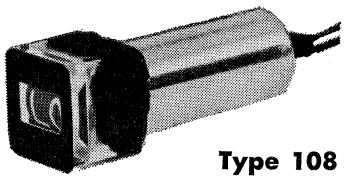
Electromagnetic Devices

ELECTROMECHANICAL VISUAL INDICATORS for panel and instrument mounting. A line of compact signaling devices with long life, high shock resistance and high readability under strong incident light. They meet or exceed MIL-E-5272a specifications



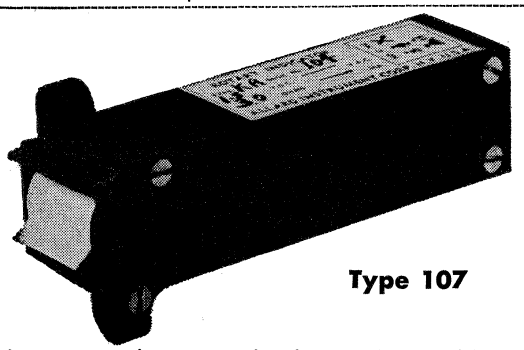
Types 101 or 102

For 2 or 3 position momentary indication or 2 position latching (memory) indication. Indicating faces can be colored or lettered. One balanced rotating part. No springs. 1¾″ long x $\frac{7}{16}$″ dia. Approx. ½ watt input. For DC up to 50 v. and —65°C to +90° ambients.



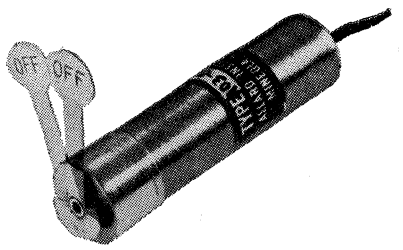
Type 108

Miniaturized hermetically sealed. Same basic design and applications as Types 101 and 102. 1⅛″ long x ⅜″ dia. $\frac{7}{16}$″ sq. head. For DC up to 28 v. Approx. 1 watt.



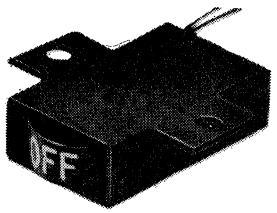
Type 107

Sensitive annunciator — circuit breaker, with built-in S.P.D.T. contacts. Hand reset. For DC from 1 Ma. up to 250 Ma. As low as 25 Mw. input power. Available for 60 cycles AC. 3″ long x ¾″ sq. 5 terminals in rear.



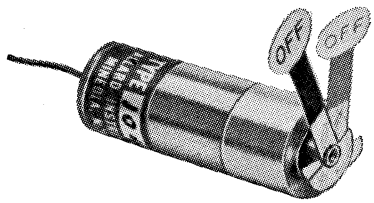
Type 103

Semaphore Indicator for demountable flags. Customer may make own flags or order from us. Rotations to 70°. Bi-directional available. For DC to 50 v. Approx. ½ watt input. 1¾″ long x $\frac{7}{16}$″ diam.



Type 109

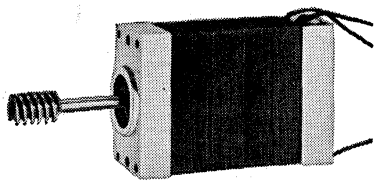
Compact form for 2 position indication. No springs. Special overhung faces can be had. For up to 50 v. DC. .270″ x $\frac{9}{16}$″ x $\frac{15}{16}$″.



Type 104

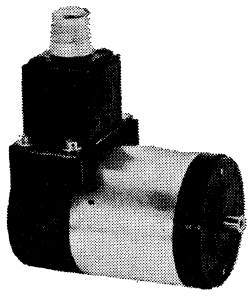
Identical to 103 except shorter length and a bit more input power. Same operating conditions. Only 1¼″ long x $\frac{7}{16}$″ Dia.

We welcome custom variations in Indicators. In small motors, such as those shown below, we specialize in custom design.



Type 305

Flat AC motor for 26 v., 400 cycles, 18,000 r.p.m., 0.1 oz.-in. torque. .492″ wide x 1″ high x 1½″ long.



Type 303

28 v. DC Class H motor. Torques up to 13 oz-in. Speeds from 2,000 to 10,000 rpm. 2″ OD x 3⅜″ long with ¼″ dia. shaft.

ALLARD INSTRUMENT CORP.

Ploneer 6-5895 • 146 E. 2nd STREET • MINEOLA, L. I., N. Y.

See YELLOW SECTION for Local Offices, Telephone, etc.

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CHICAGO MINIATURE LAMPS

(Standard or Special Design)

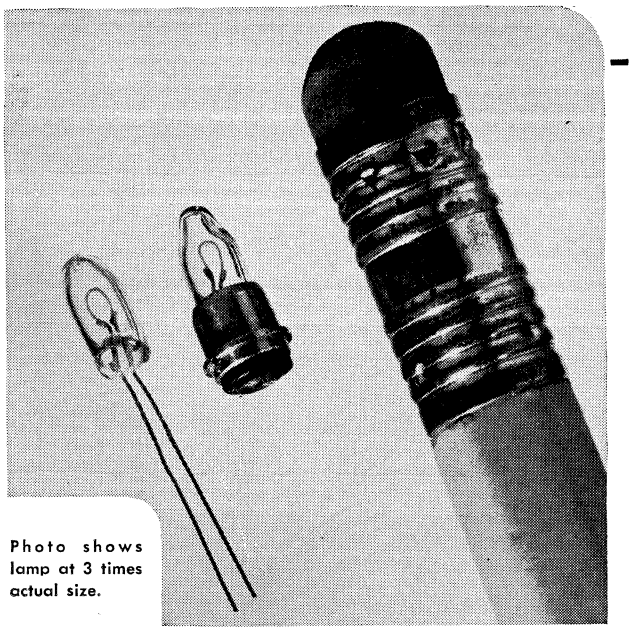
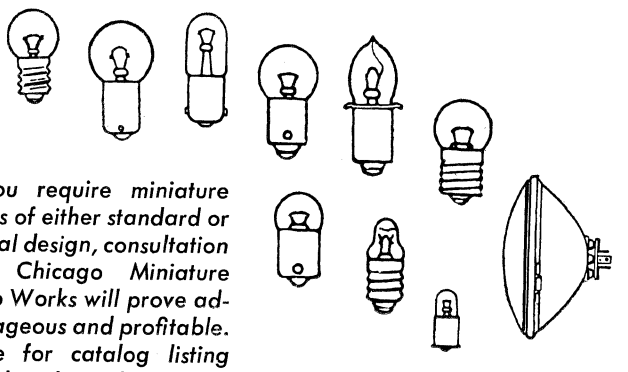


Photo shows lamp at 3 times actual size.

Typical especially designed lamp produced by Chicago Miniature Lamp Works

This illustration shows two models, one with flanged base and the other with straight wire leads, of a special lamp engineered and being produced by Chicago Miniature Lamp Works for use on new jet transport planes. It is the smallest commercially designed, long life lamp ever built, with a phenomenal life expectancy in excess of 7½ years of continuous use.

This is typical of many special lamp problems for which Chicago Miniature Lamp Works has provided the solution in the form of a specially engineered lamp of unusual design or characteristics.



If you require miniature lamps of either standard or special design, consultation with Chicago Miniature Lamp Works will prove advantageous and profitable. Write for catalog listing complete line of standard lamps.

for

- **AIRCRAFT**
- **INDICATORS, RADIOS, COIN MACHINES**
- **APPLIANCES, INDUSTRIAL EQUIPMENT**
- **6-8 VOLT, 12-16 VOLT AUTOMOTIVE and MOTOR COACH LAMPS**
- **FLASHLIGHTS and LANTERN LAMPS**

In addition to a complete line of standard lamps always maintained in adequate stocks to satisfy normal demands, Chicago Miniature Lamp Works is particularly well equipped from a standpoint of engineering personnel and equipment to design and produce lamps of a special nature both as to shape or style and function. The lamp illustrated, with an approximate life of 7½ years of continuous use, can be contrasted to another recently designed that required a life of only 15 seconds. Many such projects, bordering on the unusual or "impossible", have been brought to a successful conclusion by Chicago Miniature Lamp Works' engineering staff.

In addition such special features, as those listed below, can be added to various standard listed lamps to make them more suitable for certain special requirements.

- Inside Frosted Bulbs
- Outside Frosted Bulbs
- Outside Colored Bulbs
- Natural Colored Glass Bulbs
- Silvered Bowl Bulbs
- Brass Contacts soldered to Base Eyelets

Write for Catalog Today!

CHICAGO MINIATURE LAMP WORKS

Established 1909

1510 No. Ogden Ave. Chicago 10, Ill.

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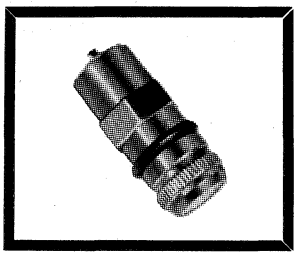
CIRCON *miniature and subminiature*

INDICATOR LAMPS

For Printed Circuit and Regular Applications



Instrument Panels — Business Machines — Computers — Test Equipment — Appliances — Warning Devices . . . Where you want to . . . Indicate — Remind — Warn, or convey a message. SUPPLIED WITH EITHER INCANDESCENT OR NEON BULBS.

SMALLER SIZE — Only ⅜" diameter. Minimum projections from front and rear of panel.

WIRELESS INSTALLATION in printed circuit designs and simplified wiring in conventional installations.

WIDE RANGE OF LIGHT INTENSITIES for both low-level and high-level applications.

STANDARD COLORS lenses available from stock include red, green, yellow, blue, white, translucent, and clear.

MESSAGE INDICATIONS including numerals, warnings, letters, and labels. Circon "Litestrip" of ten indicator lamps reading numerically from 0 to 9 in stock.

ALL VOLTAGES AVAILABLE. 1.3, 2.7, 6, 14, 28 volts, and neon. Single- or double-contact models.

HIGH-QUALITY design, construction, materials, workmanship, and quality control insure a LOW-COST product suitable for military end-use or for the finest of commercial applications.

Manufacturers of: Printed Circuit Connectors — Precision Miniature Hardware — Instrument Screws, Nuts, Split Lock and Flat Washers. Gold-plated, Shot-burnished instrument Rivets and Eyelets. Eyelet setting tools.

CIRCON
COMPONENT CORPORATION

Representatives in United States and Canada

SANTA BARBARA MUNICIPAL AIRPORT
GOLETA, CALIFORNIA
Telephone WOodland 7-1113

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eem CLIP/FILE DESIGNED BY ENGINEERS ...FOR ENGINEERS ...TO SAVE ENGINEERING TIME

ABSOLUTE PRESSURE TRANSDUCER

Accurate, Noise-Free Performance
At 15G up to 2000 CPS

Here are a few of the suggestions offered by engineers that are now exclusive features in Clip/File:

Having extremely a… performance c… …Model …as an …al an… …form… …n and …e cov… …rmetic …damage …mai… …d …con… …nessing

Press… …psia or as high as 0-10… …ilable. Unit is temperature compensated over the operating range of -65 to 200°F. Temperature error is claimed negligible.

The 409 is available with outputs which are linear with pressure or altitude, with outputs which are functional, or with tapped potentiometers, switching segments and other electrical features.

The unit has high case pressure; incorporates the maker's Ni-Span-C aneroid type capsule.

PRICE: Approximately $200.00
AVAILABILITY: Some pressure ranges from stock: others, 8 to 10 weeks.
SALES OFFICES: See **eem** p. 851 (Yellow Section)

For other Bourns Laboratories products refer to **eem** *pp. 658, 659, 669 (1958 Edition).*
Circle 35 Reader Service Coupon (p. 2)

eem File System electronic engineers master Sec.

Pressure Transducer
Bourns Laboratories, Inc.
CLIP & FILE ☐

PRICES — *The design of a circuit, system or component must be practical from a cost standpoint as well as technical characteristics.*

AVAILABILITY — *Delivery on both military and commercial orders must meet strict schedules. Knowledge of availability is essential.*

LOCAL SALES OFFICES — *Listing the address and phone number of the local sales offices or representative expedites the placing of an order, or a request for additional information.*

PROVISION FOR FILING — *A system for clipping, filing and locating product data when it is needed for future reference.*

Engineer-designed CLIP/FILE is now used and relied upon for new product data by thousands of the same engineers who helped create it; thousands have set up their own personal filing systems based on the 51 **eem** product section numbers. And thousands are now saving many hours of valuable engineering time. How about you?

Start saving engineering time today — rely on CLIP/FILE for new product information. Set up your own **eem** filing system. **See complete details on inside back cover.**

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THE COMPLETE LINE OF

DIALCO® PILOT LIGHTS

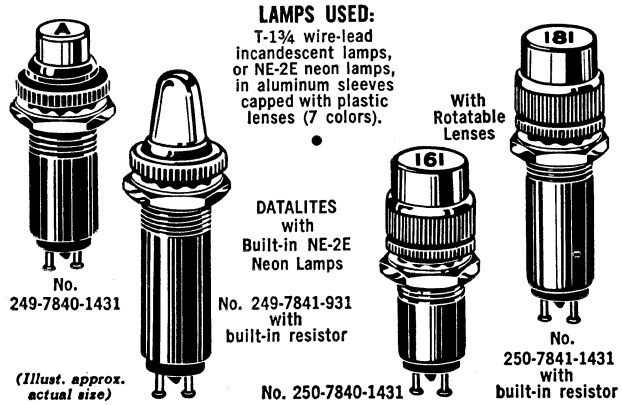
FOR INDICATION...AUTOMATION...MINIATURIZATION

In this brochure—complete facts on DIALCO's

DATALITES®

For the Computer-Automation Industries

DATALITES by DIALCO are ultra-miniature Indicator Lights specially designed to meet the critical requirements of the computer-automation fields. Made in 2 basic styles: *Lamp Holders with* DIALCO'S own *replaceable Lamp Cartridges* (see above); or integrated DATALITES *with Built-in Neon Lamps* which are *not replaceable* (see below). Ultra-compact, single units mount in ⅜" clearance hole; the twin-lamp assembly mounts in ¾" clearance hole.



LAMPS USED:
T-1¾ wire-lead incandescent lamps, or NE-2E neon lamps, in aluminum sleeves capped with plastic lenses (7 colors).

DIALCO DATA STRIP and DATA MATRIX

Designed to provide the convenience of plug-in lamp cartridges for use in *computers, program boards, read-out panels,* and other applications which require combinations of assemblies in a minimum of space.

Lamp holders accommodate DIALCO'S Neon or Incandescent Lamp Cartridges.

Each lamp holder has 2 terminals and is completely insulated (without the use of insulating shoulder washers).

FEATURES AND SPECIFICATIONS

DATA STRIP

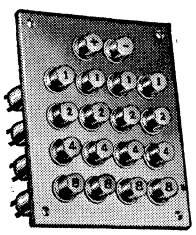
Ten lamp holders are mounted on an aluminum channel for either *vertical* or *horizontal* reading. The cartridges are easily mounted and provide an attractive display of numerals, symbols or letters in a very small area of space.

There is no basic (or stock) item; we can supply any number of lamp holders on a strip: 2, 6, 10, 15, or 20 units.

Each lamp holder on the DATA STRIP is on ½" centers and every adjacent DATA STRIP has ½" spacing.

DATA MATRIX

Similar to DATA STRIP but rectangular in shape, DATA MATRIX can be supplied with any combination of lamp holders on ½" centers or for special applications. A typical Binary computing application shown here holds 18 lamp holders. The cartridges contain incandescent lamps and are capped with short cylindrical lenses.



DATA MATRIX
No. DM-7538-18

MATERIALS and FINISHES:
Lamp holder housing, channel for DATA STRIP or panel for DATA MATRIX, and cartridge sleeve are aluminum with clear anodize finish; *option*—black anodize finish.

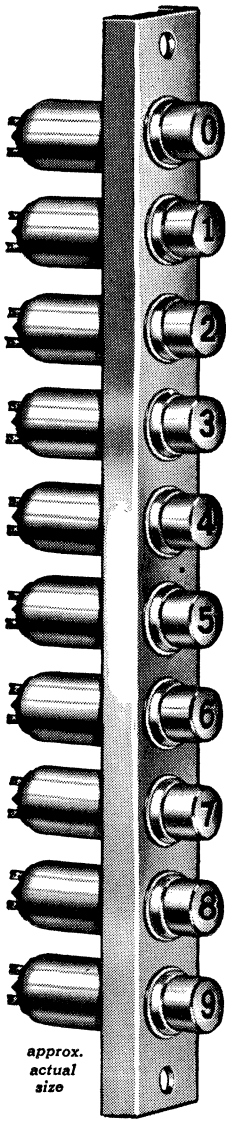
HOT-STAMPED LEGENDS

(Digits, Letters, or Symbols) on Dialco Lamp Cartridge Lenses

SHORT and LONG CYLINDRICAL lenses can be hot-stamped with one or two digits of standard sizes, as follows: 1 DIGIT, 11/64" high (14 pt. type) . . . 2 DIGITS, 9/64" high (10 pt. type) . . . *These standard sizes of Legends will be provided in a uniform manner per order*—i.e., the size of type will be determined by the *largest* legend indicated in each individual order.

Standard—BLACK letters; but white, red, green, or blue letters can be supplied to order.

Colored Legends on black or gray lenses: Legends can also be furnished in *"negative"*, or *"reverse"* style. That is, the legend is illuminated in white or other color while the background remains opaque black or gray.

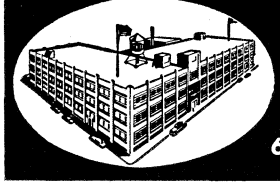


approx. actual size

DATA STRIP
No. DSV-7538-10
Vertical...complete with 10 No. 39-28-1475 Dialco Lamp Cartridges

No. DSH-7538-10
Same as above, but for **horizontal** reading.

SAMPLES ON REQUEST AT ONCE—NO CHARGE



Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION

60 STEWART AVE., BROOKLYN 37, N.Y. • HYACINTH 7-7600

See YELLOW SECTION for Local Offices, Telephones, etc.

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THE COMPLETE LINE OF

DIALCO® PILOT LIGHTS

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations are approx. actual size)

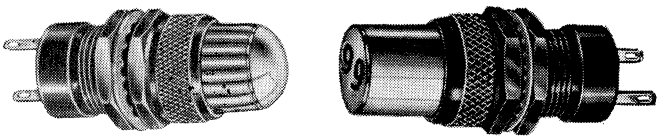
Sub-Miniature Indicator Lights for NEON Lamps

NE-2D *(regular)*
NE-2J *(high brightness)*

TWO TERMINALS — FULLY INSULATED — Conform to all applicable military specifications

FEATURES: Ultra-compact; conserves space and weight . . . Available for mounting from BACK of panel or from FRONT of panel . . . Lens holder unscrews from front of panel for easy replacement of lamp . . . Two terminals are perforated for wire and tinned for easy soldering . . . *RUGGED — PHENOLIC INSULATED:* Socket, lamp, and all connections are well insulated from mounting bushing by means of phenolic material of military specification grade . . . Metal parts of the assembly are made from solid brass and attractively finished . . . Lenses are moulded of high heat plastic. In the Lens with *"Halo Effect"*, about two-thirds of the lens is "fluted"; the remaining front portion is smooth. This produces clear light framed by a sparkling "halo" when viewed from front. Softer light is afforded along "fluted" sides . . . *Omni-Directional Lenses* have all-angle visibility . . . The NE-2D or the NE-2J Neon Lamp enters high into the dome for best effectiveness . . . Choice of 5 lens colors.

For BACK of Panel Insertion in 15/32" Clearance Hole



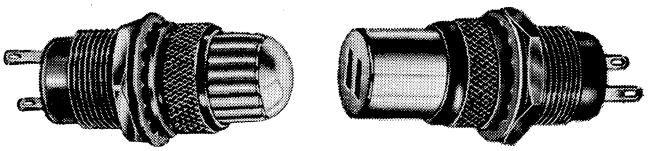
PLASTIC LENSES: Dome with Halo Effect . . . or Rotatable Cylindrical Lens with Hot-Stamped Legend. Complete with internal tooth lockwasher and nuts. *Terminals:* Soldering, or Taper-Tab . . . *Standard Finish:* Lens holder and flange nut, black nickel. Mounting bushing, white nickel . . . *Options:* Lens holder and flange nut, polished chrome or white nickel . . . *Order Complete with Lamp.* Specify lamp number.

CATALOGUE NUMBERS

Color	Dome Lens Solder. Terminals	Cylindrical Lens Solder. Terminals	For *Taper-Tab* Terminals, change middle part of Cat. No. to *-6336-*.
Red	145-3836-991	138-3836-1431	Example:
Yellow (Amber)	145-3836-993	138-3836-1433	138-*6336*-1431
White	145-3836-995	138-3836-1435	
Light Yellow	145-3836-996	138-3836-1436	
Clear (Colorless)	145-3836-997	138-3836-1437	

Green or blue is not recommended for use with neon lamps.

For FRONT of Panel Insertion in 17/32" Clearance Hole

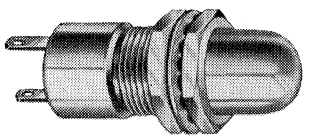


PLASTIC LENSES: Dome with Halo Effect . . . or Rotatable Cylindrical Lens with Hot-Stamped Legend. Complete with internal tooth lockwasher and nut. *Terminals:* Soldering, or Taper Tab . . . *Standard Finish:* Black nickel . . . *Options:* White nickel or polished chrome . . . *Order Complete with Lamp.* Specify lamp number.

CATALOGUE NUMBERS

Color	Dome Lens Solder. Terminals	Cylindrical Lens Solder. Terminals	For *Taper-Tab* Terminals, change middle part of Cat. No. to *-6536-*.
Red	145-5036-991	138-5036-1431	Example:
Yellow (Amber)	145-5036-993	138-5036-1433	138-*6536*-1431
White	145-5036-995	138-5036-1435	
Light Yellow	145-5036-996	138-5036-1436	
Clear (Colorless)	145-5036-997	138-5036-1437	

Green or blue is not recommended for use with neon lamps.



For BACK of Panel Insertion in 15/32" clearance hole.

PLASTIC DOME—OMNIDIRECTIONAL.

Assembly designed for insertion from back of panel.

Complete with internal tooth lockwasher and nuts. *Terminals:* Soldering, or Taper-Tab . . . *Standard Finish:* Lens holder and flange nut, black nickel. Mounting bushing, white nickel . . . *Options:* Lens holder and flange nut, polished chrome or white nickel . . . *Order Complete with Lamp.* Specify lamp number.

CATALOGUE NUMBERS

Color	Soldering Terminals	Taper-Tab Terminals
Red	137-7236-931	137-7636-931
Yellow (Amber)	137-7236-933	137-7636-933
White	137-7236-935	137-7636-935
Light Yellow	137-7236-936	137-7636-936
Clear (Colorless)	137-7236-937	137-7636-937

Green or blue is not recommended for use with neon lamps.

The LIGHT SOURCE: Tiny G. E. Neon Glow Lamps NE-2D or NE-2J

These lamps have formed bulbs and midget flanged bases; designated as *NE-2D* for the regular lamp, and as *NE-2J* for the high brightness type which has higher voltage characteristic requiring 110 volts A.C. or 160 volts D.C. for reliable performance. A resistor (or other ballast) must be used. Since the current is never more than 3 m.a., the resistor may be the 1/3 watt type. Recommended values are as follows:

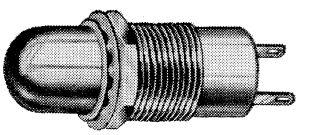
For NE-2D at 105-125 volts A.C. or D.C.

Bright light	Medium life	Long life
56,000 ohms	100,000 ohms	220,000 ohms

For NE-2J (High Brightness) at 105-125 V. (A.C. only)

Bright light	Medium life	Long life
18,000 ohms	33,000 ohms	82,000 ohms

For FRONT of Panel Insertion: Requires single 17/32" clearance hole.



PLASTIC DOME — OMNIDIRECTIONAL. Assembly designed for insertion from front of panel. Complete with internal tooth lockwasher and nut. *Terminals:* Soldering, or Taper-Tab . . . *Standard Finish:* Black nickel . . . *Options:* White nickel or polished chrome . . . *Order Complete with Lamp.* Specify lamp number.

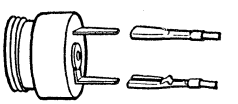
CATALOGUE NUMBERS

Color	Soldering Terminals	Taper-Tab Terminals
Red	137-7336-931	137-7736-931
Yellow (Amber)	137-7336-933	137-7736-933
White	137-7336-935	137-7736-935
Light Yellow	137-7336-936	137-7736-936
Clear (Colorless)	137-7336-937	137-7736-937

Green or blue is not recommended for use with neon lamps.

TAPER-TAB TERMINALS

Reduce assembly time, enable use of smaller and lighter parts. *Self-locking action* and high contact pressure assure reliability.

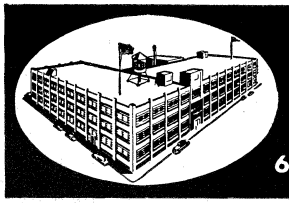


Note: CURRENT LIMITING RESISTORS. We can supply the necessary resistors separately.

ORDER COMPLETE WITH LAMPS

so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

SAMPLES ON REQUEST AT ONCE — NO CHARGE.



Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION

60 STEWART AVE., BROOKLYN 37, N.Y. • HYACINTH 7-7600

See YELLOW SECTION for Local Offices, Telephones, etc.

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THE COMPLETE LINE OF

PILOT LIGHTS

DIALCO®

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations are approx. actual size)

Sub-Miniature Indicator Lights for T-1¾ Bulbs

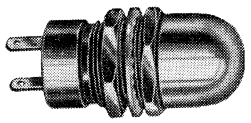
MIDGET FLANGE BASE INCANDESCENT

TWO TERMINALS — FULLY INSULATED — Conform to all applicable military specifications

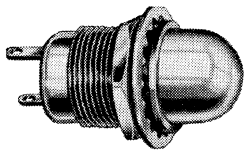
FEATURES: All of these indicator lights are designed to employ the tiny midget flange base incandescent lamps in a range of low voltages from 1.3 to 28. Standard lamp types with their ratings are shown below. Replacement of lamp is from the front of panel in all cases . . . *OMNI-DIRECTIONAL* visibility is afforded by the stovepipe cap of high heat plastic which may be fitted to either front mounting or rear mounting assemblies . . . Seven signal colors are available . . .

RUGGED CONSTRUCTION, PHENOLIC INSULATION — Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached. The use of phenolic material of military specification grade assures permanent isolation from ground . . . These assemblies are solidly made of brass and will withstand usual vibration and corrosion resistance tests . . . Two terminals are perforated for wire and tinned for easy soldering.

PLASTIC DOME — Omnidirectional lens. This unique stovepipe lens is moulded of high heat plastic. It radiates light in all directions. Its heavy wall is reinforced by its threaded brass insert. This fitting receives the lamp and screws into the internal thread of the bushing. The bulb enters well into the plastic dome which is readily removed from the front of the panel. *Standard Finish:* Black nickel . . . *Options:* White nickel or polished chrome . . . *Order Complete with Lamp.* Specify lamp number.



Back of Panel Insertion: Requires a single 15/32" Clearance Hole



Front of Panel Insertion: Requires a single 17/32" Clearance Hole

CATALOGUE NUMBERS

Non-diffusing (transparent) colors

Color	(Back insertion)	(Front insertion)
Red	101-3830-931	101-5030-931
Green	101-3830-932	101-5030-932
Yellow (Amber)	101-3830-933	101-5030-933
Blue	101-3830-934	101-5030-934
White (Opal)	101-3830-935	101-5030-935
Light Yellow	101-3830-936	101-5030-936
Clear (Colorl's)	101-3830-937	101-5030-937
Completely diffusing colors		
Red	101-3830-971	101-5030-971
Green	101-3830-972	101-5030-972
Yellow (Amber)	101-3830-973	101-5030-973
Blue	101-3830-974	101-5030-974
White (Opal)	101-3830-975	101-5030-975
Light Yellow	101-3830-976	101-5030-976
Light diffusing colors		
Red	101-3830-951	101-5030-951
Green	101-3830-952	101-5030-952

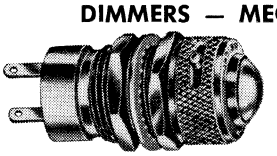
These pilot lights are also available with *Taper-Tab* Terminals. Specify by changing the middle part of the catalog number "-3830-" to "-6330-", & "-5030-" to "-6530-".

LIGHT SOURCE: all of the sub-miniature lights are intended to be used with T-1-3/4 bulbs. They are tiny incandescent lamps with bases referred to as the midget flange type. Order pilot lights complete with lamps from the listing at the right.

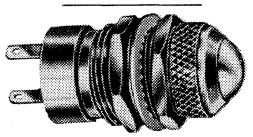
Lamp No.	Volts	Amps	Life (Hrs.)
331	1.3	.06	500
338	2.7	.06	500
328	6.0	.2	500
345	6.0	.04	500
330	14.0	.08	750
327	28.0	.04	1000

DIMMERS — MECHANICAL or POLAROID

Mount in 15/32" Clearance Hole



DIMMING



NON-DIMMING

Mechanical varies opening size to complete blackout or has permanent small opening as in "semi-blackout" type. *Polaroid* produces some reduced intensity at all settings but gives full diameter opening.

Non-Dimmers unscrew for easy lamp replacement. Complete with internal tooth lockwasher and nut.

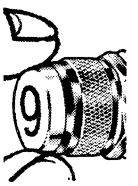
Terminals: Soldering. *Standard Finish:* Black nickel. *Options:* (Non-Dimmers only) White nickel or polished chrome. *Order Complete with Lamp;* Specify lamp number.

These pilot lights are also available with *Taper-Tab* Terminals. Specify by changing the mildle part of the catalog number "-3830-" to "-6330-". See listing below.

CATALOGUE NUMBERS

DIMMING	Lens, frosted back	Lens, frosted all over	Lens, unfrosted
Semi-blackout	109-3830-111	109-3830-121	109-3830-131
Blackout	108-3830-111	108-3830-121	108-3830-131
Polaroid	112-3830-111	112-3830-121	112-3830-131
NON-DIMMING	111-3830-111	111-3830-121	111-3830-131

LIGHTS WITH A MESSAGE • ROTATABLE LENSES



Lens with Message is easily positioned. A DIALCO exclusive is the specially designed cap-and-lens (as shown at left). By pressing on spring-mounted lens and rotating in either direction the legends may be positioned after installation of the assembly . . A figure, letter, or word is hot stamped in black or white into the flat face of the translucent plastic lens. (Black is standard; white letters on request). A 7/16" circular area is available for this purpose. *Size of Type for Legends:* Standard sizes are as follows: For 1 DIGIT, 13/64" high (18 pt. type); 2 DIGITS, 11/64" high (14 pt. type); 3 DIGITS, 9/64" high (12 pt. type).

Lens holder unscrews from front of panel for easy replacement of lamp . . . Two terminals provided for electrical connections . . . *Rugged, phenolic insulated* Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached. *Terminals:* Soldering, or Taper Tab . . . *Standard Finish:* Black nickel . . . *Options:* White nickel or polished chrome . . . *Order Complete with Lamp:* Specify lamp number.

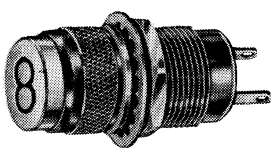
Translucent Colors	(Back insertion)	(Front insertion)
Red	134-3830-351	134-5030-351
Green	134-3830-352	134-5030-352
Yellow (Amber)	134-3830-373	134-5030-373
White (Opal)	134-3830-375	134-5030-375
Light Yellow	134-3830-376	134-5030-376

These pilot lights are also available with *Taper-Tab* Terminals. Specify by changing the middle part of the catalog number *"-3830-"* to "-6330-", and "-5030-" to "-6530-".

TAPER-TAB TERMINALS

Reduce assembly time, enable use of smaller and lighter parts. *Self-locking action* and high contact pressure assure reliability. See illustration on preceding page.

Back of Panel Insertion: Requires a single 15/32" Clearance Hole



Front of Panel Insertion: Requires a single 17/32" Clearance Hole

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

LENS COLOR: The *final figure* in Catalogue Number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted (For example: 109-3830-135).
Red — 1 . . . Green — 2 . . . Yellow (Amber) — 3 . . . Blue — 4 . . . White Trans. — 5 . . . Light Yellow — 6 . . . Clear (Colorless) — 7

SAMPLES ON REQUEST AT ONCE — NO CHARGE.

Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION

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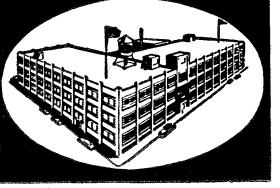

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THE COMPLETE LINE OF

DIALCO® PILOT LIGHTS

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations are approx. actual size)

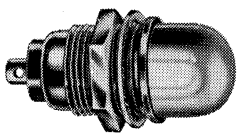
Sub-Miniature Indicator Lights for T-1¾ Bulbs

MIDGET FLANGE BASE INCANDESCENT

ONE TERMINAL (Soldering or Binding Screw) — for use on GROUNDED CIRCUITS

FEATURES: These units offer the ultimate in compactness. They require a single 13/32" or a single 15/32" clearance hole. Made for use on grounded circuits, they may be had with a single Soldering Terminal or a single Binding Screw Terminal . . . *RUGGED — PHENOLIC INSULATED:* The metal parts of the assembly are made from solid brass and attractively finished to match any panel. Insulation is provided by moulded phenolic material of military specification grade. As required by MIL-L-7806, the movable contact is a solid brass part and the spring is not necessary to carry current . . . Conform to applicable military specifications.

LIGHT SOURCE: All of these subminiature lights use the T-1-¾ bulbs (see preceding page for range of voltages).



PLASTIC DOME — OMNIDIRECTIONAL

Unique moulded high heat plastic top . . . Metal insert reinforces and holds lamp. Gives maximum effectiveness and light distribution. Complete with internal tooth lockwasher and nut . . . *Standard Finish:* Black nickel . . . *Options:* White nickel or polished chrome . . . *Order Complete with Lamp.* Specify lamp No.

For mounting in 13/32" Hole

Non-diffusing (transparent) colors

Color	Catalogue No.
Red	101-4630-931
Green	101-4630-932
Yellow (Amber)	101-4630-933
Blue	101-4630-934
White (Opal)	101-4630-935
Light Yellow	101-4630-936
Clear (Colorless)	101-4630-937

These Pilot Lights are also available for mounting in 15/32" clearance hole. For full details see Form L-157A.

Completely diffusing colors

Color	Catalogue No.
Red	101-4630-971
Green	101-4630-972
Yellow (Amber)	101-4630-973
Blue	101-4630-974
White (Opal)	101-4630-975
Light Yellow	101-4630-976

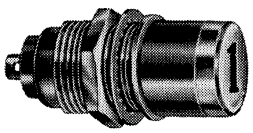
Light diffusing colors

Red	101-4630-951
Green	101-4630-952

These catalogue numbers indicate units with *soldering type terminal. For binding screw terminal,* change "--4630--" to "--7130--". Other code numbers remain the same.

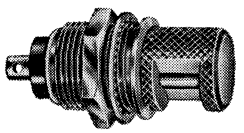
FLAT PLASTIC LENS — with MESSAGE Illuminated flat end with hot stamped word, figure or symbol. ½" circular area. Friction-Fit Cap facilitates positioning of legend.

Requires single 15/32" clearance hole



Translucent Colors	with Soldering Terminal	with Screw Terminal
Red	106-1930-351	106-1830-351
Green	106-1930-352	106-1830-352
Yellow (Amber)	106-1930-373	106-1830-373
White (Opal)	106-1930-375	106-1830-375
Light Yellow	106-1930-376	106-1830-376

Standard Finish: Blk. nickel. *Order Complete with Lamp.* Specify Lamp No.



LIGHT SHIELD ASSEMBLIES

For lighting dials and instruments

Mount in 15/32" clearance hole

Opening in side of metal lamp holder emits light on panel to illuminate dials or controls. May be supplied with moulded colored filter to provide red light. Complete with internal tooth lockwasher and nut . . . *Standard Finish:* Black nickel . . . *Options:* White nickel or polished chrome, on "4-" Series only.

FILTER COLORS

The *final figure* in the chart at right indicates that the filter has RED color. When color other than red is desired, change this digit to a figure from this listing: Green — 2 . . . Yellow (Amber) — 3 . . . Blue—4 . . . Light Yellow—6.

CATALOGUE NUMBERS

4-1930 . . . with *soldering* terminal
4-1830 . . . with *binding screw* terminal

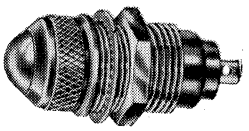
With Moulded Filter:
(Shield is not knurled)
113-1930-1 . . . with *soldering* terminal
113-1830-1 . . . with *binding screw* terminal

INDICATOR LIGHT (Non-dimming)

General purpose, rugged, metal lens holder, glass lens. Unscrews for easy lamp replacement. Complete with internal tooth lockwasher and nut. For panels up to ⅜" thick. *Standard Finish:* Black nickel.

Options: White nickel or polished chrome.

Order Complete with Lamp. Specify No.



CATALOGUE NUMBERS

For mounting in 13/32" clearance hole

Terminals	Lens, frosted back	Lens, frosted all over	Lens, unfrosted
Soldering	111-4630-111	111-4630-121	111-4630-131
Binding Screw	111-7130-111	111-7130-121	111-7130-131

For mounting in 15/32" clearance hole

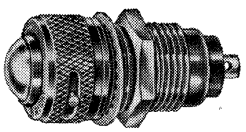
Soldering	8-1930-111	8-1930-121	8-1930-131
Binding Screw	8-1830-111	8-1830-121	8-1830-131

DIMMER TYPES Mechanical or Polaroid

Mechanical varies opening size to complete blackout or has permanent small opening as in "semi-blackout" type. *Polaroid* produces some reduced intensity at all settings but gives full diameter opening. Complete with internal tooth lockwasher and nut. For panels up to ⅜" thick.

Standard Finish: Black nickel.

Order Complete with Lamp. Specify No.



Mount in 15/32" Clearance Hole

CATALOGUE NUMBERS

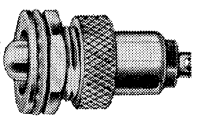
Terminals	Dimming	Lens, frosted back	Lens, frosted all over	Lens, unfrosted
Soldering	Semi-blackout	2-1930-111	2-1930-121	2-1930-131
	Complete "	11-1930-111	11-1930-121	11-1930-131
	Polaroid	3-1930-111	3-1930-121	3-1930-131
Screw	Semi-blackout	2-1830-111	2-1830-121	2-1830-131
	Complete "	11-1830-111	11-1830-121	11-1830-131
	Polaroid	3-1830-111	3-1830-121	3-1830-131

LENS COLOR: The *final figure* in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted (For example: 2-1930-135).
Red — 1 . . . Green — 2 . . . Yellow (Amber) — 3 . . . Blue — 4 . . . White Trans. — 5 . . . Light Yellow — 6 . . . Clear (Colorless) — 7

SUB MINIATURE LAMP HOLDER

Single Terminal, Grounded, Mount in 13/32" clearance hole. Lamp is removable only from REAR of panel.

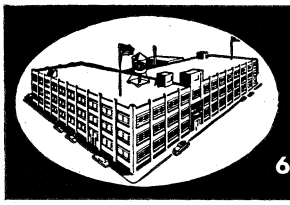
Standard Finish: White nickel.
Catalogue No. 8-1930-XP24



BINDING SCREW TERMINAL

Any of the assemblies shown on this page are also available with a single binding screw terminal.

SAMPLES ON REQUEST AT ONCE — NO CHARGE.



Foremost Manufacturer of Pilot Lights

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See YELLOW SECTION for Local Offices, Telephones, etc.

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THE COMPLETE LINE OF

PILOT LIGHTS DIALCO®

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations are approx. actual size)

SUB-MINIATURE LIGHTS for Translucent Panel EDGE LIGHTING

Meet all requirements of Military Specification MIL-L-7806-3

New design eliminates blind spots — produces shadow-less lighting

This series is designed for MIL-P-7788 Panels (plastic plate)
Conform to Military Drawing — MS25010 — 1A to 8A. Complete with T-1-¾ incandescent lamp No. 327 (MS25237-327).

FEATURES: This series provides a complete line of assemblies for every requirement of Plastic Plate lighting and indication. (1) The basic lighting units for transilluminating the standard 3/16" plastic panels are those assigned *Military Specification Numbers* 25010-1A, 2A, 3A, and 4A. They are designed to emit light through a red filter radially into the plastic plate . . . (2) Panel lighting plus indication assemblies with light emission instead of opaque tops is accomplished when the edge lighting assemblies are modified by use of caps of the same light transmitting character as the filter . . . (3) Inset lens in opaque top for dual purpose edge lighting and indication provides a wide angle of visibility . . . (4) All-metal indicator lights with convex lens—dimming and non-dimming available. When it is necessary to insulate the mounting bushing of these lights from the metal panel, washers may be provided . . . (5) Terminal may be single soldering or single binding screw type . . . (6) All assemblies may be had with either black or gray tops.

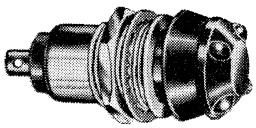
LIGHT SOURCE:

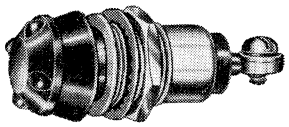
All of these sub-miniature pilot lights use the T-1-¾ bulbs.

See Page **859** for range of voltages.

SUB-MINIATURE LIGHTS — MS25010

For MIL-P-7788 panels and other edge lighting applications.





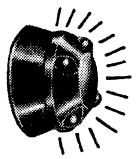
Specify BLACK or GRAY top (gray not covered by specifications). Lamp furnished is MS25237-327

Dialco Cat. No. with BLACK TOP	Military Standard Drawing Number	Dialco Cat. No. with GRAY TOP	With or Without MS25237-327 Lamp	Filter Color	Terminal Type
TT61A	MS25010-1A	TT67A	With	Red	Soldering
TT61	MS25010-2A	TT67	Without	Red	Soldering
TT62A	MS25010-3A	TT68A	With	Red	Screw
TT62	MS25010-4A	TT68	Without	Red	Screw

This is only a partial listing of the units available. Consult Dialco Form No. L-158A for complete list.

PANEL LIGHTING plus INDICATION

Light-emitting Top or Inset Lens

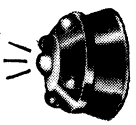


Light emitting top assemblies are available in either clear tops in the various colors, or with matted inside surfaces for diffusion. Complete with nut and lockwasher. Lamp furnished is MS25237-327.

Dialco Cat. No.	Military Standard Drawing Number	With or Without MS25237-327 Lamp	Filter Color	Top Color	Terminal Type
TT61A-R1	MS25010-5A	With	Red	Red	Soldering
TT61-R1	MS25010-6A	Without	Red	Red	Soldering
TT62A-R1	MS25010-7A	With	Red	Red	Screw
TT62-R1	MS25010-8A	Without	Red	Red	Screw

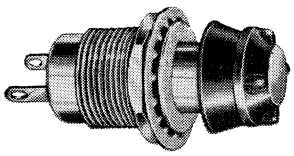
This is only a partial listing of the units available. Consult Dialco Form No. L-158A for complete list.

INSET LENS TOP ASSEMBLIES: For wide angle of visibility these units with inset colored lens in an opaque top are very useful. Complete with nut, lockwasher, and MS25237-327 lamp.



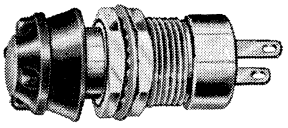
Dialco Cat. No. with MS25237-327 Lamp	Filter Color	Lens Color	Top Color
TT63A-R1	Red	Red	Dull Black
TT63A-RO	Opaque	Red	Opaque
TT63A-GO	Opaque	Green	
TT63A-AO	Opaque	Amber	

TWO TERMINALS — FULLY INSULATED

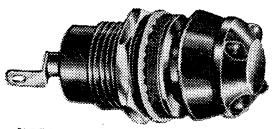


TT55-5030
mounts from *front* of panel in 17/32" clearance hole

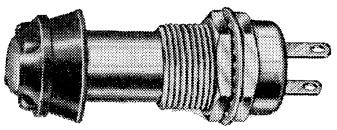
All Filters conform to MS25010 except TT54 which is ½" long. For complete listing, consult Dialco Form No. L-158A.



TT55-3830
mounts from *rear* of panel in 15/32" clearance hole



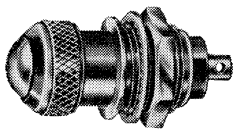
TT59
1 terminal, grounded, with hermetic seal mounts from *front* of panel in 15/32" clearance hole



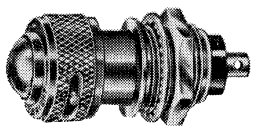
TT54-3830
mounts from *rear* of panel in 15/32" clearance hole

INDICATOR LIGHTS for PLASTIC PANELS

Refer to Dialco brochure Form L-158A for complete details.



NON-DIMMING



DIMMING

INSULATED MOUNTING: All 15/32" series 1 Terminal Sub-miniature Lights may be provided with insulating washers and terminal when it is required that the grounded bushing shall not be connected to the metal panel.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

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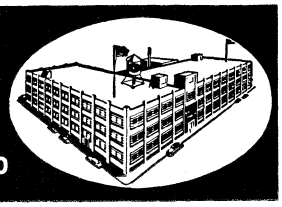

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THE COMPLETE LINE OF

DIALCO® PILOT LIGHTS

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations are approx. actual size)

ASSEMBLIES with BUILT-IN RESISTORS For the T-3¼ NEON GLOW LAMP

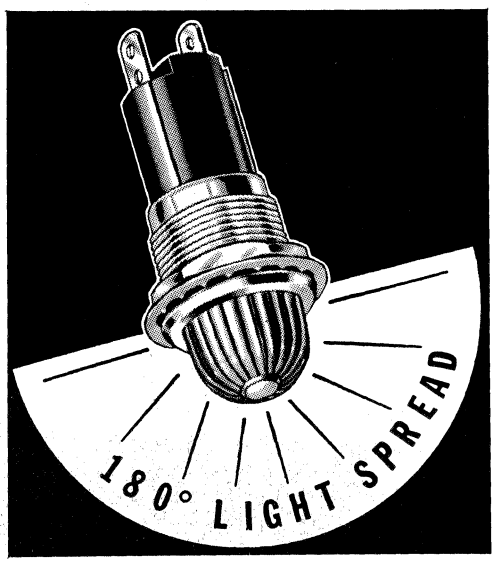
(U. S. Patent No. 2,421,321)

FOR VOLTAGES UP TO 250

FEATURES:

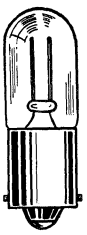
Small space required; some units mount in 9/16" clearance hole . . . May be directly connected to commercial circuits —up to 250 V . . . Give dependable indication under severely unfavorable conditions . . . Add safety and attraction to any electrical product . . . Meet Military (MIL Spec) and Civilian (UL and CSA) requirements . . . Low in cost—one cost figure for unit complete with resistor and bulb . . . Complete range of choice in every detail: Resistance value, Metal finish, Terminal type, Insulation to MIL Spec; Lens shape, diameter, color, surface; Resistor completely enclosed—sealed in metal—patented.

The diagram below shows a sectional view of the back portion of a light of this series. The resistor itself is completely insulated in moulded bakelite (a patented Dialco feature).



ADVANTAGES OF THE NEON GLOW LAMP:

Extremely rugged — no filament — resists severe vibration . . . Long, long life—rated over 25,000 hours — see table below . . . No sudden failure —predictable replacement after gradual darkening . . . gives 2 distinguishable colors with red and yellow lenses.

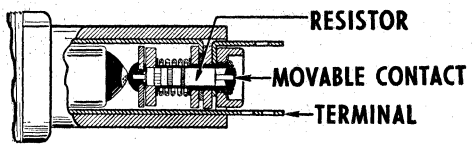


NE-51
NE-51H

Operates equally well in high or low temperatures . . . Very low power required — less than 1 watt on 250 volt circuit . . . Low in operating temperature — rugged plastic caps may be used.

REQUIRES BALLAST RESISTOR — but the necessary resistor is "BUILT-IN" — an integral part of this series of DIALCO Pilot Lights.

PROPER CHOICE OF LAMP AND BUILT-IN RESISTOR VALUES: The NE-51 glow lamp types are shown with resistor tables for each. The lamps are the *standard NE-51* and the *new NE-51H*. The *new high brightness lamp* may be operated at about three times the level of current that may be applied to the standard lamp and it will produce more than six times as much light.



(U. S. Patent No. 2,421,321)

BUILT-IN RESISTOR VALUES for the NE-51 TYPE GLOW LAMPS (Values in ohms)

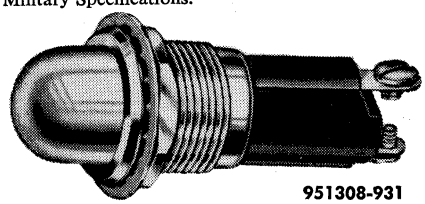
NE-51			New NE-51H (high brightness)		
VOLTS	Applied to terminals 105-125	210-250	VOLTS	Applied to terminals 105-125	210-250
BRIGHT LIGHT	56,000 (1/3 watt)	180,000 (1/3 watt)	BRIGHT LIGHT	18,000 (1/3 watt)	56,000 (1/3 watt)
MEDIUM LAMP LIFE	100,000 (1/3 watt)	330,000 (1/3 watt)	MEDIUM LAMP LIFE	33,000 (1/3 watt)	120,000 (1/3 watt)
VERY LONG LAMP LIFE	220,000 (1/3 watt)	680,000 (1/3 watt)	VERY LONG LAMP LIFE	82,000 (1/3 watt)	220,000 (1/3 watt)

All Pilot Lights shown on this page are Underwriters' Laboratories Listed and accepted by Canadian Standards Association for 75W., 125V.

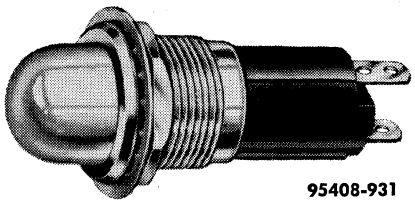
FOR MOUNTING IN 11/16" CLEARANCE HOLE

These units are available with 3 types of terminals: Screw Terminals, Soldering Terminals and Quick Connect Terminals . . . They are also available with 3 ways of attaching lens caps: Screw-On Caps, Friction Caps, and Screw-In Caps . . . Conform to applicable Military Specifications.

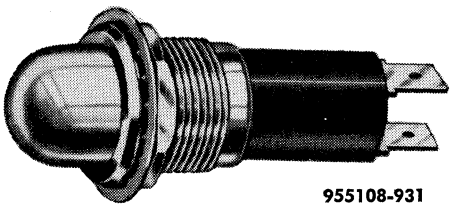
Quick Connect Terminals: Assemblies with spade terminals will mate with standard female connectors . . . *Standard Finishes:* Polished chrome for mounting bushing and lens holder . . . *Optional Finishes:* White nickel, black nickel, satin chrome for mounting bushing and lens holder.



951308-931
With SCREW TERMINALS



95408-931
With SOLDERING TERMINALS



955108-931
With QUICK-CONNECT TERMINALS

Additional units in this series are shown on the facing page.

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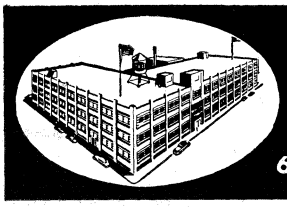

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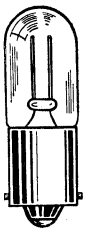
(Illustrations are approx. actual size)

ASSEMBLIES with BUILT-IN RESISTORS For the T-3¼ NEON GLOW LAMP

(U.S. Patent No. 2,421,321)

FOR VOLTAGES UP TO 250

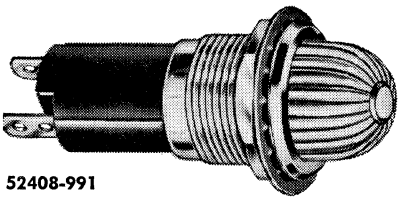
NOTE: For complete information on the NE-51 Neon Glow Lamp see the opposite page.



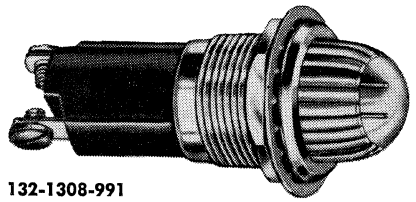
NE-51
NE-51H

11/16" Assemblies mount from FRONT or BACK of PANEL

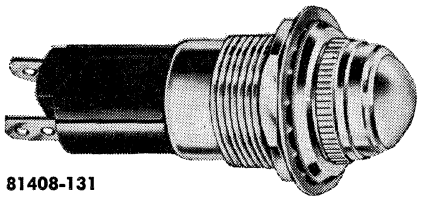
in 11/16" mounting clearance hole



52408-991



132-1308-991



81408-131

WIDE CHOICE OF LENS CAPS

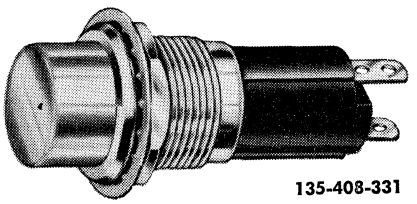
MULTI-VUE or CLEAR CAPS: In addition to the advantages given by the built-in resistor, these assemblies offer another feature that is especially important. The *"Multi-vue"* cap shown at left gives a high degree of visibility by directing an increased amount of light toward the eye when the indicator is viewed from any angle. When it is desirable to view the electrodes directly, the clear caps shown at botton of facing page are effective. For concentrating the light into a beam the metal lens holders can be equipped with convex lenses.

These assemblies may be equipped with *Screw Terminals, Soldering Terminals,* or *Quick Connect Terminals.* Assemblies have a *fixed flange* for mounting from *FRONT* of panel and provided with internal-tooth lockwasher and hexagon mounting nut. For mounting from *BACK* of panel, units are supplied with movable flange nut or ring. Outside diameter is 15/16" in both cases . . .

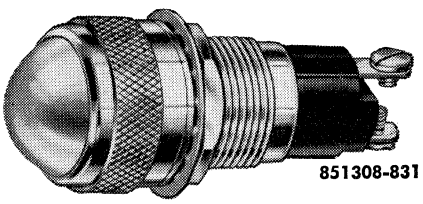
Units with Screw-in Caps or Screw-on Caps may be made *watertight* on face of panel Units shown at left and upper right have *Screw-in Caps.* The 2nd unit at the right has a *Screw-on Cap* . . . These pilot lights conform to applicable Mil. Specs.

Standard Finish: Polished chrome for mounting bushing and lens holder.

Optional Finishes: White nickel, black nickel, or satin chrome.

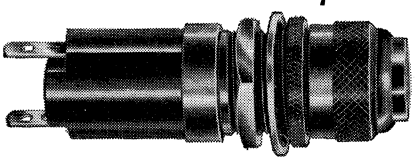


135-408-331



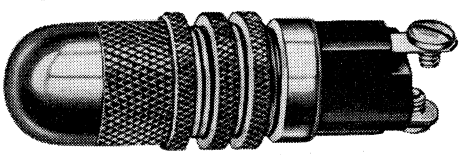
851308-831

9/16" Assemblies mount from BACK of panel only



37408-XP15-331

The assemblies which mount in 9/16" clearance hole are useful where close center-to-center spacing is required. Hardware consists of 3 kurled rings, or (optional) 1 ring, 1 lockwasher, and 1 mounting nut. Specify desired hardware.



171308-931

Standard Finish: Black nickel for mounting bushing and lens holder.

Optional Finishes: White nickel for mounting bushing. White nickel, satin chrome, or polished chrome for lens holder.

LENS COLOR: The *final figure* in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note: White lenses are translucent and are always furnished unfrosted. (For example: 37408-335).

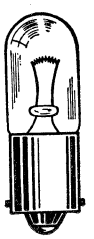
Red—1; *Green—2; Yellow (Amber)—3; —*Blue—4;
White Translucent—5; Light Yellow—6; Clear (Colorless)—7.

**Not recommended with Neon Glow Lamps.*

All of the assemblies shown on this page are listed by Underwriters Laboratories and accepted by the Canadian Standards Assn. for 75 W., 125 V.

Also available without built-in resistors:

All 11/16" and 9/16" units in this series can be supplied without built-in resistors for T-3-1/4 INCANDESCENT Lamps.



T-3¼

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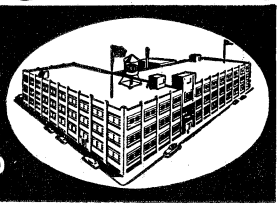

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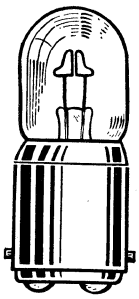
(Illustrations are approx. actual size)

ASSEMBLIES with BUILT-IN RESISTORS (U.S. Patent No. 2,421,321)

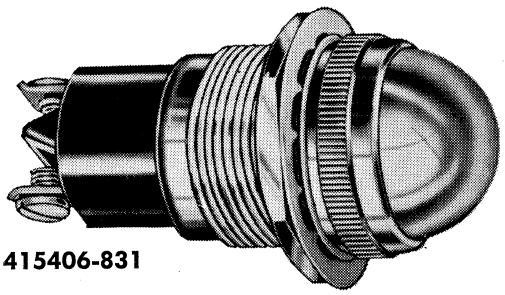
For the T-4½ NEON GLOW LAMP DOUBLE CONTACT BAYONET BASE • For VOLTAGES UP TO 250

Built-in resistance is divided into 2 separate resistors connected directly to the pilot light terminals.



NE-48

UL CSA For 75W., 125 V.



415406-831

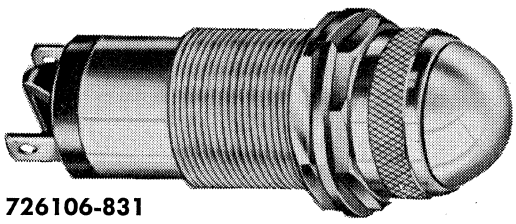
Assembly with Bayonet Cap, Dome (plastic) Lens, and movable Screw Terminals. Also available with movable Soldering Terminals.

Mount in 1" Clearance Hole

FEATURES: The *NE-48 Neon Glow Lamp,* like all neon lamps with bayonet bases, requires a current limiting resistor unless the circuit contains other means for limiting the lamp current. The assemblies in this series have the required resistor *"built-in"* as an integral part of the unit — *a patented Dialco feature.* The resistor value depends on the circuit voltage and the brightness desired . . . Assemblies are available with Screw Terminals or Soldering Terminals, and in a choice of 3 ways of attaching Lens Caps: Screw-on, Friction, or Bayonet Caps. Lens types are available as follows: Flat, Faceted, Torpedo Faceted, Torpedo, Large Torpedo, Small Convex, and Large Convex are made of glass . . . Dome and Stovepipe are made of plastic.

Optional features include: Split Lockwasher may be substituted for internal-tooth type . . . Octagon Flange Ring may be used on screw cap assemblies instead of knurled ring . . . Screw cap units may be made *watertight* on face of panel . . . A *disc* is inserted in back of lens when it is desired to have a word, numeral, or symbol appear when lamp is on . . . Conform to all applicable Mil. Specs.

Standard Finishes: White nickel for mounting bushing; polished chrome for lens caps . . . *Optional Finishes:* Black nickel for mounting bushing; satin chrome or black nickel for lens caps.

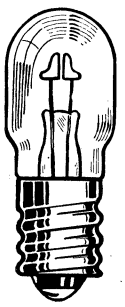


726106-831

Assemblies for Mounting in 13/16" Clearance Hole

FEATURES: Like the above, these assemblies (for the NE-48 Neon Double Contact Bayonet Base Lamp) requires current limiting resistors. The required resistor up to 250V is *"built-in"* as an integral part of the assembly — *a patented Dialco feature.* Assemblies are available with Screw Terminals or Soldering Terminals, and with Screw-on or Friction Caps. Lens types include: Convex (glass) Faceted (glass), or Dome (plastic). Finishes are the same as for the 1" assemblies described above. These assemblies conform to all applicable Military Specifications.

Assemblies for the T-4½ Neon Lamp with Candelabra Screw Base

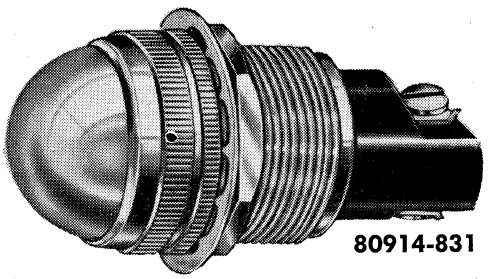


NE-45

Candelabra screw base types as illustrated are available as NE-45 for 105 to 125 volts and as NE-58 for 210 to 250 volts. With externally connected resistors of small size, higher voltages may be applied.

Mount in 1" Clearance Hole

Assemblies are available with Screw Terminals. Soldering Terminals, or Quick Connect Terminals which mate with standard female connectors. There are 3 ways of attaching lens caps: Screw-on, Friction, or Bayonet Caps. 9 lens types are available as described above. A complete series of units are also available for mounting in 13/16" clearance hole. Finishes: same as for the units described above.



80914-831

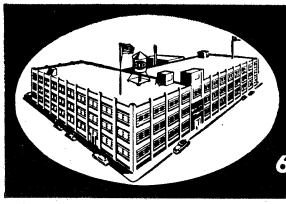
Assembly with Screw Cap, Dome (plastic) Lens, and Screw Terminals in side position. Similar units are available with Screw Terminals in protruding position, Soldering Terminals, and Quick Connect Terminals.

LENS COLOR: The *final figure* in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. (For example: 80914-835).

Red—1; *Green—2; Yellow (Amber)—3; *Blue—4; White Translucent—5; Light Yellow—6; Clear (Colorless)—7. *not recommended with Neon Lamps.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

SAMPLES ON REQUEST AT ONCE — NO CHARGE



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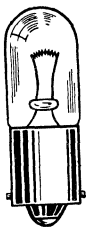
(Illustrations are approx. actual size)

ASSEMBLIES for T-3¼ INCANDESCENT LAMP 2 to 55V. (No Higher)

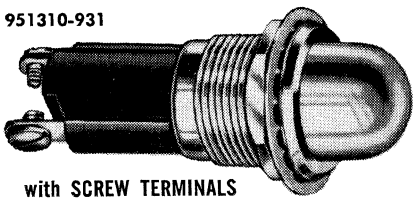


Miniature Bayonet Base

FEATURES: In this series of assemblies, the lamp socket is completely insulated in moulded phenolic of military specification grade. Units may be had with *Screw Terminals, Soldering Terminals,* or *Quick Connect Terminals.* 3 types of caps are available: Screw-on Caps, Friction Caps, or Screw-in Caps. A wide choice (approx. 26 styles of lenses enables the proper selection of the right type of lens for every purpose. With many lenses, a *disc* can be inserted in back of lens when it is desired to have a word, numeral, or symbol appear when lamp is on. These pilot lights conform to all applicable Military Specifications.

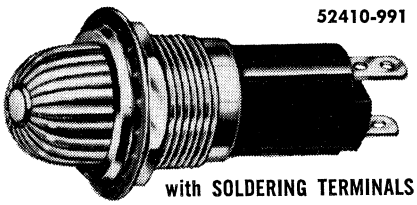
For Mounting in 11/16" Clearance Hole

951310-931



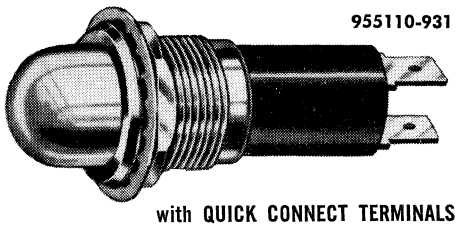
with SCREW TERMINALS

52410-991



with SOLDERING TERMINALS

955110-931



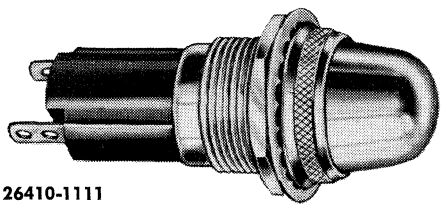
with QUICK CONNECT TERMINALS

The assemblies have a *fixed flange* for mounting from *FRONT* of panel. A movable flange nut or ring is supplied for mounting from *BACK* of panel. Outside diam. 15/16", in both cases . . .

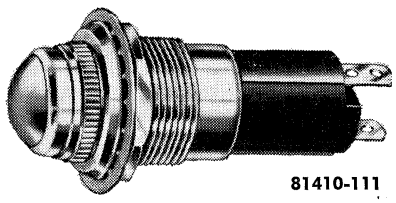
Quick Connect Terminals: Assemblies with spade terminals will mate with standard female connectors.

Standard Finishes: Polished chrome for mounting bushing and lens holder . . .

Optional Finishes: White nickel, black nickel, or satin chrome.



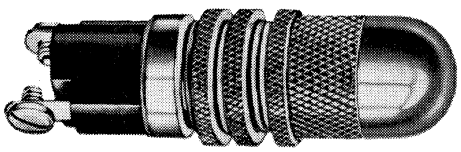
26410-1111
26410-1191 (with inside fluted cap)



81410-111

For Mounting in 9/16" Clearance Hole (Mount from BACK of panel only)

These assemblies are available with Screw Terminals or Soldering Terminals; with Screw-on Caps or Friction Caps; and in a choice of approximately 11 lens styles.

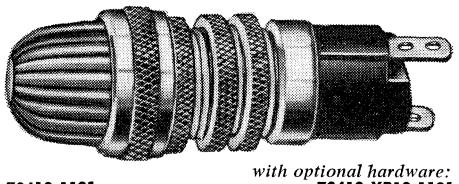


171310-931 *with optional hardware:* 171310-XP15-931

Standard Finish: Black nickel for mounting bushing and lens holder.

Optional Finishes: White nickel for bushing. White nickel, satin chrome, or polished chrome for lens holder.

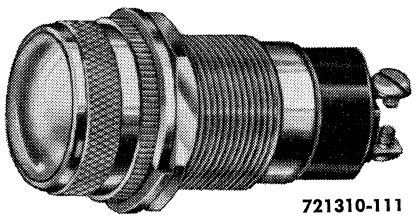
Optional Hardware: 1 knurled ring, 1 internal-tooth lockwasher, 1 hex. mounting nut. The outside diameter is 13/16".



70410-1191 *with optional hardware:* 70410-XP10-1191

For Mounting in 13/16" Clearance Hole

These assemblies are available with Screw Terminals or Soldering Terminals; with Screw-on Caps or Friction Caps; with 3 lens types—Convex (glass), Faceted (glass), Dome (glass) . . . Screw cap units may be made *watertight* on face of panel.
Standard Finishes: White nickel for mounting bushing; polished chrome for lens holder . . . *Optional Finishes:* Black nickel for mounting bushing; satin chrome or black nickel for lens holder.



721310-111

LENS COLOR: The final figure in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. (For example: 721310-135.)

Red—1; Green—2; Yellow (Amber)—3; Blue—4; White Trans.—5; Light Yellow—6; Clear (Colorless)—7.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

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Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION

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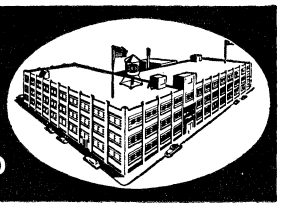

See YELLOW SECTION for Local Offices, Telephones, etc.

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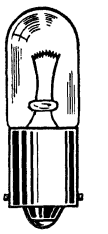
THE COMPLETE LINE OF
DIALCO® PILOT LIGHTS
FOR INDICATION... AUTOMATION... MINIATURIZATION

(Illustrations are approx. actual size)

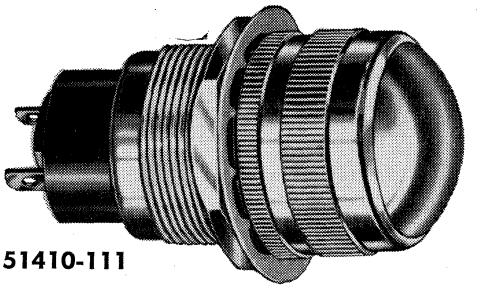
ASSEMBLIES for T-3¼ INCANDESCENT LAMP

(2 to 55V. — No Higher)

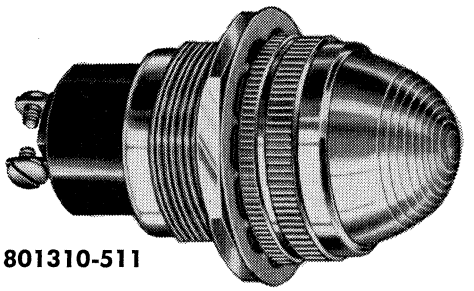


Miniature Bayonet Base

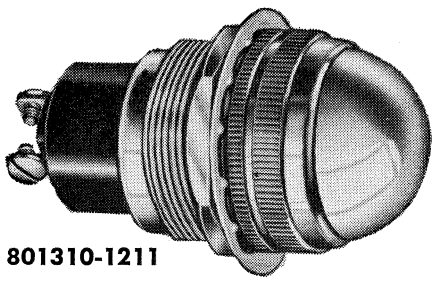
FEATURES: These assemblies are available with Screw Terminals or Soldering Terminals, and with 3 types of lens caps: Screw-on Caps, Friction Caps, or Bayonet Caps (units illustrated below have Screw-on Caps) . . . 9 types of lenses afford an ample choice of the right type of lens for every lighting or indication requirement. Shown below are 6 of these lenses; the other 3 are Torpedo Faceted, Large Torpedo, and Stovepipe . . . Assemblies with screw caps may be made *watertight* on the face of the panel, and will be supplied with the necessary gaskets when so ordered . . . These pilot lights conform to all applicable Mil. Specs.



51410-111



801310-511



801310-1211

For Mounting in 1" Clearance Hole

GLASS LENSES

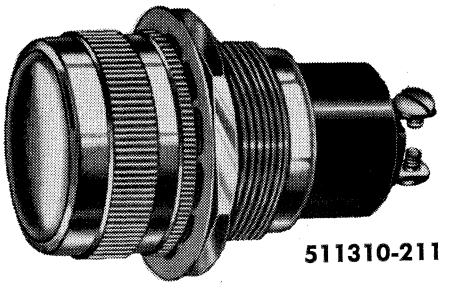
Typical units in this series are shown here. *Optional features* include: Split Lockwasher may be substituted for internal-tooth type . . . Octagon Flange Ring may be used on screw cap assemblies instead of knurled ring . . . A *disc* is inserted in back of lens when it is desired to have a word, numeral, or symbol appear when lamp is on.

Standard Finishes: White nickel for mounting bushing; polished chrome for lens cap.

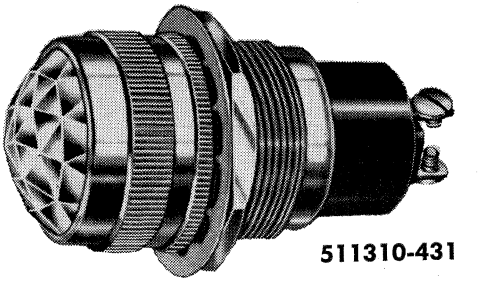
Optional Finishes: Black nickel for bushing; satin chrome or black nickel for lens cap.

PLASTIC LENSES

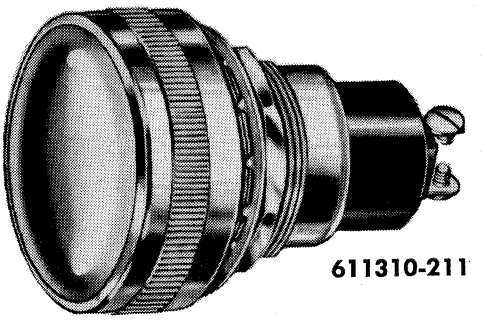
Plastic lenses are not recommended for use with lamps rated over 2 watts. For example, lamp no. 313 is rated at 28 volts — .17 amp., or 4.8 watts.



511310-211



511310-431



611310-211

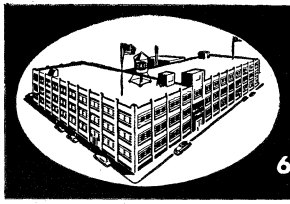
LENS COLOR: The *final figure* in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. (For example: 801310-535.)

Red—1; Green—2; Yellow (Amber)—3; Blue—4; White Trans.—5; Light Yellow—6; Clear (Colorless)—7.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

Assemblies shown on these 2 pages are listed by Underwriters Laboratories and accepted by the Canadian Standards Association.

SAMPLES ON REQUEST AT ONCE — NO CHARGE



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THE COMPLETE LINE OF

PILOT LIGHTS DIALCO®

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations are approx. actual size)

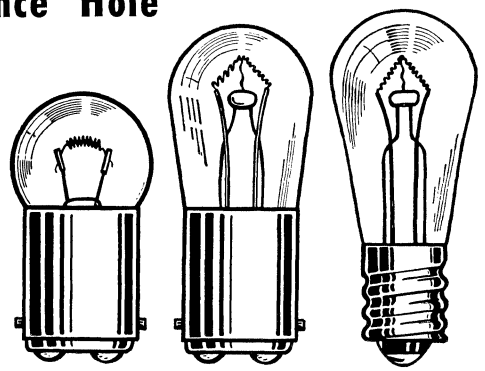
ASSEMBLIES for INCANDESCENT LAMPS

(DOUBLE CONTACT BAYONET or CANDELABRA SCREW BASE LAMPS)

For Mounting in 1" Clearance Hole

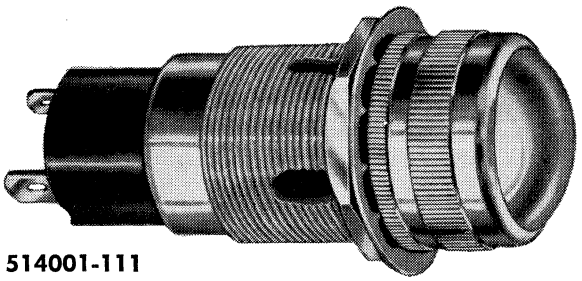
FEATURES: DIALCO makes the most extensive line of 1" enclosed assemblies for large incandescent lamps. 3 such styles of lamps are shown here together with 4 typical units. These units are available with Screw Terminals, Soldering Terminals, or Quick Connect Terminals (will mate with standard solderless female connectors) . . . There are 3 ways of attaching the lens caps: Screw-on Caps, Friction Caps, or Bayonet Caps. 8 glass lens types are available. Plastic lenses are not recommended because of the high degree of heat that incandescent lamps generate.

Optional features include: Split Lockwasher may be substituted for internal-tooth type . . . Units with Screw-on Caps may be made *watertight* on face of panel . . . A *disc* is inserted in back of lens when it is desired to have a word, numeral, or symbol appear when lamp is on.



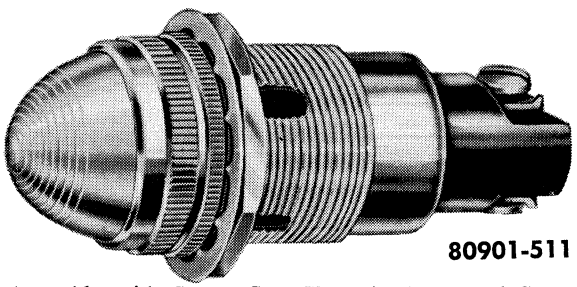
G-6 D.C. Bay. (32 V. max.) | S-6 D.C. Bay. | S-6 Cand. Screw

Typical assemblies for use with candelabra screw base incandescent lamps



514001-111

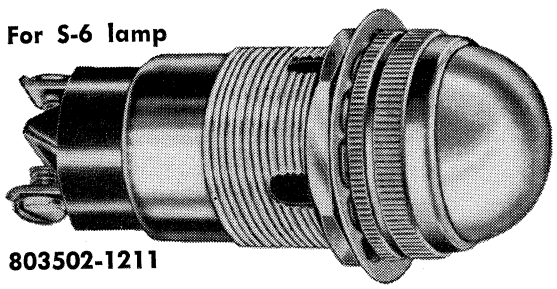
Assembly with Screw Cap, Convex Lens, and Soldering Terminals. Similar units available with Quick Connect Terminals.



80901-511

Assembly with Screw Cap, Torpedo Lens, and Screw Terminals in side position. Similar units available with screw terminals in protruding position.

For S-6 lamp

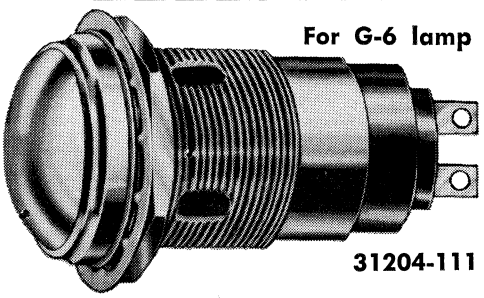


803502-1211

Assembly with Screw Cap, Dome Lens, and Screw Terminals. Terminals may be specified as *fixed* type or *movable* type.

Typical assemblies for use with double contact bayonet base incandescent lamps

For G-6 lamp



31204-111

Assembly with Friction Cap, Convex Lens, and Soldering Terminals. 2 other types of soldering terminals are *fixed* or *movable.*

LENS COLOR: The *final* figure in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that *white lenses* are translucent and are always furnished unfrosted. (For example: 803502-1235).

Red—1; Green—2; Yellow (Amber)—3; Blue—4; White Translucent—5; Light Yellow—6; Clear (Colorless)—7.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

75W., 125V.

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Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION

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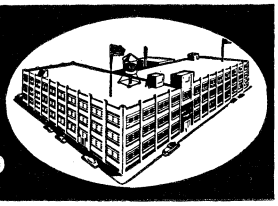

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THE COMPLETE LINE OF

DIALCO® PILOT LIGHTS

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations of pilot lights are approx. actual size)

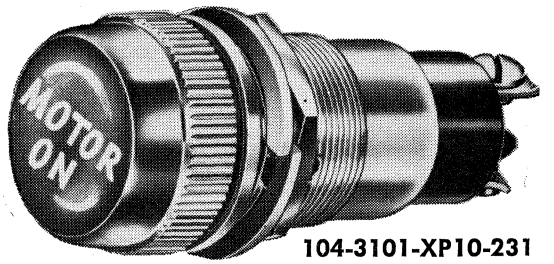
OIL-TIGHT INDICATOR LIGHTS

OIL-TIGHT • WATER TIGHT • DUST TIGHT

For HEAVY DUTY Industrial Applications

Exceptionally Rugged

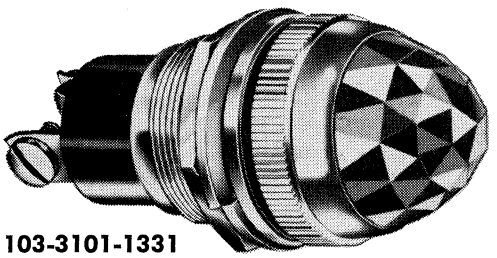
Designed for severe vibration conditions



104-3101-XP10-231

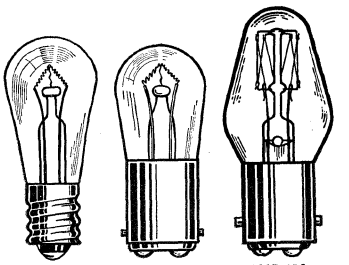
For Mounting in 1" Clearance Hole

FEATURES: Unlike the usual bulky Oil-Tight units, Dialco's assemblies have compact, streamlined design. Important construction features include: One-piece solid brass mounting bushing . . . Fully gasketed with oil-proof gaskets . . . All gaskets retained — no loss of seal . . . Has solid brass knurled lens holder with gasketed lens . . . High impact phenolic insulation . . . Have rugged terminals of the binding screw type . . . An Oil-Tight Adaptor Set (Cat. No. 1316-L) is available for mounting any 1" assembly in 1-3/16" clearance hole.



103-3101-1331

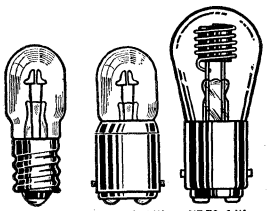
Three Lens Types: The permanently oil-tight lens cap can be had with a choice of 3 permanent-color glass Lenses: Omnidirectional Torpedo Faceted, Dome, or Flat Lens. The *flat lens* can be used with *discs* inserted behind the lens to deliver specific messages. This is a significant safety feature in motor controlled equipment. Seven lens colors are available. For complete specifications, refer to Form L-200A.



3 types of Incandescent Lamps may be used: Especially recommended is the 10C7/1DC lamp which is designed to WITHSTAND SEVERE VIBRATION and SHOCK. (Lamps shown approx. 2/3 actual size).

The complete Dialco line of Oil-Tight Indicator Lights includes units for mounting in 11/16", 13/16", 1", 1-3/16", 1-1/2", and 1-5/8" mounting clearance holes. Lamps accommodated include incandescent and neon lamps of the screw base and bayonet base types.

(Lamps shown approx. 55% actual size)



These 3 types of Neon Lamps may be used. NE-45 has candelabra screw base; NE-48 and NE-79 have double contact bayonet bases.

With Built-in Resistor for Neon Glow Lamps

U.S. Patent No. 2,421,321

Mount in 1" Clearance Hole: Units for use with the NE-48 and NE-79 Neon Lamp have the resistors *"built-in"* as an integral part of the unit for use on voltages up to 250V. The resistance value is selected to obtain the desired performance on supply voltage with the proper balance between lamp life and brightness. The best choice will be recommended for any set of conditions . . . Assemblies using the NE-45 Candelabra Screw Base Lamp have the required resistor built into the base of the lamp.

For Mounting in 11/16" Clearance Hole

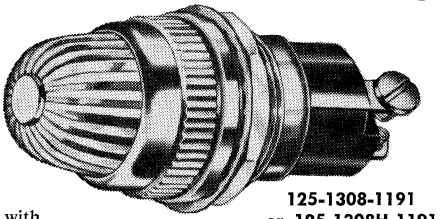
Units for use with Neon Glow Lamps NE-51, or NE-51H *(high brightness)*, have *"built-in"* resistors, an exclusive Dialco feature. Similar units are usable with low voltage incandescent lamps. Stovepipe lenses are recommended. They may be *fluted, frosted back* or *unfrosted*. White lenses are translucent and are always furnished unfrosted.

For High Brightness, add "H" to the Catalog No. . . . Ex: 125-1308H-1191.

7 lens colors are available. Binding screw or soldering terminals may be specified. For complete details, refer to Form L-200A.

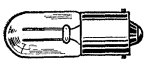
ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

SAMPLES ON REQUEST AT ONCE — NO CHARGE

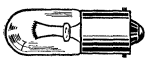


125-1308-1191
or 125-1308H-1191

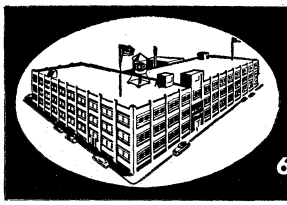
Designed for T-3¼ bulb with miniature bayonet base. For neon, specify NE-51 or NE-51H (high brightness) . . . For incandescent, specify T-3¼ and voltage required up to 55V.



Neon NE-51



T-3¼ Incandescent



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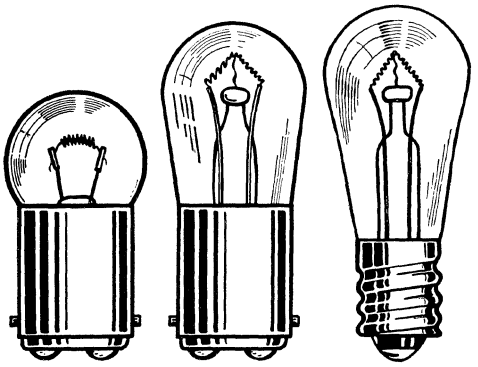
FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations approx. actual size)



G-6 D.C. Bay. (32 V. max.) | S-6 D.C. Bay. | S-6 Cand. Screw

For Mounting in 1″ Clearance Hole

FEATURES: These Pilot Lights are preferred where it is necessary for the operator to regulate the intensity of light in accordance with environmental conditions. Two general types are available: assemblies with Mechanical Dimmers or with Polaroid Dimmers. The *MECHANICAL DIMMER* operation is described below the illustration at the right. In *POLAROID DIMMERS,* two polaroid discs are superimposed. Rotation of one gives a smooth change in intensity from maximum light to *very faint light* (not complete blackout) at minimum setting.

All assemblies come with Screw-on Dimmer Caps and Convex Lenses, and in a choice of 7 Lens Colors. Units are available with Screw Terminals, Soldering Terminals, or Quick Connect Terminals which will mate with standard solderless female connectors.

Optional features include: Split Lockwasher may be substituted for internal-tooth type . . . Octagon flange ring may be used instead of knurled ring which is shown . . . *Watertight Construction* is available only on Mechanical Dimmers.

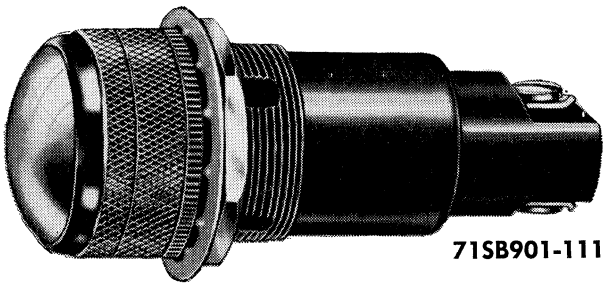
Finish: Black nickel is standard for bushing and lens cap . . . These pilot lights conform to all applicable Mil. Specs.

ASSEMBLIES with DIMMER CAPS

(MECHANICAL or POLAROID)

For Incandescent Lamps

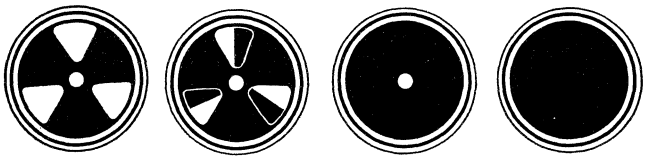
(with double contact bayonet or candelabra screw bases)



71SB901-111

Dimmer asssembly with Screw-on Cap and Mechanical Dimmer, semi-blackout. Screw Terminals are in side position. Similar units available with Soldering Terminals and Quick Connect Terminals.

75W., 125V.

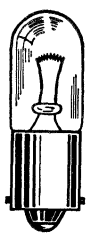


OPEN | PARTLY CLOSED | SEMI-BLACKOUT | COMPLETE BLACKOUT

Mechanical Dimmers: Rotatable shutters decrease the size of 3 triangular openings from maximum light to complete blackout. In *"complete blackout"* no light is emitted. However, as a safety factor, the shutters can be provided with a small permanent central opening which permits a spot of light to reach the lens. This type is designated as *"semi-blackout."* It prevents missing a danger signal when the shutters are inadvertently closed.

ASSEMBLIES with DIMMER CAPS for T-3¼ Incandescent Lamps

For Mounting in 11/16″ Clearance Hole



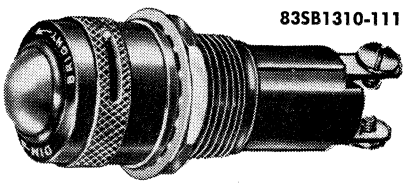
Miniature Bayonet Base

FEATURES: This series also offers both Mechanical Dimmers and Polaroid Dimmers. There is a choice of 4 Cap types with Convex Lenses; 7 Lens Colors. Units with *ROUND FLANGE* have the lamp socket completely insulated in moulded phenolic of military specification grade (see prototype No. 83SB1310-111). Units with *OCTAGON FLANGE* have the lamp socket encased in laminated phenolic tubing of military specification grade (see prototype No. 932210-111). Many units are specifically designed to be *WATERTIGHT* on the face of the panel . . . *Finish:* Black nickel is standard for bushing and lens cap . . . These pilot lights conform to all applicable military specifications.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

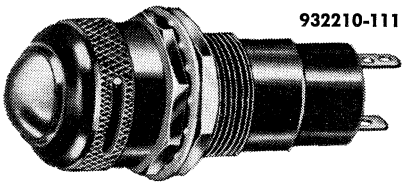
SAMPLES ON REQUEST AT ONCE — NO CHARGE

83SB1310-111



with MECHANICAL dimmer

932210-111



with POLAROID dimmer

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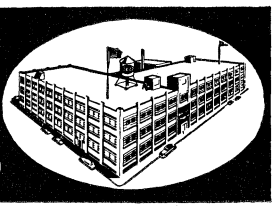

See YELLOW SECTION for Local Offices, Telephones, etc.

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THE COMPLETE LINE OF

DIALCO® PILOT LIGHTS

FOR INDICATION...AUTOMATION...MINIATURIZATION

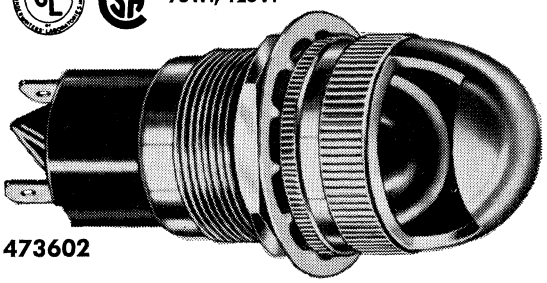
(Illustrations approx. actual size)

ASSEMBLIES with LIGHT SHIELD CAPS

For Incandescent Lamps

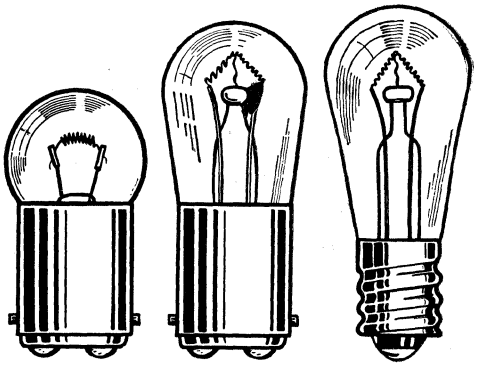
(with double contact bayonet or candelabra screw bases)

75W., 125V.



473602

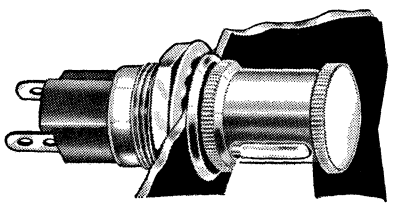
FOR MOUNTING IN 1″ CLEARANCE HOLE



G-6 D.C. Bay. (32 V. max.) | S-6 D.C. Bay. | S-6 Cand. Screw

FEATURES: These assemblies come with Screw-on Caps, 6 of which are Dome Shape. Openings in cap range from a single 1/8″ x 1″ opening, to 2 openings each 3/8″ x 1″. Also available is a Flat Shape Lens with an opening 1/4″ x 1″. A Push-Pull Cap (similar in design to unit shown at the bottom of this page) provides a variable opening from 0″ to 1/4″ x 7/8″ . . . Assemblies are available with Screw Terminals, Soldering Terminals, or Quick Connect Terminals which will mate with standard solderless female connectors. *Optional features* include: Split Lockwasher may be substituted for internal-tooth type . . . Octagon flange ring may be used instead of knurled ring . . . *Finishes:* Units with *Dome Shape Caps* have the mounting bushing finished in white nickel; optional is black nickel. The *Light Shield Caps* of these units are finished in polished chrome; optional satin chrome or black nickel. Units with *Push-Pull Caps* have both the mounting bushing and cap finished in black nickel. Special finishes can be furnished on request . . . These pilot lights conform to all applicable Military Specifications.

NOTE: In addition to standard sizes of openings in light shield caps, special sizes can be provided to order.

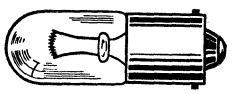


LIGHT SHIELD CAPS

They are effective in directing beams of light onto selected areas on faces of panels or work surfaces. Size of opening in a Light Shield Cap determines the amount of light that falls upon and illuminates an *instrument face, dial, chart,* or *control knob.* Excess light is shielded from viewer's eyes.

ASSEMBLIES for T-3¼″ Incandescent Lamp

For Mounting in 11/16″ Clearance Hole



Miniature Bayonet Base

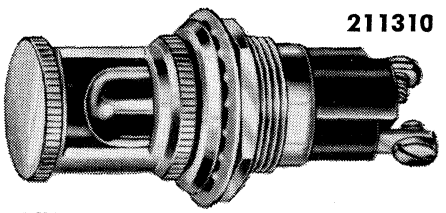
FEATURES: This series offers 8 types of light shield caps with openings ranging from a single ⅛″ x ½″ to 2 openings ½″ x ½″ each.

The Push-Pull Cap enables the operator to vary the size of opening to suit changing conditions. Assemblies are available with Screw Terminals or Soldering Terminals.

They have a *fixed flange* for mounting from the *front* of panel, and are provided with an internal tooth lockwasher and hexagon mounting nut.

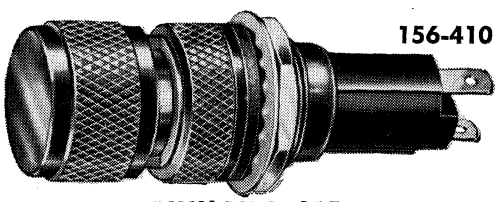
These pilot lights conform to all applicable military specifications.

211310



PUSH-IN CAP with opening ½″ x ½″

156-410

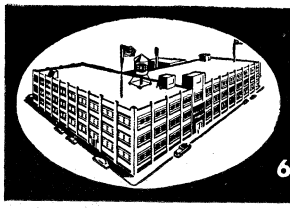


PUSH-PULL CAP

Variable Opening—from 0″ to ¼″ x ⅜″

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

SAMPLES ON REQUEST AT ONCE — NO CHARGE



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THE COMPLETE LINE OF

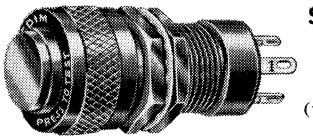
PILOT LIGHTS DIALCO®

FOR INDICATION...AUTOMATION...MINIATURIZATION

(Illustrations approx. actual size)

VM SERIES PRESS-TO-TEST INDICATOR LIGHTS

A BUILT-IN PATENTED FEATURE — U.S. Patent Nos. 2,424,574-5; 2,697,719



SUB-MINIATURES
VM911M-2A
(with Dimmer Cap)

VM911M-6A
(with Non-Dimmer Cap)

Assemblies with 3 Terminals

Equal or exceed the operational and environmental standards of MIL-L-7961A, MIL-L-7806-3, and MIL-L-3661.

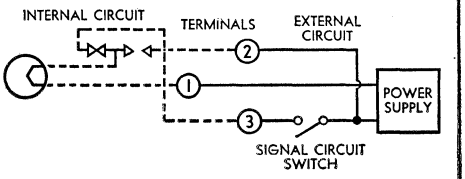
FEATURES: The VM Series offers the following basic advantages: The built-in Press-to-Test feature enables the operator to (1) CHECK THE LAMP—instantly—without removal from the assembly . . . (2) Checks circuit or circuit breaker (see diagram at right) . . . Other important applications: DIALCO PRESS-TO-TEST Indicator Lights are useful for making a quick PRE-TEST of lamps prior to indicator operation and for quick bulb test when an anticipated signal fails to appear.

There is a complete series of Press-to-Test units for each of the following 6 types of lamps: T-1-3/4, T-3-1/4, and S-6 incandescent lamps; also NE-2D, NE-51, and NE-45 Neon Glow Lamps . . . *Precision Built* — Made of aluminum, these assemblies are lightweight, corrosion resistant, and attractive in appearance. Lamps are easily replaceable from front of panel.

Watertight Construction — Assemblies in Sub-Miniature and Miniature groups can be made impervious to water, dust, etc., on face of panel by means of high pressure seals. Such seals are supplied separately.

CAP TYPE	LENS COLOR	DIALCO CATALOG NO.	MILITARY NUMBER
MECHANICAL SHUTTER semi-blackout	clear (colorless)	VM911M-1A	MS25041-1
	red	VM911M-2A	MS25041-2
	green	VM911M-3A	MS25041-3
	yellow (amber)	VM911M-4A	MS25041-4
	blue	VM911M-10A	——
NON-DIMMER	clear (colorless)	VM911M-5A	MS25041-5
	red	VM911M-6A	MS25041-6
	green	VM911M-7A	MS25041-7
	yellow (amber)	VM911M-8A	MS25041-8
	blue	VM911M-11A	——

CIRCUIT OF *"PRESS-TO-TEST"* ASSEMBLIES



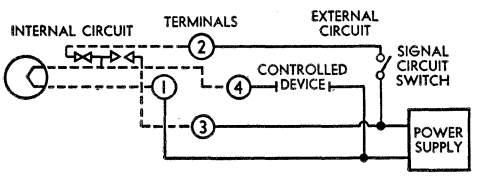
Pressure on the lens holder opens normal contact to #2 and makes contact to #3, completing test circuit. #1 is common to lamp.

3 Sizes of Assemblies Available:

SUB-MINIATURES—for mounting from *back* of panel in 15/32" clearance hole; also for mounting from *front* of panel in 17/32" clearance hole . . . *MINIATURES*—for mounting in 5/8" clearance hole . . . *LARGE*—for mounting in 1" hole.

Patented SHUTTER-DIMMING action—Another vital optional feature: Available on most Press-to-Test Indicator Lights. By turning the knurled cap, the operator can regulate the brilliancy of the light from the indicator assembly to suit his requirements under varying light conditions. "Complete Blackout" as well as "Semi-Blackout" can be supplied.

CIRCUIT OF *"PRESS-TO-SWITCH"* ASSEMBLIES

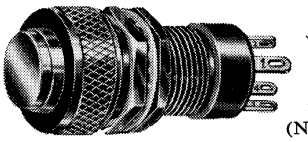


Terminal #1 may be common to almost any combination of #2, 3, or 4. This affords wide latitude in circuit design.

4 TERMINAL PRESS-TO-SWITCH AIDS IN CHECKING AND CONTROLLING COMPLEX EQUIPMENT

Especially advantageous for remote control applications to machinery, etc.

Efficient observation and control of equipment such as aircraft, electronic devices, machinery, etc., depends upon signals flashed from indicator lights. That is why PRESS-TO-TEST is so important. It eliminates doubt—gives an instantaneous report as to the condition of the lamp, circuit, and power supply. The PRESS-TO-SWITCH function, an optional feature, permits closing the circuit to any remote device.



VM920M-2
(Dimmer Cap)

VM920M-6
(Non-Dimmer Cap)

CAP TYPE	LENS COLOR	DIALCO CATALOG NO.
MECHANICAL SHUTTER semi-blackout	clear (colorless)	VM920M-1
	red	VM920M-2
	green	VM920M-3
	yellow (amber)	VM920M-4
	blue	VM920M-10
NON-DIMMER	clear (colorless)	VM920M-5
	red	VM920M-6
	green	VM920M-7
	yellow (amber)	VM920M-8
	blue	VM920M-11

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

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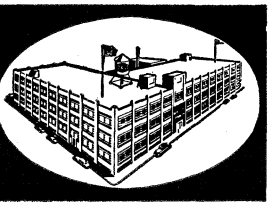

See YELLOW SECTION for Local Offices, Telephones, etc.

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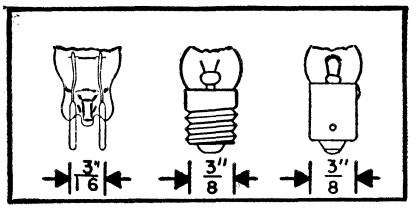
BASIC SPECIFICATIONS FOR

LAMPHOLDERS and INDICATOR LIGHT ASSEMBLIES

DRAKE MANUFACTURING COMPANY, 4620 N. OLCOTT AVENUE, CHICAGO 31, ILLINOIS • UNderhill 7-7227

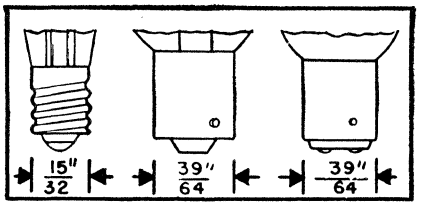
LAMPHOLDER TYPES may be classified in 3 main classes, with subclassifications according to method of affixing the bulb to the holder (abbreviations in parentheses):

MINIATURE (MIN.)
VOLTAGES: 1 to 32V (110 to 250V in Neon only)



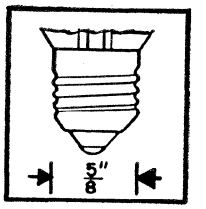
2-PIN | SCREW (SCR.) | BAYONET (BAY.)

CANDELABRA (CAND.)
6 to 125V



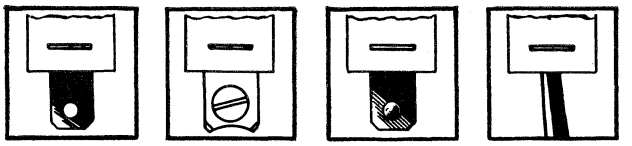
SCREW (SCR.) | SINGLE CONTACT BAYONET (S. C. BAY.) | DOUBLE CONTACT BAYONET (D. C. BAY.)

INTERMEDIATE (INT.)
125V & 250V



SCREW (SCR.)

TERMINALS are available as shown. Most DRAKE Units can be supplied with your choice of these types.



SOLDER (SOT) | SCREW (SCT) | "FASTON" (FOT) | WIRE LEAD (WL)

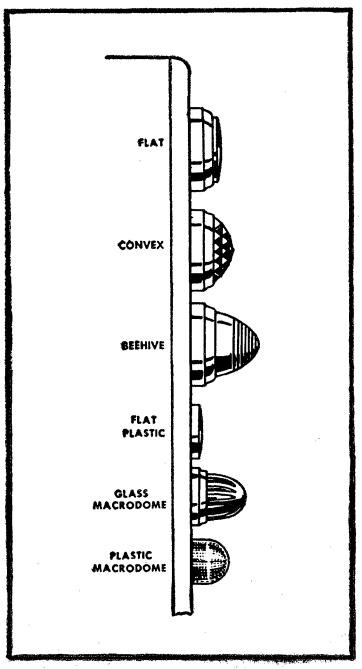
• OTHER SPECIFICATIONS •

LAMP SELECTION FOR INDICATOR LIGHTS: Generally, the Lampholder is designed to accommodate maximum current and voltage for any lamp which will fit within the unit. Thus, physical dimensions, rather than electrical characteristics, should govern selection.

BULB SIZES: Lamps vary according to base, filament, and glass bulb combinations — see DRAKE catalog, lamp manufacturer catalogs.

LAMP REPLACEMENT: With horizontal mounting units, lamps are replaceable from front of panel only, unless otherwise specified; with vertical mounting units, from rear of panel only.

FINISHES OF METAL PARTS: All metal parts of DRAKE units are protected by plating (usually cadmium) to prevent corrosion.



BASIC SPECIFICATIONS FOR DRAKE LENSES (JEWELS)

LENS TYPES: Varieties of lens shape, and relative protrusion from panels of different styles, are illustrated at left, approximately one-half actual size.

•

LENS FINISHES: Most units are supplied with faceted (FAC) or Smooth, Frosted On Back (SFB) finishes. Special finishes are Smooth, Plain, no frosting (SP); Frosted Face and Back (SFA); Macrodomes fluted inside (F) — Fluted is standard for neon units.

•

LENS COLORS: Colors generally available are: Colorless, Amber, Blue, Green, Red, White, Yellow.

METAL FINISHES: On Indicator Light and Lens Assemblies, exposed parts are nickel or cadmium plated; except on DeLuxe style units, which are polished chrome plated. Other finishes such as Black Nickel, etc., may be had on special order.

•

PRINTED DISCS may be obtained with any wording which fits within the allowable space. Discs are now made from non-oxidizing, heat-resistant materials.

USE NICKELS ONLY

CAUTION

BE SURE TO SPECIFY LENS (JEWEL) COLORS WHEN ORDERING

Order from Local Electronic Parts Distributors or Write for List.

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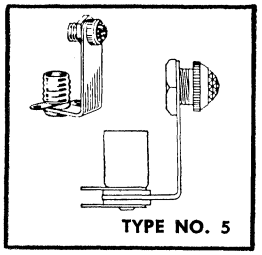
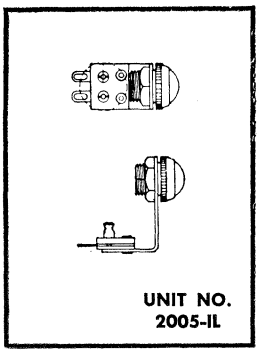
INDICATOR LIGHT ASSEMBLIES

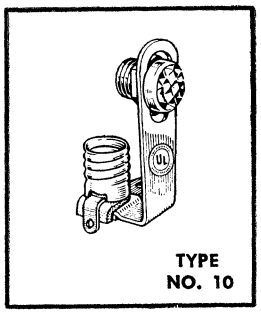
DRAKE MANUFACTURING CO., 4620 N. OLCOTT AVE., CHICAGO 31, ILLINOIS • UNderhill 7-7227



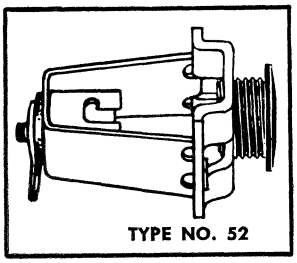
TYPE NO. 5



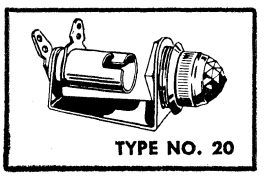
UNIT NO. 2005-IL



TYPE NO. 10



TYPE NO. 52



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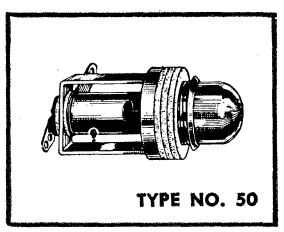


TYPE NO. 50

"MINISPACE" UNITS . . .

TYPE NO. 5 . . . 11/32" PLASTIC LENS (JEWEL) . . . VERTICAL MOUNTING—Smallest Miniature Lampholder Assemblies made.

MOUNTING: in 5/16" diameter hole, on panels up to 1/8" thick. Minimum center-to-center spacing, 9/16".

2-PIN LAMPHOLDER—for G.E. #10, #12, #15 Lamps—UNIT NO. 2005-IL

FEATURES: fast assembly . . . fast replacement . . . vibration and shock resistance (to prevent loosening). Special modifications available for heat applications up to 500° F.

Economy Style Units

FEATURES: Excellent performance at low cost . . . No. 14 E-Z-TITE Bezel (for fast assembly) and plastic lenses are furnished on all Type No. 5 Assemblies (including Unit No. 2005-IL).

STANDARD LENS FINISH: Faceted.

LAMPHOLDERS: Min. Screw, Min. Bay.

•

TYPE NO. 10 . . . 1/2" PLASTIC LENS (JEWEL . . . VERTICAL MOUNTING . . . Economy Style Units.

MOUNTING: in 7/16" diameter hole, on panels up to 1/4" thick.

STANDARD LENS FINISH: Faceted. Cand. Screw style is UL Listed.

LAMPHOLDERS: Min. Screw, Min. Bay., Cand. Screw.

MILITARY APPLICATION: Available on special order to MIL-L-3661, Types LH40____, LH41____.

•

TYPE NO. 52 . . . 1/2" GLASS LENS (JEWEL), 5/8" PLASTIC MACRODOME, or NEW 11/16" FLAT PLASTIC CAP . . . HORIZONTAL MOUNTING . . . Economy Style Units . . . FOR MINIATURE BAYONET LAMPS.

MOUNTING: in 9/16" diameter hole. Minimum center-to-center spacing, 11/16".

NOTE: Lamps replaceable from rear of panel only.

FEATURES: Choice of NEW 11/16" diameter Flat Plastic Cap (only 1/16" front of panel projection), 1/2" Glass lens with No. 38 E-Z-TITE holder, or 5/8" Plastic Macrodome. Grounded or Insulated mounting, Solder Terminals or Wire Leads.

•

TYPE NO. 20 . . . 1/2" GLASS LENS (JEWEL), or 5/8" PLASTIC MACRODOME . . . HORIZONTAL MOUNTING . . . Economy Style Units.

MOUNTING: in 11/16" diameter hole. Minimum center-to-center spacing, 15/16".

STANDARD GLASS LENS FINISH: Faceted.

STANDARD MACRODOME FINISH: Translucent plastic (Transparent or Fluted available on special order).

LAMPHOLDERS: Min. Screw, Min. Bay.

MILITARY APPLICATION: Available on special order to MIL-L-3661, Type LH50____.

•

TYPE NO. 50 . . . 1/2" GLASS LENS (JEWEL), or 5/8" PLASTIC MACRODOME . . . HORIZONTAL MOUNTING.

MOUNTING: in 11/16" diameter hole, on panels up to 1/4" thick.

STANDARD GLASS LENS FINISH: Faceted.

STANDARD MACRODOME FINISH: Translucent Plastic (Transparent or Fluted available on special order).

LAMPHOLDERS: Min. Screw, Min. Bay.

(SHOWN APPROXIMATELY ½ SIZE)

TYPE NO. 80 . . . 1/2" GLASS LENS (JEWEL), WITH POLAROID DIMMER . . . HORIZONTAL MOUNTING . . . Standard Style Unit.

MOUNTING: 11/16" diameter hole, on panels up to 1/4" thick.

STANDARD LENS FINISH: Smooth convex lens, frosted on back.

LAMPHOLDER: Min. Bay.

FEATURES: Permits regulation of light intensity through use of Polaroid discs.

MILITARY APPLICATION: Available on special order to MIL-L-3661, Type LH66____. DRAKE NO. MIL85.

•

TYPE NO. 100 . . . 1/2" GLASS LENS (JEWEL), or 5/8" PLASTIC OR GLASS MACRODOME . . . HORIZONTAL MOUNTING . . . Deluxe Style Units. UL Listed.

MOUNTING: 11/16" diameter hole, on panels up to 3/8" thick.

FINISHES: Glass Convex Lens — Smooth, Plain or Faceted; Glass Macrodome — Fluted; Plastic Macrodome — Fluted or Translucent.

TERMINALS: Solder, Screw.

FEATURES: Totally enclosed Lampholders . . . Built-in resistors (standard 100,000 ohm) for neon glow lamps. Optional — Glass Macrodome lenses for high wattage lamps . . . with or without resistor.

MILITARY APPLICATION: Available on special order to MIL-L-3661, Types LH62____, LH64____, and LH70____.

•

TYPE NO. 18 . . . 3/4" GLASS LENS (JEWEL) . . . VERTICAL MOUNTING . . . Economy Style Unit (DeLuxe panel appearance). UL Listed.

MOUNTING: in 11/16" diameter hole, on panels up to 1/4" thick. Minimum center-to-center spacing, 15/16".

STANDARD LENS FINISH: Faceted.

LAMPHOLDER: Cand. Screw.

•

TYPE NO. 60 . . . 3/4" GLASS LENS (JEWEL) . . . HORIZONTAL MOUNTING . . . Standard Style Units (DeLuxe panel appearance).

MOUNTING: in 13/16" diameter hole, on panels up to 1/4" thick.

STANDARD LENS FINISH: Convex, Smooth, frosted on back.

LAMPHOLDERS: Min. Screw, Min. Bay., Cand. Screw.

FEATURES: Slip-fit bezel for fast assembly and quick alignment of printed discs.

•

TYPE NO. 19 . . . VENDLITE . . . 1" PILFER-PROOF GLASS LENS (JEWEL) . . . UL LISTED . . . VERTICAL MOUNTING . . . ECONOMY STYLE UNITS: (DeLuxe panel appearance).

MOUNTING: in 1" diameter hole, on panels up to 1/4" thick. Minimum center-to-center spacing, 1-3/8".

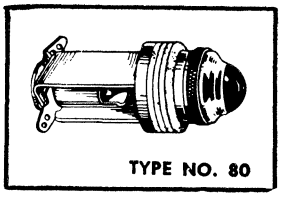
STANDARD LENS FINISH: Convex, smooth, transparent, with Printed Discs; or Convex, smooth, frosted on back (no discs).

LAMPHOLDERS: Cand. Screw, Double Contact Cand. Bay.

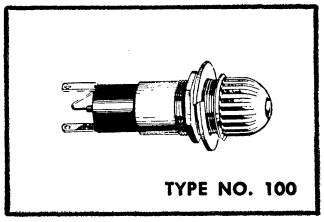
TERMINALS: Solder, Screw, Faston, Wire Leads.

FEATURES: Designed for vending machines . . . Polished chrome bezel for attractive appearance . . . Discs printed with any lettering . . . Open construction for heat dissipation.

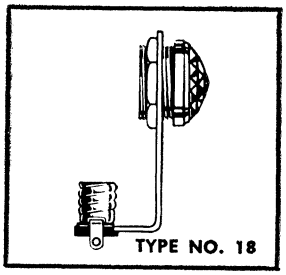
ABBREVIATIONS
Min. = Miniature
Scr. = Screw
Bay. = Bayonet
Cand. = Candelabra



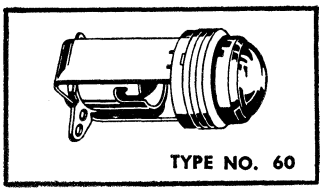
TYPE NO. 80



TYPE NO. 100



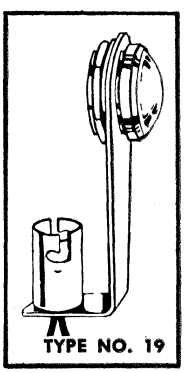
TYPE NO. 18



TYPE NO. 60

EMPTY

10c



TYPE NO. 19

SPECIFY LENS COLOR AND LAMPHOLDER STYLE WHEN ORDERING

Order from Local Electronic Parts Distributors or Write for List.

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INDICATOR LIGHT ASSEMBLIES

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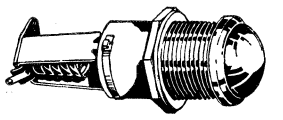

TYPE NO. 75

TYPE NO. 75 . . . 1" GLASS LENS (JEWEL) . . . HORIZONTAL MOUNTING . . . Standard Style Units (DeLuxe panel appearance).
MOUNTING: in 1" diameter hole, on panels up to 1/2" thick. Minimum center-to-center spacing, 1-5/16". NOTE: Lamps may be replaced from either front or back of panel.
STANDARD LENS FINISH: Convex, colorless, smooth, frosted on back, with colored discs; Beehive — Faceted or smooth.
LAMPHOLDERS: Min. Screw, Min. Bay., Cand. Screw, Double Contact Cand. Bay.
FEATURES: Exclusive locking clip to prevent lampholder from being dislodged during lamp replacement . . . Slip-fit bezel for fast assembly and quick alignment of printed discs.

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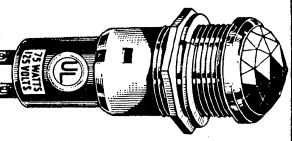

TYPE NO. 76

TYPE NO. 76 . . . 1" GLASS LENS (JEWEL) . . . HORIZONTAL MOUNTING . . . DeLuxe Style Units.
MOUNTING: in 1" diameter hole, on panels up to 1/2" thick. Minimum center-to-center spacing, 1-5/16".
STANDARD LENS FINISH: Faceted.
LAMPHOLDERS: Min. Bay., Cand. Screw, Double Contact Cand. Bay.
TERMINALS: Solder, Screw or Faston.
FEATURES: Slip-fit bezel for quick assembly, lower cost.

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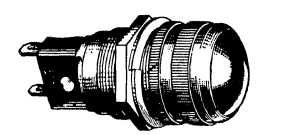

TYPE NO. 78

TYPE NO. 78 . . . 1" GLASS LENS (JEWEL) . . . HORIZONTAL MOUNTING . . . Heavy Duty Units (DeLuxe panel appearance).
MOUNTING: in 1" diameter hole, on panels up to 1/2" thick. Minimum center-to-center spacing, 1-5/16".
STANDARD LENS FINISH: Convex, smooth, frosted on back.
LAMPHOLDERS: Min. Bay., Cand. Screw, Double Contact Cand. Bay.
TERMINALS: Min. Bay., Cand. Screw, Double Contact Cand. Bay.
FEATURES: Threaded bezel to prevent loosening from vibration; also available with water-tight and oil-tight seals.
MILITARY APPLICATION: Available on special order to MIL-L-3661, Types LH61____, and LH63____.

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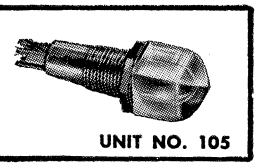


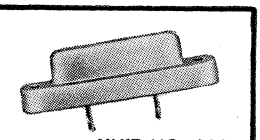
UNIT NO. 105

UNIT NO. 105 . . . POSTLITE . . . GLOW-TYPE NEON INDICATOR . . . Supplied complete with non-replaceable NE2 Neon Glow Lamp.
MOUNTING: in 1/2" diameter hole, on panels up to 9/16" thick. Minimum center-to-center spacing, 25/32".
SPECIAL DESIGN 1-PIECE BODY-AND-JEWEL POLYSTYRENE CONSTRUCTION.
COLORS: Colorless, Red, Amber.
TERMINALS: Solder only.
DIMENSIONS:
Head: 5/8" square. Projection in front of panel: 3/4".
Over-all projection behind panel: 1-9/16" minus panel thickness.

•

UNIT NO. 110 . . . FLUSHLITE . . . GLOW-TYPE NEON INDICATOR . . . Supplied complete with non-replaceable NE2 Neon Glow Lamp. UL Listed Component.
MOUNTING: with two 1/8" rivets or No. 6 screws. Mounts on front or in rear of panel, Minimum center-to-center spacing, 9/16".
SPECIAL DESIGN 1-PIECE BODY-AND-DOME NYLON CONSTRUCTION.
COLORS: Colorless, Amber, Red, Milky White.
TERMINALS: Solder only — mounted on laminated phenolic base.
DIMENSIONS:
Dome: 5/16" high x 13/32" wide x 1-1/4" long — Base: 7/32" high x 9/16" wide x 1-7/8" long.
Over-all Height: 17/32" . . . Mounting hole centers: 1-1/2".

UNITS NO. 105, NO. 110 and NO. R115 are equipped with 100,000 ohm built-in resistors for 125V circuits; min. starting voltage 65V-AC, 90V-DC . . . Units are available without resistors on special order.
FEATURES: These units are exceptionally efficient, low cost neon indicating lights . . . Suitable for innumerable applications, especially where distinguished appearance is extra-important.



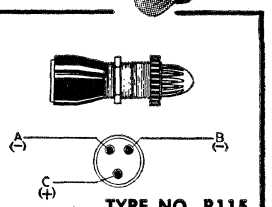
UNIT NO. 110

TYPE NO. R115 . . . TAPERLITE . . . GLOW-TYPE NEON INDICATOR . . . Supplied complete with non-replaceable NE2 Neon Glow Lamps.

MOUNTING: in 3/8" diameter hole, on panels up to 3/8" thick. Minimum center-to-center spacing, 19/32".

BUILT WITH RECEPTACLES FOR AMP "53" SERIES TAPER PIN TERMINALS.

FEATURES: Extremely small size—mounts in 3/8" diameter hole from rear of panel only . . . Extends only 1-1/8" back from front of panel . . . Fast and secure installation with E-Z-TITE nut (No. 20 wrench for use with E-Z-TITE is available) . . . Two receptacles on one side of circuit produce easy installation of jumper wires . . . Equipped with built-in current limiting resistor (can be supplied without resistor No. 115) . . . Aluminum (not plastic) body means rigid construction.

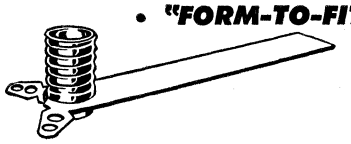


TYPE NO. R115

STOCK LAMPHOLDERS

NO. 117H (SERIES 100) Miniature Screw
NO. 217H (SERIES 200) Miniature Bayonet
NO. 417H (SERIES 400) Candelabra Screw
NO. 617H (SERIES 600) Single Contact Candelabra

• "FORM-TO-FIT" TYPE •



MINIATURE SCREW	120K-FE
MINIATURE BAYONET	220K-FE
CANDELABRA SCREW	420K-FE
S. C. CAND. BAY	620K-FE

LENS (JEWEL) ASSEMBLIES

JEWEL LENSES are available in several different types, finishes and colors. See first page for complete information.

•

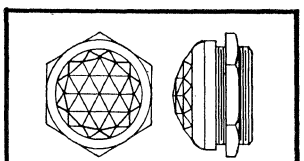
THREADED LENS ASSEMBLIES are available in lens diameters from 11/32" to 1"; with cadmium and clear iridite, bright nickel or polished chrome plate hardware; with glass or plastic lenses.

•

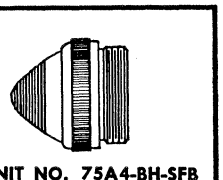
NO. 75A4 STYLE LENS ASSEMBLY . . . Heavy knurl makes it easy to remove the Lens Assembly for front panel lamp replacement. Can be ordered with 78E rubber gasket for oil or water-tight seal.

•

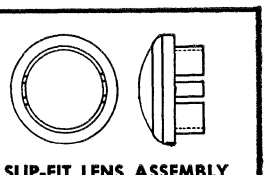
SLIP-FIT LENS ASSEMBLIES are available in lens diameters from 11/32" to 1"; with statuary bronze, bright nickel or polished chrome hardware, with glass or plastic lenses.



THREADED LENS ASSEMBLY



UNIT NO. 75A4-BH-SFB



SLIP-FIT LENS ASSEMBLY

Order from Local Electronic Parts Distributors or Write for List.

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INDICATOR LIGHT ASSEMBLIES

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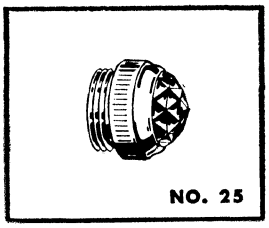
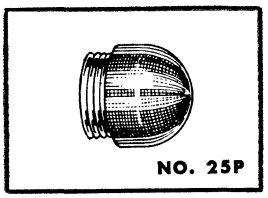
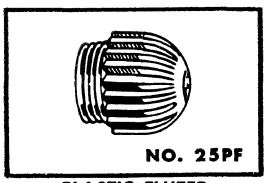
LENS (JEWEL) ASSEMBLIES



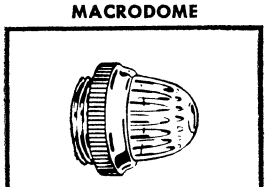
GLASS LENS ASSEMBLY



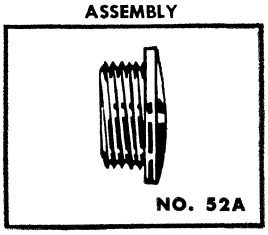
PLASTIC MACRODOME



PLASTIC FLUTED MACRODOME



GLASS MACRODOME ASSEMBLY



FLAT PLASTIC CAP

FEATURES OF LENS ASSEMBLIES ILLUSTRATED . . . (SHOWN APPROXIMATELY ½ SIZE)

1. All but No. 52A allow at least 1/4" of lamp to protrude thru panel for easy lamp replacement from front of panel.
2. No. 25G, 25P, and 25PF offer maximum side visibility and greatest illuminated area.
3. No. 52A offers minimum front panel projection (only 1/16") and its glowing edge provides some side visibility.
4. Nos. 25G and 25PF give best diffusion of neon light for maximum visibility.
5. No. 25P, 25PF and 52A, being plastic, are limited to use with lamps of 2 watts power consumption. For higher wattage lamps, substitute No. 25G.
6. These units are designed to accept only the T3-1/4 bulb **within** the shank.

•

COMPANION HARDWARE . . .

No. 52B Hex. Nut (not illustrated).

For lamp replacement from front of panel, use No. 28 Mounting Bushings with No. 27 Hex. Nut. Alternate method: Tap hole in panel with 9/16" — 27 thread.

LAMPHOLDERS

(SHOWN APPROXIMATELY ½ SIZE)

TYPE NO. 700 . . . MINIATURE BAYONET LAMPHOLDER . . . UL Approved for AC Radio Receivers . . . Economy Style Units.

MOUNTING: On any DRAKE bracket selected, or specially designed.

FEATURES: Shell electrically connected to bracket, so bracket can serve as one conductor . . . Center contact equipped with 10" built-in wire lead.

•

TYPE NO. N500 . . . MINIATURE BAYONET LAMPHOLDER . . . UL Approved for AC-DC Radio and Television Receivers . . . Standard Style for Radio and TV.

MOUNTING: On any DRAKE bracket selected, or specially designed.

FEATURES: Insulated from mounting bracket . . . Provided with two 10" built-in wire leads. Metal shell is protected by Nylon housing (firmly secured by metal eyelet) to eliminate shock hazard.

•

TYPE NO. ULR500 . . . MINIATURE BAYONET LAMPHOLDER . . . with Built-in 100,000 Ohm Resistor for NE51 Lamp . . . UL Listed for 1/10 W - 125V . . . DeLuxe Style Units.

MOUNTING: On any DRAKE bracket, or specially designed.

FEATURES: Insulated from mounting bracket . . . Equipped with two 10" built-in wire leads . . . No. 18 gauge AWM . . . Lampholder has brass shell insulated with rigid general purpose phenolic . . . Excellent for use on appliances which require UL Listing.

•

TYPE NO. A1400 . . . CANDELABRA SCREW LAMPHOLDER . . . UL Listed for 75W-125V . . . DeLuxe Style Units.

MOUNTING: On any DRAKE bracket selected.

FEATURES: Insulated from bracket . . . Equipped with two 10" built-in wire leads. Shell protected by heavy general purpose phenolic housing.

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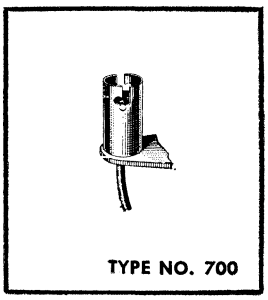
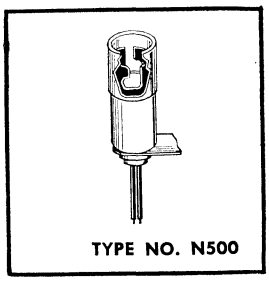
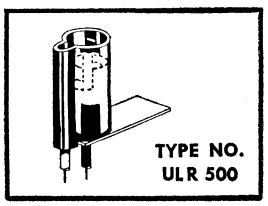
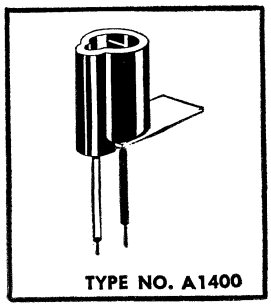
NOTE: All above types of Miniature Bayonet Lampholders can be supplied with other lengths and types of wire leads than those shown as standard.









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PACIFIC NORTHWEST:
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Phone — EAstlake 1818

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MISSOURI, KANSAS:
Zell S. Myers Assocs.
4538 Main St., Kansas City 11, Mo.
Phone — JEfferson 1-7221

CHATTANOOGA AREA:
Peirson-Deakins Co.
823-824 Chattanooga Bank Bldg.,
Chattanooga, Tenn.

CANADA: Atlas Radio Corporation 50 Wingold Ave., Toronto 10, Ont. Phone — RUssell 1-6174

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E-LITE miniature indicators & pilot lights

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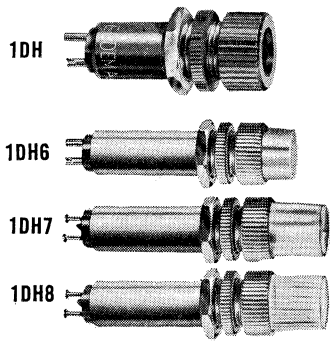
black or silver anodized to MIL-A-8625 (ASG)
SOCKET TERMINALS IN VARIETY OF FINE MATERIALS
silver and gold-plated; cadmium-plated; electro-tin
ALL LENSES DESIGNED WITH CORRECT ILLUMINATION
butyrate per MIL-P-10407 for best light efficiency
CURRENT LIMITING RESISTORS ARE THE FINEST
genuine Allen-Bradley carbon composition
QUALITY INSULATION IS USED EXCLUSIVELY
Melamine MME per MIL-P-14; or glass nylon

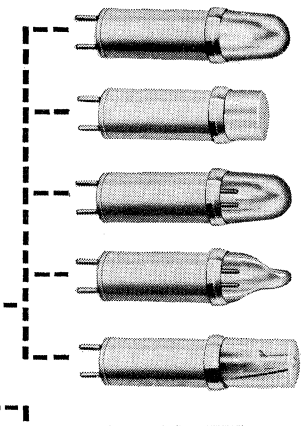
You can mount almost any E-Lite in a ⅜" diameter hole. These tiny units save valuable space in aircraft instruments and computers, perform dependably in laboratory breadboards, provide long-life economy in telemetering and control systems. E-Lites are available with both neon and incandescent lamps, in a great variety of colors, styles, and data readout capacities.

TWO-WEEK DELIVERY ON 1560 STANDARD VARIATIONS

GENERAL PURPOSE ASSEMBLIES

1 DH SERIES is available normally with a retainer nut. Where a wide, flat lens is desired (carries up to 3 digits), a 1DH6, a 1DH7 (long, extra side visibility), or a 1DH8 (fluted, maximum side visibility) may be used. *Patent Applied For.*

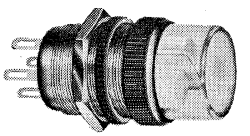




1CF1 Incandescent, 6, 12, 24 v.
1CF3 Incandescent, 6, 12, 24 v.
1CG1 Neon, round
1CG11 Neon
1CG4 Neon; narrow, flat face for one digit
1CF12 Incandescent, 6, 12, 24, 48 v.
1CG12 Neon

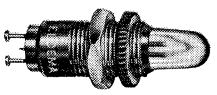
SPECIAL PURPOSE INDICATORS

1 FH DUAL-LAMP HOLDERS for uses in applications where a positive double check on circuit operation is mandatory. Key circuitry may be monitored in variety of ways.



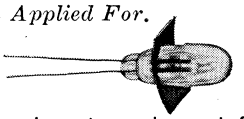
6D SWITCHLITE is a unique device for computer and data systems in which switch must operate a circuit electrically independent of lamp circuit, yet logically related to lamp indication. Requires only ⅜" mounting hole. Has a non-snap, normally-open momentary contact switch. *Patent Applied For.*

1AG NEON INDICATORS have a round lens, are available with or without built-in current limiting resistors.



1AF INCANDESCENT INDICATORS (not shown) same as above but with telephone type lamp.

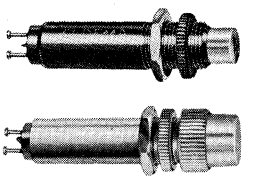
LOW COST INDICATORS for mass production use. **Type 1B** is neon, mounts with furnished push-on retainer. Round or flat lens (lens mark available). *Patent Applied For.*



1K is incandescent, very low cost, for TV, radios, etc.; with or without clip, G.E. 10, 12, 15 type lamps.

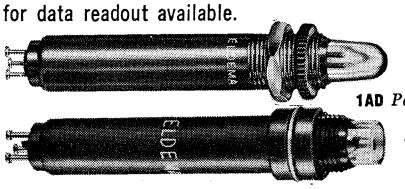
WRITE FOR COMPLETE TECHNICAL INFORMATION

DATA READOUT INDICATORS
One, two, or three digits, letters or symbols are available on lens face. With or without current-limiting resistors.



1EG Neon (1 or 2 digits)
1EF Incandescent, same as 1EG, but uses T-2 lamp.
1GG Neon (wide, 3 digits) same as 1EG except that lens may be changed.
1GF Incandescent, same as 1GG but with 6, 12, 24, 48 v. telephone type lamp.

TRANSISTOR CIRCUIT LIGHTS
Eliminate need for special adapting work to fire neon bulb in transistor circuits. Lamps are aged, selected for stability. Model IAD has diode-resistor network; 1ER has two resistors. Additional models for data readout available.



1AD *Patented*
1ER

ELDEMA
CORPORATION
1805 Belcroft Avenue • El Monte, California
A subsidiary of Genisco, Incorporated

See YELLOW SECTION for Local Offices, Telephone, etc.

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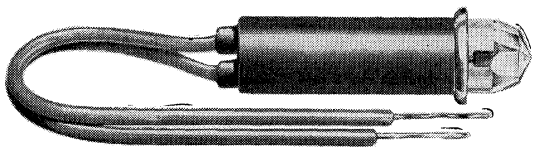
FEDTRO JIFFI-LITE

The "TROUBLE-FREE" PILOT LIGHT That Mounts IN SECONDS!

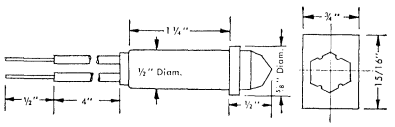


FEDTRO's JIFFI-LITE is a trouble-free pilot light which mounts thru any ½" hole in seconds, by means of a supplied speed nut. Its unique design automatically compensates for any thickness of panel or cabinet. Rugged, excellent construction assures long-life performance even under conditions of vibration, extreme temperature changes, wide voltage variations and overload. Complete with a built in NE-51 neon and wired resistor, the Jiffi-Lite is ready for production use and does not require any modifications or special adaptors. Its beautiful appearance enhances the finest equipment.

- **AVAILABILITY: From stock.**

- **INSTANT SPEED-NUT MOUNTING thru any ½" hole regardless of cabinet or panel thickness. Supplied with jiffi-mount speed nut.**
- **EXTENDED VOLTAGE RANGE: 80 Volts to 160 Volts.**
- **BUILT-IN NE-51 NEON LAMP and wired resistor . . . ready for use.**
- **LEADS: Two insulated 4½" leads, with end stripped and tinned ½".**
- **STANDARD LENS COLORS: Red #JL-R, Clear #JL-C, Amber #JL-A, White Translucent #JL-W.**

See Fedtro's EEM listing in Sections:
1500 (Capacitors)
1300 (Earphones, Speakers, Cartridges)
4700 (L-Pads) 2100 (Jacks)



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Federal Electronics Building, Rockville Centre, N. Y. IN CANADA: Atlas Radio Corp. Ltd., Toronto

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eem CLIP/FILE DESIGNED BY ENGINEERS ...FOR ENGINEERS ...TO SAVE ENGINEERING TIME

ABSOLUTE PRESSURE TRANSDUCER

Accurate, Noise-Free Performance
At 15G up to 2000 CPS

Here are a few of the suggestions offered by engineers that are now exclusive features in Clip/File:

Having extremely a… e performance … Model … as an … al an… form… n and … re cov… rmetic … damage … main… d … con… nessing … psia or as high as 0-10… lable. Unit is temperature compensated over the operating range of -65 to 200°F. Temperature error is claimed negligible.

The 409 is available with outputs which are linear with pressure or altitude, with outputs which are functional, or with tapped potentiometers, switching segments and other electrical features.

The unit has high case pressure; incorporates the maker's Ni-Span-C aneroid type capsule.

PRICE: Approximately $200.00
AVAILABILITY: Some pressure ranges from stock: others, 8 to 10 weeks.
SALES OFFICES: See **eem** p. 851 (Yellow Section)

For other Bourns Laboratories products refer to **eem** *pp. 658, 659, 669. (1958 Edition).*
Circle 35 Reader Service Coupon (p. 2)

eem File System electronic engineers master

Pressure Transducer
Bourns Laboratories, Inc.
CLIP & FILE ☐

PRICES — *The design of a circuit, system or component must be practical from a cost standpoint as well as technical characteristics.*

AVAILABILITY — *Delivery on both military and commercial orders must meet strict schedules. Knowledge of availability is essential.*

LOCAL SALES OFFICES — *Listing the address and phone number of the local sales offices or representative expedites the placing of an order, or a request for additional information.*

PROVISION FOR FILING — *A system for clipping, filing and locating product data when it is needed for future reference.*

Engineer-designed CLIP/FILE is now used and relied upon for new product data by thousands of the same engineers who helped create it; thousands have set up their own personal filing systems based on the 51 **eem** product section numbers. And thousands are now saving many hours of valuable engineering time. How about you?

Start saving engineering time today — rely on CLIP/FILE for new product information. Set up your own **eem** filing system. **See complete details on inside back cover.**

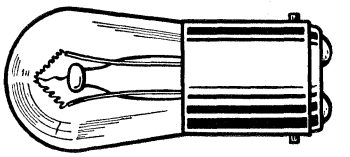
LEECRAFT BRACKET MOUNTED SOCKETS FOR SMALL LAMPS

LAMP HOLDERS • WIRING DEVICES • SPECIAL ASSEMBLIES

(Individual illustrations approx. actual size)

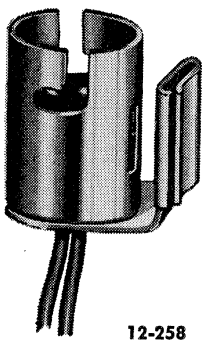
DOUBLE CONTACT CANDELABRA BAYONET

(INCANDESCENT OR NEON GLOW)

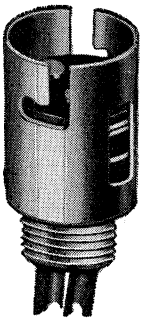


S-6

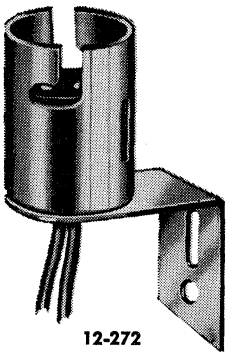
12-200 SERIES



12-258



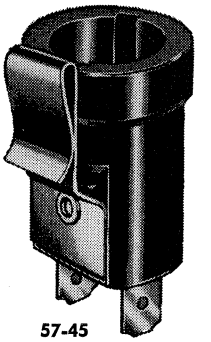
12-230



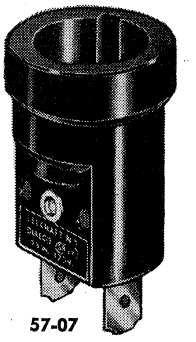
12-272

12-200 SERIES Sockets feature a Bakelite Disc with Separately Sprung Contacts and Built-in Wire Leads. See Figure 1 below for popular mountings.
The *12-230* Socket has a ⅛ x 27 ANP Threaded Bushing. ALSO . . . our 1200 Series is the same as the 12-200 group, except that a Ceramic Contact Washer is used instead of a Bakelite Disc.

5700 SERIES



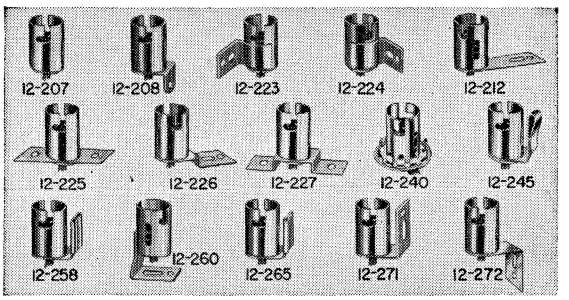
57-45



57-07

Tab Terminals — Bakelite Housing
Also 57-200 Series with built-in Wire Leads

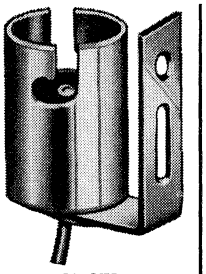
TYPICAL MOUNTING BRACKETS Figure 1



Mounting Brackets shown above can also be used with 1100 and 1200 Series. If the bracket attached to 12-272 is required, specify 11-272 for 1100 Series, or 12-72 for 1200 Series.

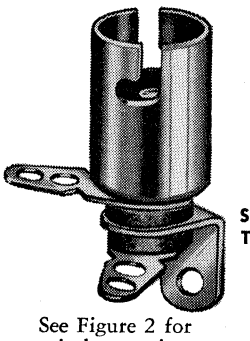
SINGLE CONTACT CANDELABRA BAYONET

1100 SERIES



11-271
WIRE LEAD
See Figure 1 for typical mountings.

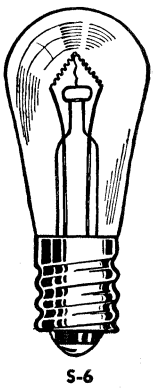
1000 SERIES



10-08
SOLDERING TERMINALS
See Figure 2 for typical mountings.

CANDELABRA SCREW

(Incandescent or Neon Glow)



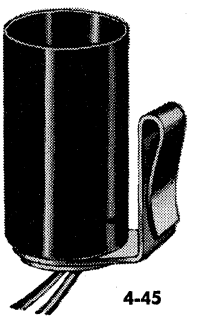
S-6

400 SERIES . . . Features heavy moulded Bakelite housing and built-in wire leads. Standard insulation is plastic but other types are available.

1800 SERIES . . . Ruggedly constructed sockets with special terminal locking features.

600 SERIES . . . Popular open type units with a large variety of mountings. See Figure 2 for typical mountings. These sockets can also be furnished with wire leads instead of terminals.

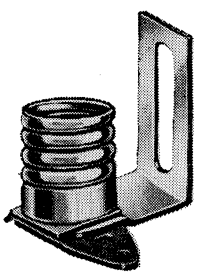
400 SERIES



4-45

WIRE LEADS
Bakelite Housing

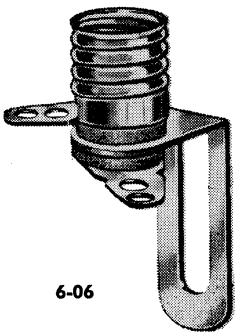
1800 SERIES



18-79

SOLDERING TERMINALS

600 SERIES



6-06

SOLDERING TERMINALS
Also available with insulating sleeve

SAMPLES ON REQUEST AT ONCE—NO CHARGE

Ask for Catalogue No. 557.

LEECRAFT MANUFACTURING CO., Inc.

58-60 GREENE ST., Dept. E, NEW YORK 12, N. Y. • Telephone: WOrth 6-2855 • TWX #NY 1-3866

See YELLOW SECTION for Local Offices, Telephones, etc.

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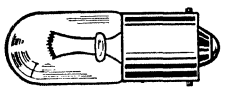
BRACKET MOUNTED SOCKETS FOR SMALL LAMPS

LEECRAFT®

LAMP HOLDERS • WIRING DEVICES • SPECIAL ASSEMBLIES

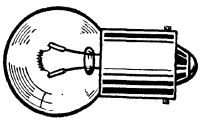
(Individual illustrations approx. actual size)



T-3¼

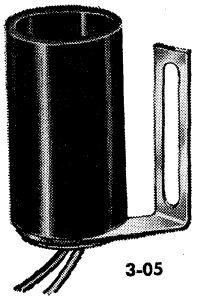
MINIATURE BAYONET

All Miniature Lamps on this page are available in voltages up to 28V, except TL-3. Lamp Shield, No. T-325 is available for use with T-3¼ bulbs. This directs light at a desired angle, preventing "stray" light.



G-4½

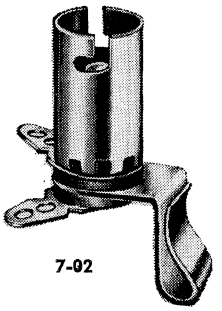
300 SERIES
Bakelite Housing



3-05

WIRE LEADS

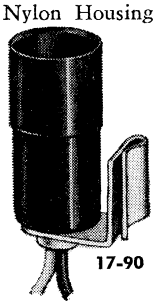
700 SERIES



7-02

SOLDERING TERMINALS

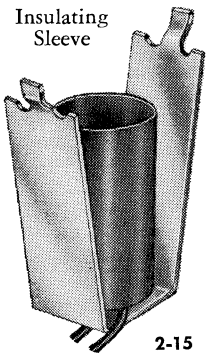
1700 SERIES
Nylon Housing



17-90

WIRE LEADS

200 SERIES
Insulating Sleeve



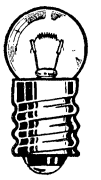
2-15

WIRE LEADS

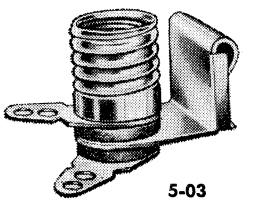
MINIATURE SCREW

500 SERIES

Miniature Screw



G-3½



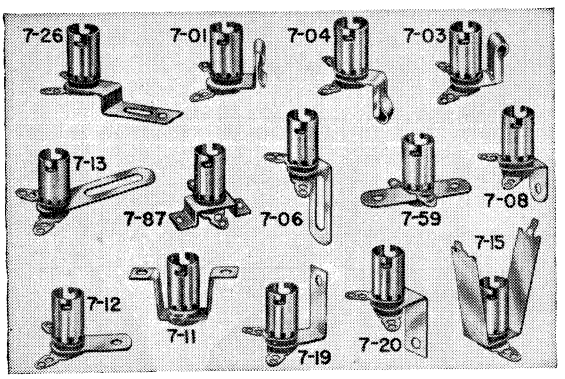
5-03

SOLDERING TERMINALS

TL-3

Miniature Screw Base Sockets as illustrated above, can be supplied with any of the mounting brackets shown in Figure 2. When bracket attached to 7-08 is required, specify 5-08. Wire leads can be substituted for terminals.

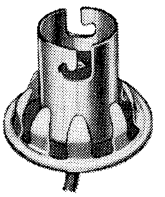
TYPICAL MOUNTING BRACKETS (Fig. 2)



ALL SOCKETS ILLUSTRATED ABOVE HAVE 2 TERMINALS. Mounting Brackets attached to sockets shown above can be used with these SERIES: 200, 500, 600, 700, 1000, and 1700 . . . EXAMPLE: If bracket attached to 7-12 is required with series mentioned, specify: 2-12, 5-12, 6-12, 7-12, 10-12, 17-12.

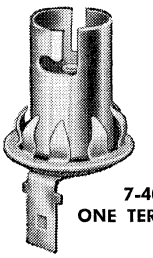
GROUNDED SOCKETS

200-1 SERIES
Plug button for ⅝" hole.



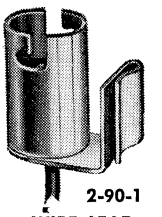
2-40-1
WIRE LEAD

700-1 SERIES
Plug button for 9/16" hole.



7-40T-1
ONE TERMINAL

200-1 SERIES



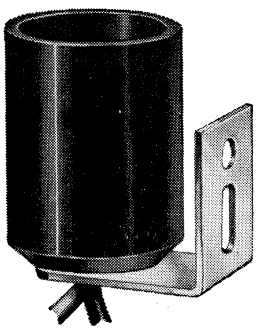
2-90-1
WIRE LEAD

Grounded sockets can be supplied with 1 wire lead or with 1 terminal, bracket grounded to shell, for use on grounded circuits. When ordering grounded units add (-1) to Part No. EXAMPLE: Part No. 7-08 (see Fig. 2) with one terminal becomes 7-08-1; with 1 lead becomes 2-08-1, etc. This same principle can also be applied to the 500, 600, and 1000 Series.

INTERMEDIATE SCREW
1400 SERIES

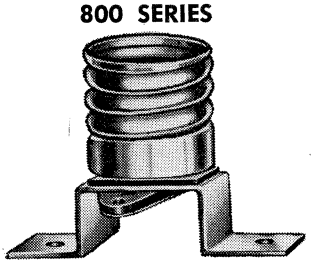
75 WATTS
250 VOLTS

TYPICAL LAMP S-11
. . . 30V or 60V



14-71

800 SERIES



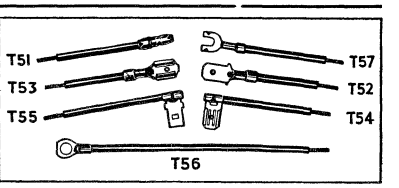
8-81

SAMPLES ON REQUEST AT ONCE — NO CHARGE

SPECIAL SOCKETS

Bi-Pin Sockets... Available with soldering terminals or wire leads to accommodate two-pin lamps. Specify part no. 15-07 for standard terminal assembly.

Midget Screw Base Sockets . . . Available with 1 wire lead (part no. 16-07-1-6) or with 2 wire leads (part no. 16-07-6).



WIRE TERMINATIONS

A large variety of Solderless Terminals can be furnished with wire lead assemblies. Specify terminal number in addition to socket number.

COMPLETE LINE OF SOCKETS for EVERY REQUIREMENT

Thousands of mounting brackets are available from our large stockpile of tools and dies. Some popular basic types are shown on these 2 pages. Special brackets can be made to meet your specifications. Also, strips with multiple sockets can be fabricated to order. Sockets can be made to meet applicable military specifications.

ORDER COMPLETE WITH LAMP so that you will be assured of receiving the proper socket and correct lamp at one time, ready for immediate use.

Ask for Catalog No. 557.

LEECRAFT MANUFACTURING CO., Inc.

58-60 GREENE ST., Dept. E, NEW YORK 12, N. Y. • Telephone: WOrth 6-2855 • TWX #NY 1-3866

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DISPLAY PANEL COMPONENTS

FOR USE ON DISPLAY AND MAINTENANCE PANELS OF COMPUTERS, DATA PROCESSORS, CONTROL SYSTEMS AND INDUSTRIAL INSTALLATIONS.

TRANSISTOR-LITE

TL-SERIES

ACTUAL SIZE

A transistor driven neon indicator lamp requiring only 3 volt input signal.

Signals and voltages tailored to your requirements. Typical input signals: On +1VDC; Off —2VDC. Typical supply volts —90 to —200VDC. NE-2E bulb. Mtg. hole diam. 15/32". Body diam. ½", back panel length 1¾". A-MP Series "53" taper pin terminals. Anodized aluminum body.

$7.10 Each, lots of 25
$3.95 Each, lots of 1000

MINI-LITE

MTL-SERIES

A miniature transistor driven neon indicator lamp requiring only 3 volt input signal.

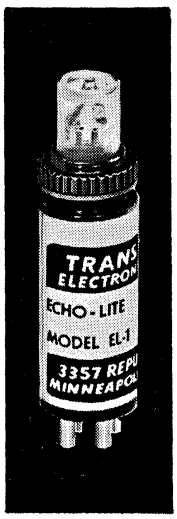
Signals and voltages tailored to your requirements. Typical input signals: On +1VDC; Off —2VDC. Typical supply volts —90 to —200VDC. NE-2E bulb. Mtg. hole diam. ⅜". Body diam. ½", back panel length 1⅛". A-MP Series "53" taper pin terminals. Anodized aluminum body.

$7.10 Each, lots of 25
$3.95 Each, lots of 1000

ACTUAL SIZE

ECHO-LITE

MEL-SERIES



ACTUAL SIZE

A miniature combination neon indicator and push button switch.

Switch rating 200 ma. NE-2E bulb. Mtg. hole diam. ⅜". Body diam. ½", back panel length 1-9/32". Available in six models with common or independent lamp and switch, with or without series resistors. A-MP Series "53" taper pin terminals. Anodized aluminum body.

$3.15 Each, lots of 25
$1.75 Each, lots of 1000

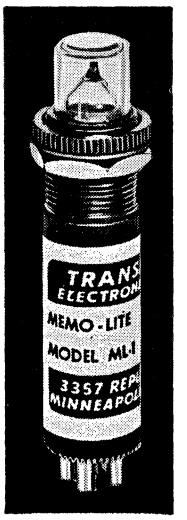
MEMO-LITE

ML-SERIES

A complete unit with thyratron indicator and control circuits. Requires only 4.5 V signal swing.

Indicator has "memory" characteristics with DC supply. Self extinguishing with AC supply. Mtg. hole diam. 15/32". Body diam. ½", back panel length 1¾". A-MP Series "53" taper pin connectors. Available with Raytheon, Kip or Tung-Sol tube.

$8.10 Each, lots of 25
$6.00 Each, lots of 1000



ACTUAL SIZE

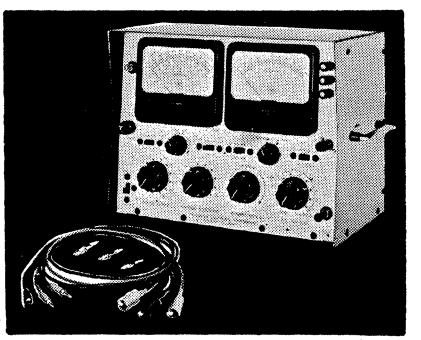
Signals and voltages shown are for stocked items. Units to other specifications available. Information and prices on request.

MODEL TDT-200 TRANSISTOR-DIODE TESTER

(SELF CONTAINED POWER SUPPLY)

TESTS DC PARAMETERS OF BOTH PNP & NPN TRANSISTORS & DIODES
REVERSE AND FORWARD CURRENTS ● VOLTAGE DROPS ● CURRENT GAIN (BETA)

Designed especially for computer and data processor maintenance. The TDT-200 provides the flexibility required to simulate actual operating conditions. Rugged and easy to operate. It includes clips, leads and an extra long line cord. Weight 15 lbs. Size 9¼" high x 12" wide x 7" deep. Price: $295.00.
Inquiries on custom testers, amplifiers and transistorized devices are welcomed. Write for complete catalog on all items.



TRANSISTOR ELECTRONICS CORPORATION

Designers and Manufacturers of Electronic Equipment and Components

3357 Republic Avenue • Minneapolis 26, Minnesota • WEst 9-6754

Patent Applied for

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ATR PRODUCTS

AMERICAN TELEVISION & RADIO CO. *Quality Products Since 1931*

ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*

UNIVERSAL ATR INVERTERS

IDEAL FOR PORTABLE TV AND TAPE RECORDERS!

Specially Designed for Operating A.C. Tape Recorder, Television Set, Dictating Machine, Radio Set, Ham Gear, Public Address System, Amplifier, Record Player, Electric Razor, Food Mixer, Vacuum Cleaner, Sewing Machine, Business Machine, Electric Drill, Fluorescent and Incandescent Lamp, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

Type	Input DC Volts	A.C. Output 60 Cycles	OUTPUT WATT. Int.	Cont.	Shipping Weight	List Price
6U-RSF	6	110 Volts	100	80	22 lbs.	$75.00
6U-RSF-P	6	110	100	80	22	75.00
6U-RHG	6	110	150	125	27	89.95
6U-HSJ	6	110	175	150	37	125.00
12U-RSF	12	110	125	100	22	75.00
12U-RSF-P	12	110	125	100	22	75.00
12U-RHG	12	110	175	150	27	89.95
12U-HSJ	12	110	250	200	37	125.00
*28U-RSF	28	110	125	100	22	89.95
*28U-RHG	28	110	175	150	27	105.75
*28U-HSJ	28	110	250	200	37	145.00
32U-RSF	32	110	150	100	22	89.95
32U-RHG	32	110	200	180	30	105.75
32U-HSJ	32	110	325	225	37	145.00
50U-RSF	50	110	150	100	22	89.95
110U-RSF	110	110	250	150	22	75.00
110AU-RHG	110	110	325	250	27	89.95
110BU-RHG	110	110	450	350	30	105.75
110U-HSJ	110	110	600	400	22	145.00
220U-RSF	220	110	250	150	37	79.50
220U-RHG	220	110	325	250	27	99.50
220U-HSJ	220	110	500	300	37	155.00

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.

*Recommended for 24 Volt Battery System.

SHAV-PAKS

EASY to OPERATE

Keep in Glove Compartment — PLUGS INTO CIGARETTE LIGHTER RECEPTACLE ON DASH

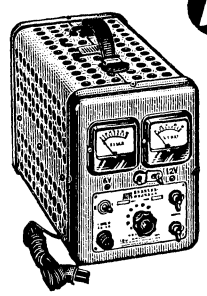
Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.

TYPE	INPUT D.C. VOLTS	OUTPUT WATTAGE	SHIPPING WEIGHT	LIST PRICE
6-SPB	6	15	2½ lbs.	$9.95
12-SPB	12	15	2½	9.95

ATR SHAV-PAKS deliver 115 Volts A.C. 60 Cycles Current.

Features—

- Small Size
- Plug-in ATR Vibrator
- Fuse Protection
- Rubber Mounting Feet
- Steel Case
- Rugged Construction



"A" BATTERY ATR ELIMINATORS

FOR DEMONSTRATING AND TESTING AUTO RADIOS

6 Volt or 12 Volt

TRANSISTOR or VIBRATOR OPERATED!

Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Appliances on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.

Featured cut Illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIT; equipped with Voltmeter, Ammeter and Voltage Control.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

TYPE 610C-ELIF—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight 22 lbs. Appearance similar to 620C-ELIT, above — USER NET PRICE $42.95

TYPE 620C-ELIT—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size 6½" x 12⅞" x 8½". Shipping weight 33 lbs. USER NET PRICE $59.95

Illustrates ATR Mighty Midget (DME) Model Inverter Having Cigarette Lighter Plug Attachment.

Illustrates ATR Medium (RME and RMF) Model Inverter Having Four-Point Voltage Regulator and Cigarette Lighter Plug Attachment.

ATR †DICTATING MACHINE

INVERTERS

Specially Designed for Operating Standard A.C. Dictating Machines, Small Radios, Record Players, Mix-masters, Food Blenders, Electric Razors, Electronic Test Equipment, and Most Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, and Trains.

Type	Input D.C. Volts	A.C. Output 60 Cycles	OUTPUT WATT. Int.	Cont.	Shipping Weight	List Price
6-DME (1)	6	110 Volts	40	30	5 lbs.	$19.95
6C-DME (1)	6/12	110	40	30	5	23.50
6-RMF (2)	6	110	80	60	12	45.00
6C-RMF (2)	6/12	110	80	60	12	49.50
12-DME (1)	12	110	50	40	5	19.95
12T-RME (2) (3)	12	110	125	90	12	42.50
*28-RME (2)	28	110	100	80	12	57.50
32-RME (2)	32	110	100	80	12	57.50
110-RME (2)	110	110	150	100	12	47.50

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.

* Recommended for 24 volt battery systems.
Dimensions of Mighty Midget (DME) Model Inverters, 5¼"x4¾"x2¾".
Dimensions of Medium (RME) and (RMF) Model Inverters, 8⅜"x8"x3¾".

†DME AND RME MODELS NOT RECOMMENDED FOR TAPE RECORDERS.

AMERICAN TELEVISION & RADIO CO.

Quality Products Since 1931

SAINT PAUL 1, MINNESOTA—U. S. A.

MANUFACTURERS OF DC-AC INVERTERS, PORTABLE BATTERY CHARGERS, "A" BATTERY ELIMINATORS, AUTO RADIO VIBRATORS

Order from Local Electronic Parts Distributor or Write for List.

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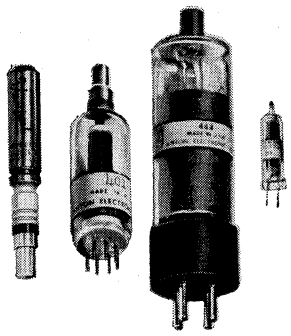
SOLVE YOUR REGULATED HIGH VOLTAGE PROBLEMS *NOW* WITH RELIABLE *ANTON CORONA DISCHARGE V-R TUBES*



ANTON CORONA DISCHARGE V-R TUBES

have been found to be extremely reliable over the wide range of military shock, temperature, current and voltage requirements. Fixed and adjustable tubes are available to stabilize voltages from 300 V—30 KV at currents below several milliamperes with voltage tolerances within ± 1%. MIL approved types available. Well suited for use as voltage reference tubes, stabilizing all high voltage-low current power supplies and for control of high voltage, accelerating potentials of cathode ray devices (radar scopes, TV, etc.) Send for valuable FREE application and design notes.

ANTON ELECTRONIC LABORATORIES, INC.

A subsidiary of United States Hoffman Machinery Corporation

1226 FLUSHING AVE., BROOKLYN 37, N. Y.

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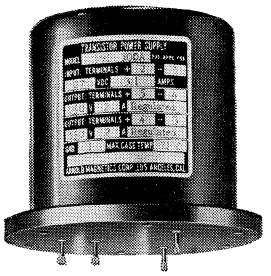
ARNOLD
TRANSISTORIZED POWER SUPPLIES

—small, lightweight and regulated

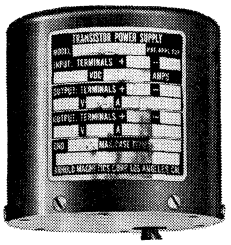
—designed to meet MIL-E-5272B

Units feature constant voltage output as battery discharges. Only 1/5 weight and ½ size of comparable dynamotors. Withstands short circuit indefinitely, input voltage transients of 60 volts for 0.01 seconds, and 50 volts indefinitely at reduced power. Output voltage and frequency drift: ±3.0% from −55° to +71° C. Fully encapsulated and hermetically sealed. A/N Cannon connectors (designated "A"), wire-lead pigtail ("B"), and solder-lead terminals ("C"), are standard.

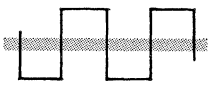


Model 591H-C

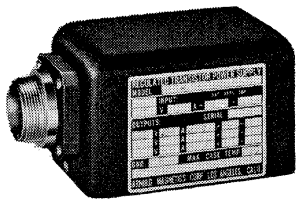
DC to DC	Model 591H-C
Input Voltage:	24-30 VDC
Output Voltage:	25-1200 VDC
Output Power:	60 watts (max.) regulated
Regulation:	±1.0% for 6V line variations ±1.5% for 25% load variations
Ripple:	0.3% RMS
Size and Weight:	3" OD x 3 3/16" high; 22 oz.



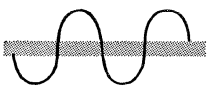
Model 591AC-B



DC to Square Wave	Model 591AC-B
Input Voltage:	24-30 VDC
Output Voltage:	115 VAC, 400 cps, 1 phase
Output Power:	50 V.A. square wave
Regulation:	Frequency and voltage: ±1.0% for 6V variations of line voltage; ±1.0% for 25% variations of load
Size and Weight:	3" OD x 3" high; 19 oz.



Model 591J-A



DC to Sine Wave	Model 591J-A
Input Voltage (nominal):	24, 26 or 28 VDC
Output Voltage:	115 VRMS (other voltages available)
Output Frequency:	400 cps (other frequencies available)
Output Power:	40 volt-amps (±0.9, minimum, power factor)
Regulation:	Freq. and voltage: ±1% for 6V line variations at specified load
Harmonic Distortion:	20% (max.) RMS, at specified load
Size and Weight:	2½"x 4"x 2½" high; 32 oz.

ARNOLD MAGNETICS CORPORATION
4613 West Jefferson Blvd., Los Angeles, Calif.
REpublic 1-6344

HOW TO ORDER:

Specify Model number and letter followed by termination desired (see above), nominal input voltage, output voltage, frequency, and load.

Example:

591J	—	A	—	28	—	115	—	400	—	40
Model		Termination "A", "B", or "C"		Nominal Input Voltage		Output Voltage		Output Frequency		Load—Watts or VA

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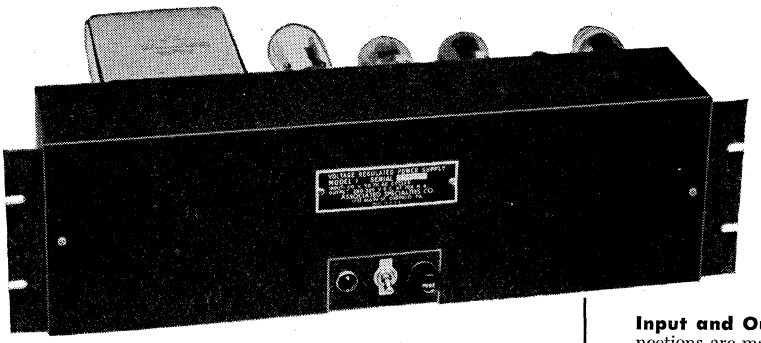
Associated Specialties Co.

OREFIELD, PA.



ELECTRONICALLY REGULATED D.C. CONSTANT VOLTAGE POWER SUPPLIES

MODEL 1
RELAY RACK MOUNTING $52.50

Input: 105-125 volts AC. 50-60 cycles.

DC Output Voltage: Continuously variable from 200 to 325 volts DC for load currents 0 to 100 ma.

Regulation of DC Voltage: Better than 1% for loads of 0 to 100 ma. and line voltage variations from 105 to 125 volts.

Ripple Output: Less than 10 millivolts rms.

Isolated Output: Both positive and negative sides of the output are isolated from ground. Either side may be grounded or the output may be left floating.

AC Output for Filaments: An isolated AC voltage of 6.3 volts AC at 3 amperes is available at the output terminal connections.

Overload Protection: A fuse mounted on the front panel protects supply against external overloads or internal failure.

Input and Output Connections: All input and output concnections are made to a single terminal strip conveniently located on the rear of the chassis.

Dimensions: Standard 19″ relay rack mounting. Panel Width: 19 inches; Panel Height: 5¼ inches; Depth Behind Panel: 7¼ inches.

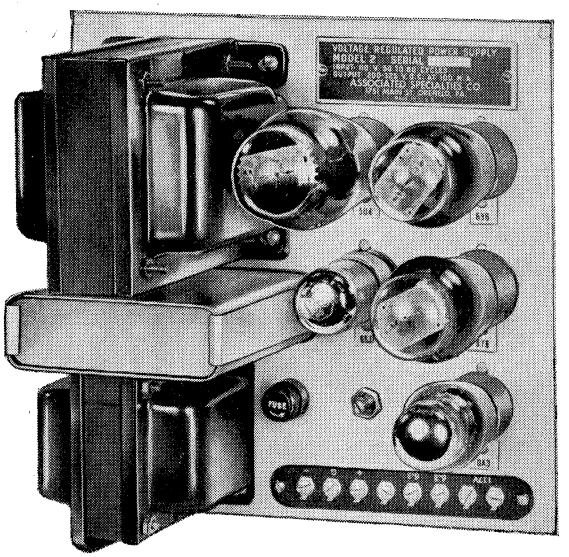
Cabinet and Panel Finish: Standard Black ripple enamel.

Controls: Rear Chassis—DC output voltage control. Front Panel —Pilot light, input power switch, and fuse.

Weight: Net weight is approximately 20 pounds.

High Quality Components: Only components of the highest quality are used in this equipment insuring you years of trouble-free dependable operation.

Accessibility: By removing two small screws, the front panel may be removed while the supply stays mounted on a relay rack or cabinet. This allows quick and easy inspection.



MODEL 2 SUB-CHASSIS MOUNTING $49.50

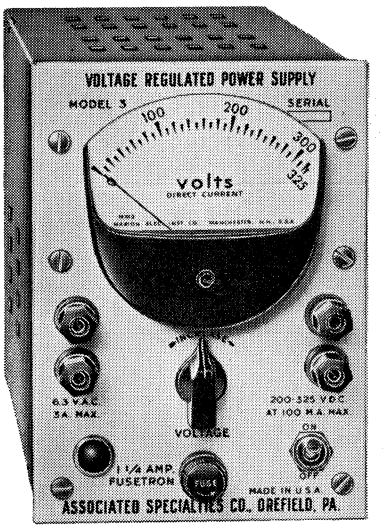
Sub-chassis mounting type regulated power supplies are designed to save space and money. They can be mounted on a chassis along with other components and thereby save space which would be used by a relay rack mounting supply. Savings are made in the size and cost of the cabinet required for a job along with the lower cost of the sub-chassis mounting supplies.

SAME AS MODEL 1 EXCEPT

Dimensions: 9″ wide, 8¾″ long, 4¾″ high above chassis, 1¾″ clearance required below chassis. Size of cut-out required, 8¼″ wide x 8″ high. Location of four mounting holes: 8⅝″ wide x $8\frac{11}{32}$″ high.

Chassis Finish: Zinc plated or equivalent.

Controls: DC output voltage control adjustable from the top side of the chassis.



MODEL 3 CABINET MOUNTING $69.50

An ideal unit for bench work or assembly into equipment.

SAME AS MODEL 1 EXCEPT

Input Connections: A line cord at rear of cabinet.
Output Connections: 5 way binding posts.
Dimensions: 5″ wide, 7″ high, 16″ deep.
Panel Finish: Aluminum.
Cabinet Finish: Gray enamel.
Controls: D.C. output voltage on front panel.
Meters: Output voltage.
Weight: Net weight is approximately 20 pounds.

Weight: Net weight is approximately 14½ lbs.

MODEL P2 PANEL $9.00

Mounts two Model 2 power supplies side by side in a 19 inch relay rack space 8¾″ high.

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CHRISTIE

Automatically Regulated

SILICON POWER RECTIFIERS

For Missile Testing

and general use

30 to 1500 Amps

- Closely Regulated
- Fast Response. (0.1 sec. Recovery.)
- Underwriters Approved
- All Models available in 200-245 or 400-490 Volts. A.C. input

Available in Industrial and Military types. Military type meets specs: MIL-E-4970 for high and low temperature, humidity, salt spray, sand, dust, fungus, rain, sunshine and low pressure, also MIL-I-6181. MH series include also vibration and shock and frequency range of 57-63 cycles.

Write for complete bulletins on
Automatic and Manually Controlled Power Rectifiers

CHRISTIE ELECTRIC CORP.

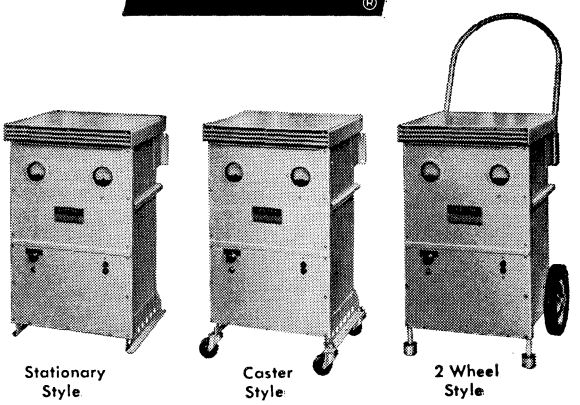
Dept. EEM, 3410 W. 67th St., Los Angeles 43

Over a Quarter Century of Rectifier Manufacturing

MH SERIES—20 Models in 5 Cabinet Styles

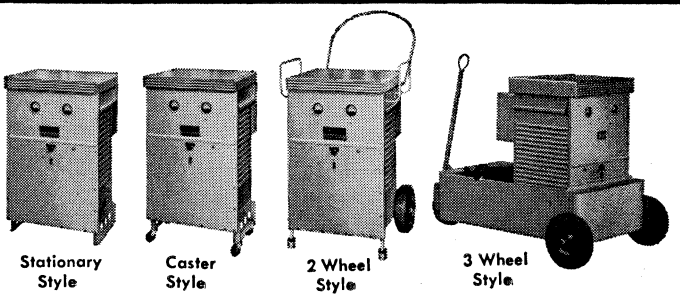
Model No. (For MIL Type Add Suffix "P")	D.C. Voltage Range	D.C. Amp. (Cont.)	Regulation Accuracy (Voltage Deviation ±)	Voltage Ripple (r.m.s.)
MH8-50K	5½—8	50	1%	1%
MH8-100K	5½—8	100	1%	1%
MH8-200K	5½—8	200	1%	1%
MH8-300K	5½—8	300	1%	1%
MH16-50K	11—16	50	1%	1%
MH16-100K	11—16	100	1%	1%
MH16-200K	11—16	200	1%	1%
MH16-300K	11—16	300	1%	1%
MH32-30K	22—32	30	0.5%	1%
MH32-50K	22—32	50	0.5%	1%
MH32-100K	22—32	100	0.5%	1%
MH32-200K	22—32	200	0.5%	1%
MH32-300K	22—32	300	0.5%	1%
MH36-30KK	15—36	30	1%	2%
MH36-50KK	15—36	50	1%	2%
MH36-100KK	15—36	100	1%	2%
MH36-200KK	15—36	200	1%	2%
MH36-300K	28—38	300	1%	1%
MH135-40K	110—135	40	1%	1%
MH135-60K	110—135	60	1%	1%

CHRISTIE®



A-2A-4A SERIES—10 Models in 4 cabinet styles

A31-400K	25—30	400	0.5%	1%
A31-500K	25—30	500	0.5%	1%
A31-600K	25—30	600	0.5%	1%
2A31-800K	25—30	800	0.5%	1%
2A31-1000K	25—30	1000	0.5%	1%
4A31-1500K	28—29	1500	0.5%	1%
A36-300KK	15—36	300	1%	2%
A36-400KK	15—36	400	1%	2%
A135-100K	110—135	100	1%	1%
2A135-200K	110—135	200	1%	1%



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BEHLMAN INVERTRON®

FOR 1959

SILENT, DEPENDABLE COMPLETELY

LOWER DISTORTION

Standard INVERTRONS are available with maximum distortion of 1% . . . or lower on special order.

BETTER REGULATION

Standard INVERTRONS feature voltage regulation of 1% no load to full load . . . with 0.1% or better available on special order.

HIGH QUALITY

Modular techniques result in neat, simplified chassis layouts at low cost with the very highest quality materials and workmanship . . . thus easing the problem of supplying units to special or military specifications.

VARIABLE or FIXED Frequencies

Wide range of exceptionally accurate variable or fixed output frequencies available, from 20 CPS to 3000 CPS . . . with other frequencies available on special order.

HIGHER POWER

Single phase Invertron available up to 5 KVA output, two phase up to 10 KVA output and three phase up to 15 KVA output . . . other power rating available on special order.

TYPICAL UNITS FROM OUR WIDE VARIETY OF STANDARD MODELS

1 **SINGLE PHASE:** Model 161-K-1 has an output of 160VA, single phase, frequency variable from 300 to 2000 CPS; from an input of 115 volts, 60 CPS, single phase.

2 **TWO PHASE:** Model 502-C-1 has an output of 500 VA, two phase, frequency fixed at 400 CPS; from an input of 115 volts, 60 CPS, single phase.

3 **THREE PHASE:** Model 15003-D-1 has an output of 15 KVA, three phase, frequency variable from 350 to 450 CPS; from an input of 460 volts, 60 CPS, three phase.

SPECIAL UNITS TO ORDER

FIRST CHOICE of Missile and Aircraft

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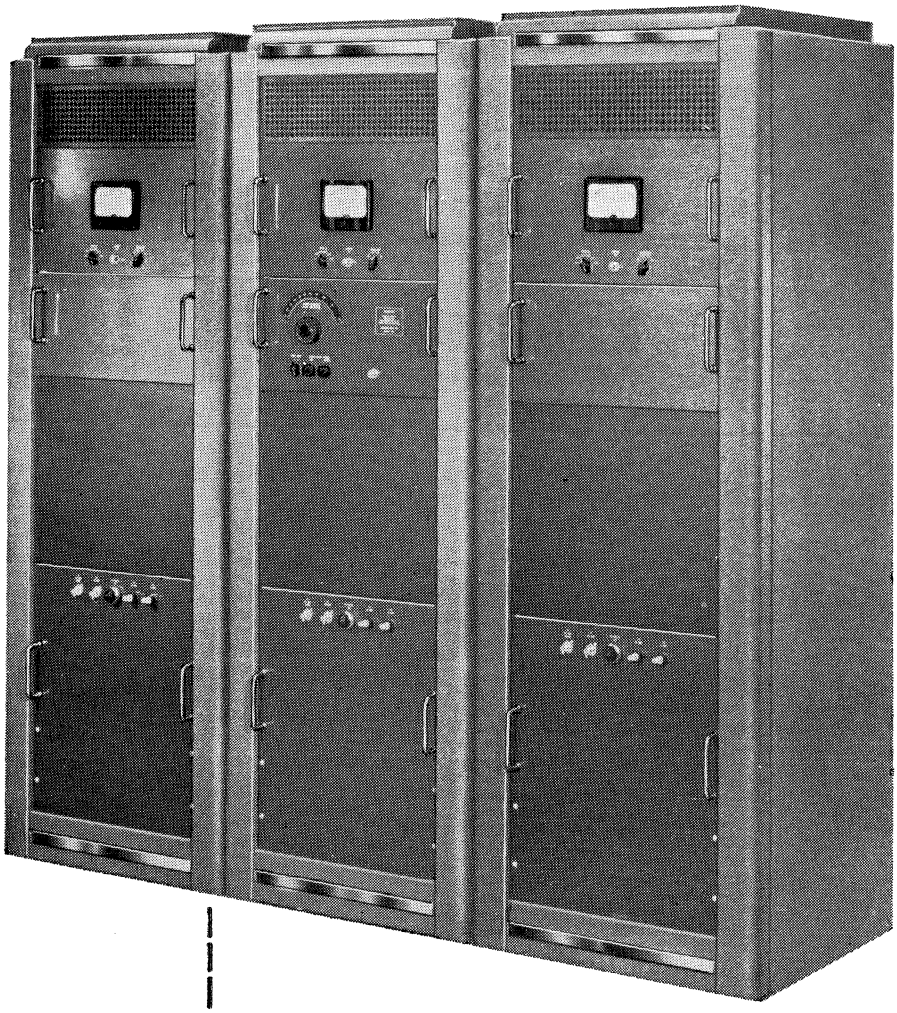
AC ELECTRONIC POWER SOURCE

3



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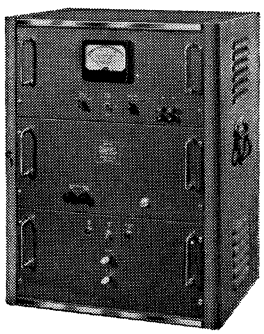

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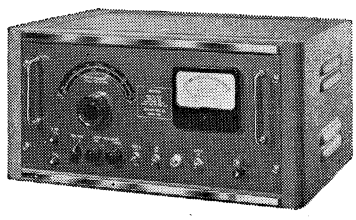

Manufacturers . . . for RESEARCH and DEVELOPMENT of GUIDANCE and INSTRUMENTATION

The INVERTRON'S exceptional stability makes it the favorite of the greatest names in space age hardware for AC power of types not obtainable from regular 60-cycle lines. Since it functions entirely electronically the Invertron eliminates the noise, mechanical difficulties and lack of flexibility inherent in rotating equipment. In addition to a wide range of standard models, the INVERTRON is available in custom configurations at only slightly above production line prices.

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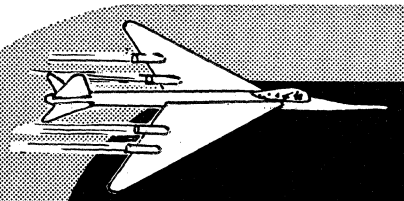
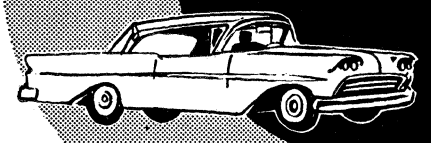
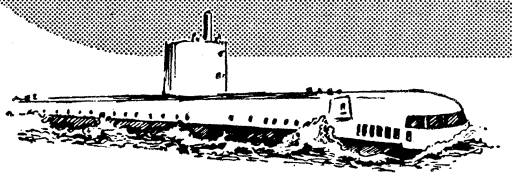


CML

ELECTRONIC GENERATORS



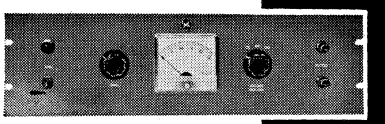
6 WATTS TO 80,000 WATTS
Single and Three Phase

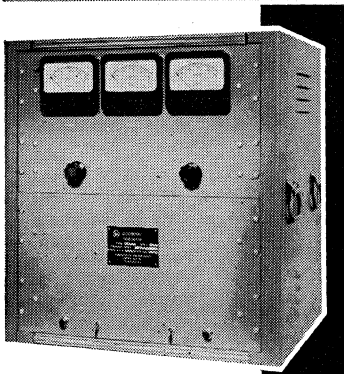


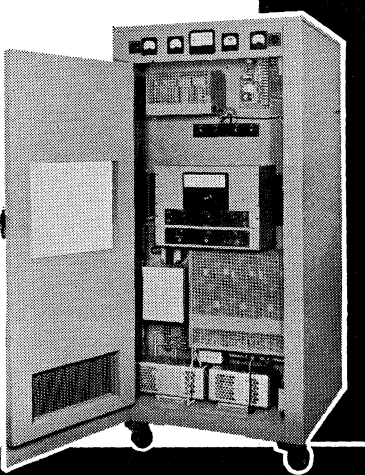
Wherever the need for a stable source of power exists, CML is prepared to deliver an Electronic Generator to meet your most stringent requirements.

CML Electronic Generators range in size from 6 Watts to 80,000 Watts. Single, two or three phase output is available. These units may be fixed or variable in frequency with frequency stabilities ranging from .001% to .25%. On standard models, the output voltage is regulated to within 1%.

This versatility in equipment, and the wide range of units available, makes CML an important part of your plans — whether in the development of equipment for in the air, on the ground or under the sea. Whatever your requirements, contact CML's engineering staff for the answers. No obligation.







MODEL 1301
PRECISION AC POWER SOURCE
OUTPUT: 12-60 - 120 V.
DISTORTION: less than .1%
REGULATION: better than .2%
FREQUENCY STABILITY: ± .002%
(model G-3)
SIZES: 5½"x19"x9½" 6-Watt
7"x19"x10½" 12-Watt

MODEL 1452-C
FIXED FREQUENCY
3-PHASE POWER SUPPLY
OUTPUT: 250 VA
DISTORTION: 2.0%
REGULATION: 1.0%
FREQUENCY STABILITY: .001%
SIZE: 23" x18" x22"
also available as variable frequency unit

MODEL 1445-A WIDE BAND
SINGLE PHASE GENERATOR
OUTPUT: 4500 VA
DISTORTION: less than 2.0%
REGULATION: less than 1.0%
FREQUENCY STABILITY: .25%
SIZE: 77" x 32" x 30"

CML

COMMUNICATION MEASUREMENTS LABORATORY, INC.
350 LELAND AVENUE, PLAINFIELD, NEW JERSEY

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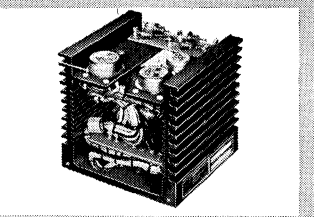
VERIDYNE

TRANSISTORIZED POWER SUPPLIES



AC-DC PLUG-IN SUPPLIES

REGULATED - (Fixed Output)

**MODEL	OUTPUT		
	VOLTS*	CURRENT (ma)	WATTS
1/2N3-1.2	6	200	1.2
1/2N3-2.4	6	400	2.4
1/2N4-2.4	12	200	2.4
1/2N4-4.8	12	400	4.8
1/2N5-4.8	24	200	4.8
1/2N5-9.6	24	400	9.6
1/2N53-7	35	200	7.0
1/2N53-14	35	400	14.0
1/2N55-9	45	200	9.0
1/2N55-18	45	400	18.0
1/2N57-11	55	200	11.0
1/2N58-13	65	200	13.0

**MODEL	OUTPUT		
	VOLTS*	CURRENT (ma)	WATTS
1/2N6-12.25	75	150	12.25
1/2N61-8.5	85	100	8.5
1/2N63-9.5	95	100	9.5
1/2N64-10.5	105	100	10.5
1/2N66-11.5	115	100	11.5
1/2N68-12.5	125	100	12.5
1/2N69-13.5	135	100	13.5
1/2N7-15	150	100	15.0
1/2N71-16	160	100	16.0
1/2N8-25	250	100	25.5
1/2N82-27	270	100	27.0
1/2N9-30	300	100	30.0

Input 105-125 VAC, 60 or 400 cps
Input Regulation better than ± 1/4 %
Load Regulation better than ± 1/4 %, no load to full load. Closer Regulation available.
Ripple less than 0.05% or 10 mv.
Unique Regulator circuit allows for complete semi-conductor design to insure optimum reliability

REGULATED - (Variable Output)

**MODEL	OUTPUT		
	VOLTS*	CURRENT (ma)	WATTS
1/2R3-1.2	5-10	200	1.2
1/2R3-2.4	5-10	400	2.4
1/2R4-2.4	10-20	200	2.4
1/2R4-4.8	10-20	400	4.8
1/2R51-5	25-35	200	5
1/2R51-10	25-35	400	10
1/2R56-9	45-55	200	9
1/2R561-18	45-55	400	18
1/2R57-12	55-65	200	12
1/2R61-12	75-85	150	12
1/2R62-9	85-95	100	9
1/2R63-10	105-115	100	10
1/2R66-12	125-135	100	12
1/2R71-16	155-165	100	16
1/2R8-25	250-260	100	25
1/2R9-30	300-310	100	30

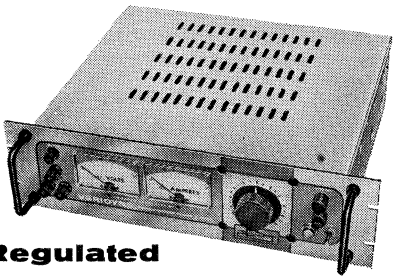
Output voltage variable by means of a screwdriver adjustment
Input 105-125 VAC, 60 or 400 cps
Input Regulation better than ± 1/4 %
Load Regulation better than ± 1/4 %, no load to full load. Closer Regulation available.
Ripple less than 0.05% or 10 mv.
Unique Regulator circuit allows for complete semi-conductor design to insure optimum reliability

*Output voltage specified within 5% **Specify Model Number 1 or 2 for 60 or 400 cps input

VERIDYNE

LABORATORY SUPPLIES

Input: 105 to 125V, 60-400 cps
Regulation: up to .01%
Output can be used either as positive or negative supply
Reliable Short Circuit Protection
Remote Sensing of Supply Parameters
Transistor Regulation
Zener Reference Diode
Automatic Thermal Overload Protection



Super Regulated

MODEL	VOLTAGE	CURRENT (AMP)
Z2	0-32	0-2
Z5	0-32	0-5
Z10	0-32	0-10
Z15	0-32	0-15

Load Regulation better than ± 5 mv for no load to full load
Line Regulation better than ± 5 mv
Ripple less than 1 mv

Regulated

MODEL	VOLTAGE	CURRENT (AMP)
W2	5-32	0-2
W5	5-32	0-5
W10	5-32	0-10
W15	5-32	0-15

Load Regulation better than ± 1/2 % for no load to full load
Line Regulation better than ± 1/2 %
Ripple less than 5 mv

also

- AC-AC CONVERTERS
- DC-AC INVERTERS
- MILITARIZED SUPPLIES FOR AIRBORNE OR GROUND APPLICATION. DESIGNED AND BUILT TO CUSTOMER SPECS.

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A SUBSIDIARY OF CONSOLIDATED DIESEL ELECTRIC CORPORATION
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60 and 400 Cycle DEVR

THE A-C REGULATOR THAT ELIMINATES DISTORTION

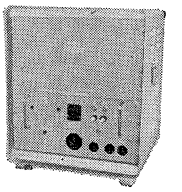
- Furnishes 1.4 KVA of distortion-free, ±0.1% electronically regulated power
- Reduces power line distortion to less than 0.3%
- Responds quickly—in less than 1/50 cycle or 0.00033 seconds
- Simultaneously provides 4 KVA of ±0.1% electromechanically regulated power
- Introduces no phase shift between input and output

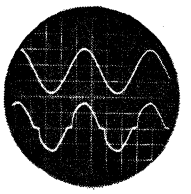
PRINCIPLES OF OPERATION

The DEVR corrects for both waveform distortion and amplitude regulation by subtracting from the source a voltage equal to the instantaneous difference between the actual line voltage and a pure sinusoidal voltage of desired amplitude. The use of wideband electronic circuits gives practically instantaneous correction of any departure from a uniform sine wave within ratings. A feedback circuit continually compensates electromechanically for slower changes in line voltage, thereby making optimum use of the electronic channel. At the same time it serves as a separate source of regulated voltage for applications where normal line distortion can be tolerated.

SPECIFICATIONS

	Model 102	Model 104
INPUT		
Voltage	115V ±10%	115V ±10%
Frequency	60 cps ±2%	400 cps ±5%
Phase	single phase	single phase
OUTPUT 1	(Electronically Filtered)	
Voltage	115V nominal, 105-125V adjustable range	
Current	Range (Amperes) 0— 3, 0— 6, 0—12	Correction (%) 20, 10, 5
Distortion	less than 0.3%	
Regulation	less than 1% for ± 10% line fluctuations	
Stability	less than 1%	
Response time	less than 1/50 cycle or 0.00033 seconds	
OUTPUT 2	(Electro-mechanically Regulated) Can be used simultaneously with filtered output	
Voltage	115V nominal, 105-125V adjustable range	
Current	47 Amperes (minus current drawn from filtered output)	
Regulation	less than 1% for ± 10% line fluctuations	
Response Rate	12V per sec.	20V per sec.
PHYSICAL CHARACTERISTICS		
Size	19½" wide x 24" high x 18¼" deep (standard 19" rack panels)	
Weight	183 lbs. net	200 lbs. net
PRICE	$1689.00	$1875.00
	F.O.B. Carlstadt, N. J.	





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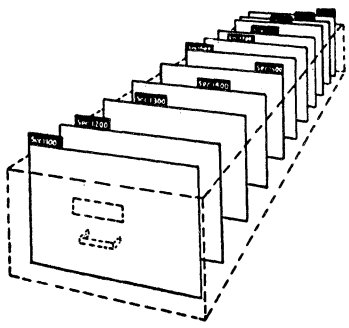

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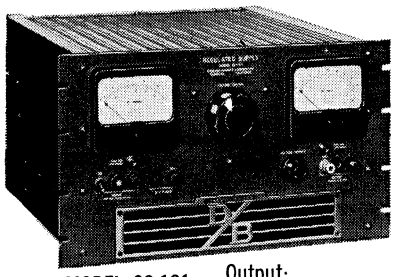
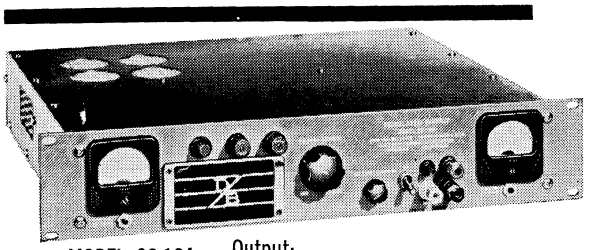
ALL-TRANSISTOR LABORATORY POWER SUPPLIES

D/B



MODEL 62-121 Output: 0.5 to 36 vdc 0 to 15 Amps.



MODEL 62-124 Output: 0.5 to 36 vdc 0 to 2 Amps.

- ***HIGH EFFICIENCY***
- ***EXTREMELY CLOSE REGULATION***

These models are the product of extensive research and development in transistor power supplies. Using *All-Transistor* circuits—there are no vacuum tubes or magnetic amplifiers—the units provide superb regulation and low ripple. Output is free of harmful spikes and transients.

Short-circuit proof. Current at full rating can be delivered continuously at any voltage—from 0.5 volts to 36 volts. Circuit developments (exclusive with D/B*) eliminate the necessity for heavy bleeders and thus increase the efficiency of these units.

Reliable forced-air cooling through the front panel inlet assures cool operation at all times.

*Patent applied for

SPECIFICATIONS

MODEL NO.	OUTPUT		MAXIMUM INPUT POWER (WATTS)	OUTPUT IMPEDANCE (OHMS)		SIZE *			NET WEIGHT	PRICE**
	VOLTS	AMPS		AT DC	AT 500 KC	W	H	D		
62-121	0.5-36	0-15	1100	.001	.5	19″	10½″	19″	127 lb.	$985
62-124	0.5-36	0-2	260	.009	.5	19″	3½″	19″	39 lb.	$640

**Standard rack mounting or bench use.*
***f.o.b. Pasadena. Prices and Specifications subject to change without notice.*

INPUT
105-125 VAC, 60 cps, single phase. Other voltages and frequencies on special order.

OUTPUT REGULATION
For line changes between 105-125 VAC, less than 18 MV change in the output voltage.
For load changes between no load and full load, less than 18 MV change in the output voltage.

RIPPLE AND NOISE
Less than 1 MV RMS under any condition.

NO DERATING OF CURRENT OVER FULL OUTPUT VOLTAGE RANGE.

TRANSIENTS
Entirely free from transients in output due to line conditions. Entirely free of recurrent spikes. Maximum excursion due to switching of full load: 100 millivolts on Model 62-121 . . . 200 millivolts on Model 62-124; less for smaller changes in load.

OVERLOAD PROTECTION
Any overload causes instantaneous and complete shut-off of the output current by means of transistor switching. Pressing the START button will restore the output current if the overload has been removed. The power supply cannot be damaged by any overload condition.

STABILITY
Maximum of 5-millivolt average variation per hour over 8-hour period. Will maintain regulation despite rapid switching of full output current.

POLARITY
Floating output—either positive or negative may be grounded.

ERROR SENSING
Normally on front terminals. Rear-terminal or remote sensing on special order.

PANEL CONTROLS
AC switch and indicator light.
START button for making the supply operational after turning AC switch on, and for resetting after an overload condition.
Coarse and fine voltage control.

RESOLUTION
Vernier varies output 400 millivolts for 270° rotation.

METERING
Dual range 4.5-inch meters.
Ammeter: 0 to 5 amperes and 0 to 15 amperes on Model 62-121; 0 to 0.4 amperes and 0 to 2 amperes on Model 62-124.
Voltmeter: 0 to 8 volts and 0 to 40 volts. Meters are protected by use of push buttons for Low Ranges.

OPERATING TEMPERATURE
Ample forced air cooling through the front panel allows operation at high cabinet temperatures, providing the air inlet temperature does not exceed 50°C.

MULTIPLE OPERATION
Two supplies can be operated in series to provide up to 72 volts.

COLOR
Standard Dressen-Barnes gray; other colors at slight extra cost.

dressen-barnes

DRESSEN-BARNES CORPORATION
250 NORTH VINEDO AVENUE, PASADENA, CALIFORNIA
TEL: RYAN 1-0643 / TWX: PASA CAL. 8499

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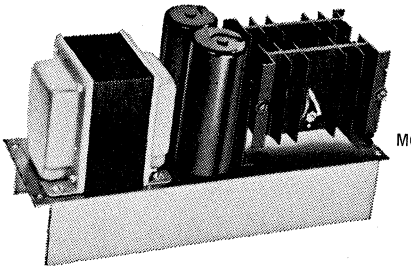
D/B MODULAR POWER SUPPLIES

APPLICATIONS . . .

- LABORATORY TEST EQUIPMENT
- AMPLIFIERS, SERVO UNITS, COUNTERS, TIMERS
- RADAR AND COMMUNICATIONS SYSTEMS
- MOBILE COMPUTERS AND DATA HANDLING EQUIPMENT
- CIRCUIT DESIGN "BREADBOARD" APPLICATIONS
- GENERAL LABORATORY AND RESEARCH WORK



MODEL 22-111 thru 22-117

FULLY TRANSISTORIZED

For use as components in your original equipment.

You can build these sub-chassis power supplies right into your deliverable equipment, saving design time and production expense.

The wide choice enables you to fill many special requirements with shelf items—available at low cost.

Units can be operated in series to provide higher voltages, and can be mounted on panels for standard rack mounting if required. These supplies are built to typical D/B quality standards.

STANDARD OUTPUTS

MODEL NO.	VOLTAGE (ADJUSTABLE)* (VOLTS DC)	CURRENT (AMPS.)
22-111	5-7	0-3
22-112	7-10	0-2
22-113	9-12	0-2
22-114	12-17	0-1.5
22-115	17-22	0-1.5
22-116	22-27	0-1
22-117	27-32	0-1

*Pot. adjust on chassis

SPECIFICATIONS (All Models)

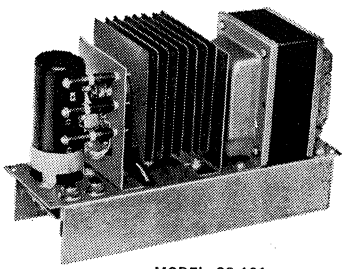
Input: 105-125 VAC, 60-400 CPS
Ripple: Less than 2 MV RMS
Regulation: Line Change 105-125 V : 25 MV
(Max. Change in Output Voltage) Load Change NL/FL : 15 MV
Max. Transient 200 MV
Max. Operating Temp. 50°C Ambient
Physical Size Modular Units
4" W x 12" L
1¾" below, 4½" above
Chassis cutout: 4-1/16"x11-1/16"
Mounting holes: 3" x 11½"
Rack Mounting Units
5¼" H x 19" W x 9" D

**PRICE (All Models)

Modular Units **$148.50**
Rack Mounting Units:
Without Meters **$215.00**
With Meters **$244.00**

**FOB Pasadena. Prices and specifications subject to change without notice.

28 VOLT HIGH-CURRENT UNITS



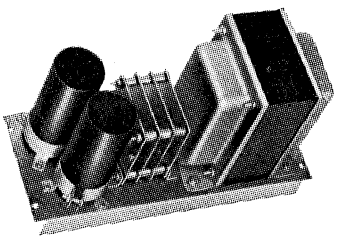
MODEL 22-101

REGULATED (Magnetic Amplifier)

MODEL NO.	OUTPUT VDC	OUTPUT AMPS.	MAX. RIPPLE RMS Without Filter	MAX. RIPPLE RMS With Filter	SIZE L	SIZE W	SIZE HEIGHT Above Chassis	SIZE HEIGHT Below Chassis	CHASSIS CUT-OUT	MOUNTING HOLES	PRICE**
22-101 *(.28-5MXR)	28 Fixed	0-5	3.5 V	15 MV	12½"	4"	5 5/16"	2 3/16"	4 1/16" x 11 9/16"	3" x 12"	$139.50
	Regulation:		Line: ±0.25 V NL-FL: 0.5 V								

UNREGULATED

21-101 *(.28-2MX)	28 (Nominal)	0-2	2.5 V	10 MV	9¾"	3⅜"	4⅛"	1"	3 7/16" x 8 7/16"	2¼" x 8⅞"	$ 37.00
21-102 *(.28-5MX)	28 (Nominal)	0-5	3 V	15 MV	12½"	4"	5⅝"	1"	4 1/16" x 11 9/16"	3" x 12"	$ 49.50
21-103	28 (Nominal)	0-10	2 V	35 MV	12½"	5"	5½"	1"	4 1/16" x 11 9/16"	3½" x 12"	$ 98.50

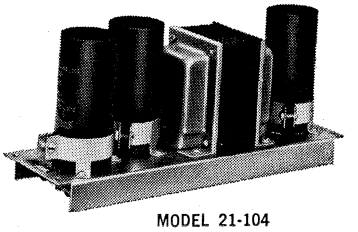


MODEL 21-103

VOLTAGE ADJUSTMENTS: Several transformer taps are provided so that the voltage output may be adjusted to 28 VDC for various values of line and load.
Line Voltage Range is 105-125 Volts AC, 60-400 cps. Model 22-101 is 60 cps only. All models can be used as either positive or negative supply.
Above models can be rack mounted at additional cost, with or without meters.
*Indicates former Model Number.

FILTERS—(For use with the above supplies)

MODEL NUMBER	USED TO FILTER MODEL NUMBER	MAX. RIPPLE MV RMS	SIZE L	SIZE W	SIZE HEIGHT Above Chassis	SIZE HEIGHT Below Chassis	CHASSIS CUT-OUT	MOUNTING HOLES	PRICE**
21-104	22-101 (.28-5 MXR) 21-101 (.28-2 MX) 21-102 (.28-5 MX)	15 10 15	12½"	4"	4½"	1"	4 1/16" x 11 9/16"	3" x 12"	$45.00
21-105	21-103	35	SAME AS ABOVE						$52.50



MODEL 21-104

**FOB Pasadena. Prices and specifications subject to change without notice.

See YELLOW SECTION for Local Offices, Telephones, etc.

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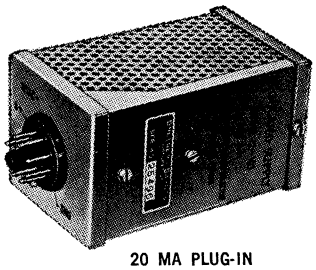
MODULAR POWER SUPPLIES

D/B

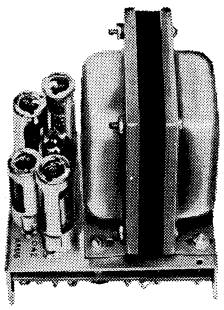


20 MA PLUG-IN

VACUUM-TUBE REGULATED UNITS

20 MA. PLUG-IN

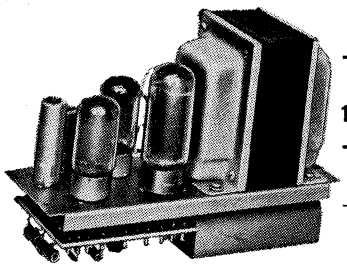
MODEL NUMBER	OUTPUT DC VOLTS		6.3 VAC UNREG. (AMPS.)	DC VOLTAGE REGULATION		MAX. RIPPLE MV RMS	SIZE				INSTALLATION DATA		PRICE ††
	NOMINAL **	ADJ. RANGE **		†Line %	NL-FL %		L	W	Height Above Chassis	Height Below Chassis	Chassis Cut-Out	Mtg. Centers	
12-101 *(1-20X)	105	Fixed	None	0.5	2	5	2½"	2⅜"	4⅞"	4⅛"	None	None	$ 36.50
12-102 *(1.5-20X)	150	Fixed	None	0.5			Same as above.						$ 36.50
12-103 *(2-20X)	105 or 212	Fixed Fixed	None None	1.0 1.0			Same as above.						$ 39.50



70 MA MODULAR

70 MA. MODULAR

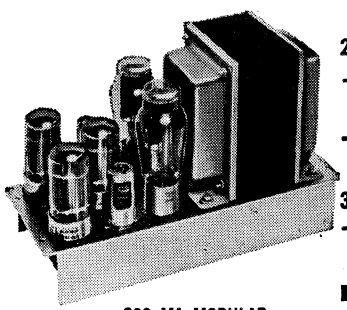
22-102 *(1.5-70X)	150	150-210	3	0.4	0.4	4	5"	4⅛"	4¼"	1¾"	5 1/16" x 3 7/16"	4⅛" x 3 3/16"	$ 61.50
22-103 *(2.5-70X)	250	210-310	3	0.15	0.2	5	Same as above.						$ 61.50
22-104 *(3-70X)	300	240-350	3	0.2	0.15	3	Same as above.						$ 63.50



150 MA MODULAR

150 MA. MODULAR

22-105 *(1.5-150X)	150	150-200	6	0.2	0.25	3	10½"	4"	4¾"	2"	4 1/16" x 9 7/16"	2¼" x 10"	$ 74.50
22-106 *(3-150X)	300	**270-325	6	0.15	0.1	4	10½"	4"	4⅝"	2"	Same as above.		$ 74.50
22-107 *(3-150XHS) MIL-SPEC	300	225-425	6	0.05	0.05	3	12½"	5"	5½"	2"	5 1/16" x 11 7/16"	3" x 12"	$245.00
COMPONENTS (Chassis Pot. Adj. ±25V) Modified Version 100-400 VDC @ 200 MA (Special Order)													
22-110	150 (Chassis	80-260 Pot. Adj.	6 ±10%)	0.2	0.25	3	10½"	4"	4¾"	2"	4 1/16" x 9 7/16"	2¼" x 10"	$ 79.50



300 MA MODULAR

200 MA. MODULAR

22-108 *(4-200X)	400	250-420	6	0.05	0.05	2	12½"	5"	4⅞"	2"	5 1/16" x 11 7/16"	3" x 12"	$117.00

300 MA. MODULAR

22-109 *(5-300XA)	450 (Chassis	250-500 Pot. Adj.	6 ±50V)	0.05	0.05	2	12½"	5"	5 7/16"	2"	5 1/16" x 11 7/16"	3" x 12"	$163.50

*Indicates former Model Number.
**Units factory set at Nominal Output Voltage. Information necessary to adjust the unit to any output within the range specified is supplied with the unit.
†Line Voltage Range 105-125 Volts AC, 60-400 cps.
Units can be used as either positive or negative supplies.
††FOB Pasadena. Prices and specifications subject to change without notice.

dressen-barnes

DRESSEN-BARNES CORPORATION
250 NORTH VINEDO AVENUE, PASADENA, CALIFORNIA
TEL: RYAN 1-0643 / TWX: PASA CAL. 8499

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D/B LABORATORY POWER SUPPLIES

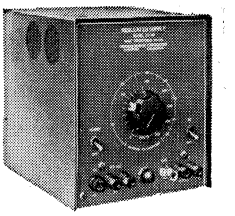
HIGHLY RELIABLE POWER SUPPLIES FOR RACK MOUNTING OR BENCH USE

APPLICATIONS . . .

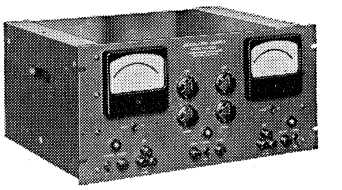
- CIRCUIT DESIGN AND ANALYSIS
- PRODUCTION TEST APPLICATIONS
- GROUND TEST AND FLIGHT SIMULATION EQUIPMENT
- LABORATORY RESEARCH AND DEVELOPMENT
- COMPUTERS AND DATA REDUCTION
- RADAR AND COMMUNICATIONS POWER SOURCES
- MOBILE, AIRBORNE AND SHIPBOARD USES

SPECIFICATIONS

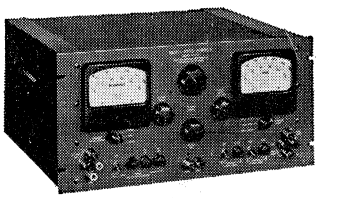
MODEL NO.	OUTPUT VDC	OUTPUT UNREG. 6.3 VAC AMPS.	DC VOLTAGE REGULATION LOAD (MV)†††	DC VOLTAGE REGULATION LINE %	MAX. RIPPLE MV RMS	OUTPUT IMPEDANCE OHMS AT DC	OUTPUT IMPEDANCE OHMS AT 50KC	SIZE W	SIZE H	SIZE D	NET WEIGHT (LBS.)	PRICE **
25 MA SERIES												
62-122	800-2000	None	300	†.015	25	12	—	19″	8¾″	14″	65	$565
100 MA SERIES												
62-105 *(D1-100B)	TWIN 0-100	None	20	††0.035	1.5	0.1	1	19″	7″	13″	39	$495
52-101 *(D1-100A)	Same as above, except no meters.											$455
150 MA SERIES												
32-101 *(3-150L)	0-300	6	300	†0.2	3	2.0	1	7¾″	8¾″	9½″	22	$145
62-106 *(3-150B)	0-300	6	100	†0.15	2	0.7	2	19″	5¼″	9″	25	$195
62-109 *(D3-150B)	TWIN 0-300	TWIN 6	100	†0.15	2	0.7	2	19″	8¾″	13″	55	$335
300 MA SERIES												
62-101 *(.6-300B)	0-60	None	20	††0.035	1.5	0.1	1	19″	8¾″	13″	82	$445
62-118 *(5-300B)	0-500	10	100	†0.1	2	0.4	1	19″	8¾″	13″	60	$345
62-102 *(D.6-300B)	TWIN 0-60	None	20	††.035	1.5	0.1	1	19″	8¾″	16″	95	$750
62-119 *(D5-300B)	TWIN 0-500	TWIN 10	100	†0.1	3	0.4	1	19″	8¾″	17″	101	$595
DUAL UNITS 300 MA/150 MA												
62-117 *(5-300F)	0-500 0-300	10	100 60	†0.1 †0.15	2 2	0.4	1	19″	8¾″	16″	86	$425
62-125 *(D3-300D) *(D3-300E)	0-300 0-300	10	60 60	†0.15 †0.15	2	0.4	1	19″	8¾″	17″	77	$520
500 MA SERIES												
62-112 *(3-500B)	0-300	10	100	†0.15	2	0.2	1	19″	8¾″	16″	91	$425
62-113 *(D3-500B)	TWIN 0-300	TWIN 10	100	†0.15	2	0.2	1	19″	8¾″	17″	117	$635
62-126 *(1K-500B)	3-1000	10	450	††0.045	8	1.6	—	19″	10½″	17″	118	$695
1000 MA SERIES												
62-103 *(.6-1MB)	0-60	None	20	††0.035	1.5	0.1	1	19″	8¾″	16″	60	$510
62-114 *(3-1MB)	0-300	10	100	†0.15	2	0.1	1	19″	8¾″	17″	98	$545
1500 MA SERIES												
62-115 *(3-1.5MB)	0-300	10	100	†0.15	2	0.07	1	19″	8¾″	17″	115	$625
3000 MA SERIES												
62-104 *(.6-3MB)	0-60	None	20	††0.035	1.5	0.01	0.5	19″	10½″	17″	88	$790



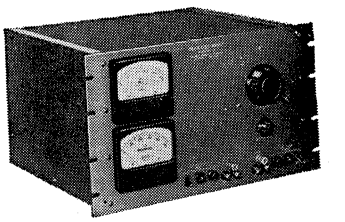
MODEL 32-101



MODEL 62-102



MODEL 62-125



MODEL 62-126

*Indicates former Model Number.

**FOB Passadena. Prices and specifications subject to change without notice.

†Line Voltage Range 105-125 Volts AC, 60-400 cps.

††Line Voltage Range 105-125 Volts AC, 60 cps.

†††At full output.

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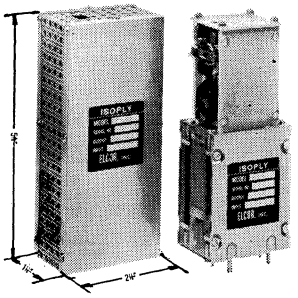
Elcor INC.
1225 W. BROAD ST., FALLS CHURCH, VA.
ELECTRONIC RESEARCH • DEVELOPMENT • MANUFACTURING
A SUBSIDIARY OF FAIRFAX MANUFACTURING CO., INC.

SPECIALIZING IN ISOLATED POWER SUPPLIES AND LOW-CAPACITANCE TRANSFORMERS

Elcor's low-capacitance transformer construction permits an isolated output that can be varied at signal frequencies in its potential with respect to ground.

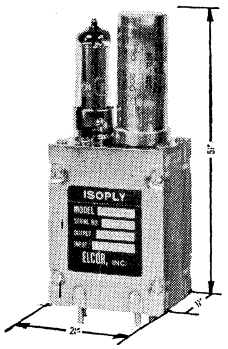
TRANSISTOR-REGULATED ISOLATED POWER SUPPLIES



MODEL NO.	Output Volts D.C. (Adjustable)	Output Current Milliamps. Max.
A 7-150A	6- 8	150
A 8-150A	7- 9	150
A 9-150A	8-10	150
A10-150A	9-11	150
A11-150A	10-12	150
A12-150A	11-13	150
A15-120A	14-16	120
A20-90A	18-22	90
A25-75A	23-27	75
A30-65A	28-32	65
A35-55A	33-37	55
A40-50A	38-42	50
A45-45A	42-48	45
A50-40A	47-53	40

Ideally suited for strain-guage and other transducer bridge circuits, these models feature low output ripple, 0.4% load regulation, 0.2% line regulation, and .02% temperature coefficient.

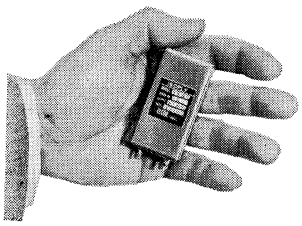
VR-TUBE REGULATED ISOPLYS



MODEL NO.	OUTPUT Volts	Ma.
A 75-20A	75	15
A105-15A	105	15
A150-10A	150	10

These inexpensive miniature d.c. power supplies, like other units shown here, feature low capacitance to ground (20 mmfd), very high leakage resistance, and extremely low noise. Designed especially for use in a wide variety of direct-coupled circuits as an ungrounded power source. May also be used conventionally with either terminal grounded.

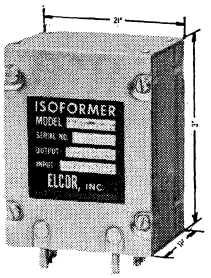
SUBMINIATURE ISOLATED POWER SUPPLY



MODEL NO.	Output Voltage Nominal	Limits	Current, ma.
F6-6A	6	5.2-6.4	6
F7-5A	7	6.2-8.0	5
F8-4A	8	7.5-8.5	4.5
F9-4A	9	8.5-9.5	4
F10-3A	10	9.5-10.5	3.5
F11-3A	11	10.0-12.0	3.2
F13-3A	13	11.0-14.5	2.8
F15-2A	15	13.5-18.0	2.4
F18-2A	18	17.0-21.0	2.0
F24-1A	24	20.0-27.0	1.5

These small Zener-diode regulated Isoplys, weighing only 3 ozs, provide enough power for the collector circuit of a transistor or for bias applications in vacuum-tube circuits. Capacitance to ground is only 25 mmfd.

ISOFORMERS: LOW-CAPACITANCE TRANSFORMERS



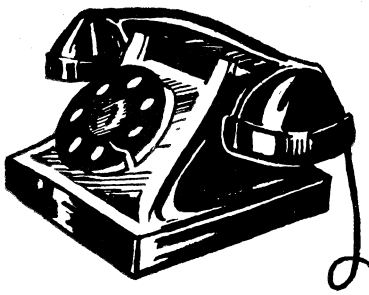
MODEL NO.	RMS Output Voltage	Output Current, ma.
A2.5-1500AC	2.5	1500
A6-600AC	6.3	600
A12-300AC	12.6	300
A25-150AC	25	150
A50-75AC	50	75
A100-37AC	100	37
A120-30AC	120	30
A150-25AC	150	25

These small isolation transformers are especially well suited for: 1) supplying filament or heater power where the cathode has a high signal potential to ground; or 2) for use as a power transformer in low-capacitance d.c. power supplies. Leakage resistance exceeds 100,000 megohms and breakdown voltage exceeds 2500 volts.

COMPLETE TECHNICAL DATA AND PRICES SUPPLIED ON REQUEST

See YELLOW SECTION for local offices, telephones, etc.

LOCAL SALES OFFICES JUST A PHONE CALL AWAY



Only ELECTRONIC ENGINEERS MASTER—*eem* gives you this comprehensive listing of manufacturers' sales offices and sales representatives.. 5,000 manufacturers listed are just a phone call away.

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applicaion engineered ELECTRONIC POWER SUPPLIES

For Transistors • Strain Gauges • Bridges
For Research • Production • O.E.M.

The ®REGATRON Super-regulated Series

The power supplies described on this page are called ®Regatrons. This term is used to describe Electronic Measurements' super-regulated power supplies. These power supplies incorporate a *patented regulating circuit which, in addition to providing superior regulation, makes possible the incorporation of several other important advantages without additional cost to the user.

Voltage Regulation

The extraordinary regulation found in every Regatron assures a smooth flow of d-c even when the power supply is set to provide less than a volt. A balanced zero-potential comparator is employed in an elementary, bridge-like configuration. Together with a high-gain loop amplifier, this circuit provides increasing gain with decreasing voltage . . with full loop gain available at zero output. The result is a stable power supply with a degree of performance exceeding that of a battery.

Programmable Regatrons

All Regatron Power Supplies have a main, as well as a vernier voltage control. In the programmable types, the output voltage can also be controlled remotely . . . this is called programming.

Programming is accomplised by simply shunting two front panel terminals with an ordinary one watt resistor. For each 1000 ohms shunted across these terminals, the power supply delivers one volt. For example, 22,500 ohms shunted across the programming terminals will set the power supply's output to 22.5 V. The resistor may be located at any convenient remote point.

Control systems of various types are easily engineered by using fixed resistors and stepping or multiple-position switches to obtain desired voltages. The programming resistor may also be variable for continuous voltage control. For more information on programming, please request eight-page Bulletin 76A and Data Sheet 21.

Constant Current

All programmable Regatrons are convertible to constant current by the user. The conversion is made by means of external connections only.

Other models (not listed) are specifically designed for constant current use. Request information from factory.

Regatron Features

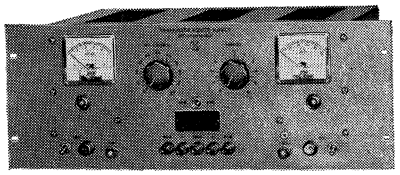
- **local or remote voltage control (programmable models)**
- **panel calibrations for vernier and main voltage controls**
- **positive, negative or floating ground**
- **null balance adjustment**
- **calibration adjustment**
- **useable to a fraction of one volt**
- **negligible ripple**

® Registered U. S. Patent Office
* Covered by U. S. Patents

Regatron Programmable Transistor Series

0 TO 100 VOLTS DC . . . UP TO 3 AMPERES IN NINE BASIC MODELS

Originally designed for laboratory work with transistors and transistorized equipment, these power supplies are equally at home in communications, chemical research, automation and process control. Also used to replace batteries. Main voltage control covers entire range. Vernier control covers 0 to 10 V. Gray enamel finish with black panel designations.



VOLTAGE AND CURRENT RATINGS
105—125 V, 50—60 CPS INPUT

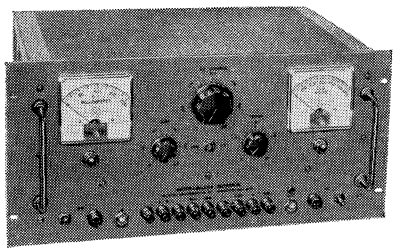
MODEL NO.	OUTPUT VOLTAGE	OUTPUT CURRENT
*212A	0—100 V DC REG.	0—100 MA
*2-212A	DUAL 212A	
213A	0— 50 V DC REG.	0—1 AMP
214A	0—100 V DC REG.	0—1 AMP
215A	0— 50 V DC REG.	0—3 AMPS
218A	0—100 V DC REG.	0—3 AMPS
220A	0— 50 V DC REG.	0—500 MA
221A	0—100 V DC REG.	0—500 MA
*224A	0—100 V DC REG.	0—200 MA

* Has modulation input for measurement of transistor parameters by small signal method, etc.

Regatron Programmable General Purpose Series

0 TO 600 VOLTS DC . . . UP TO 500 MA IN SEVEN BASIC MODELS

Recommended for laboratory and automatic test facilities. Main voltage control covers entire range. Vernier control covers 0 to 30 V, except in Models 235A and 236A where range is 0 to 20 V. (Models 235A and 236A are for 500 ohms per volt programming. Not furnished with front panel controls when for 1000 ohms per volt programming.) Gray enamel finish with black panel designations.



VOLTAGE AND CURRENT RATINGS
105—125 V, 50—60 CPS INPUT

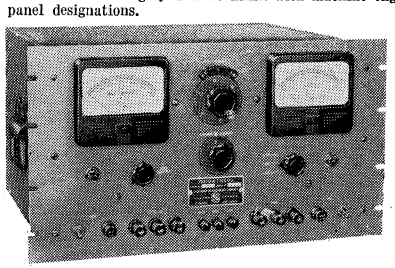
MODEL NO.	OUTPUT VOLTAGE	OUTPUT CURRENT
229A	0—150 V DC REG.	0—300 MA
231A	0—300 V DC REG.	0—100 MA
	*0—150 V DC REG.	0—5 MA
	6.3 V AC (CT.)	6 AMPS
232A	Same as Model 231A except 0—300 V output is 200 ma.	
233A	Same as Model 231A except 0—300 V output is 300 ma.	
234A	0—300 V DC REG.	0—500 MA
235A	0—600 V DC REG.	0—500 MA
236A	0—600 V DC REG.	0—200 MA
	*0—150 V DC REG.	0—5 MA
	6.3 V AC (CT.)	10 AMPS

* 0—150 V DC is regulated by means of a conventional V/R tube circuit.

Regatron Non-Programmable Series

0 TO 1000 VOLTS . . . UP TO 1.5 AMPERES IN FOUR BASIC MODELS

Recommended for heavy-duty applications where the super- regulation of the Regatron circuit is required, but without the programming feature. Main voltage control covers entire range. Vernier control covers 0 to 3 volts, except in Model 222A where range is 0 to 5 volts. Attractive gray wrinkle finish with machine engraved front panel designations.



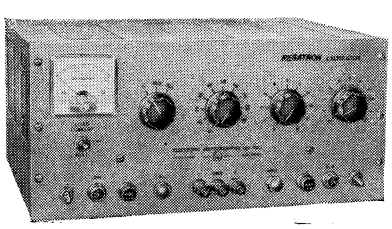
VOLTAGE AND CURRENT RATINGS
105—125 V, 50—60 CPS INPUT

MODEL NO.	OUTPUT VOLTAGE	OUTPUT CURRENT
**209B	0—600 V DC REG.	0—600 MA
	*0—150 V DC REG.	0—5 MA
	6.3 V AC (CT.)	10 AMP
**219B	0—600 V DC REG.	0—1 AMP
	0—150 V DC REG.	0—5 MA
	6.3 V AC (CT.)	10 AMP
222A	0—1000 V DC REG.	0—500 MA
	6.3 V AC (CT.)	10 AMP
2300	0—300 V DC REG.	0—1.5 AMP
	6.3 V AC (CT.)	10 AMP

* 0—150 V DC is regulated by means of a conventional V/R tube circuit. ** Has modulation input.

Regatron Calibrators

0 TO 300 VOLTS DC . . . UP TO 300 MA IN THREE BASIC MODELS



All-electric secondary voltage standards with direct absolute calibration. Front panel calibrations accurate to 0.1% or 0.025 volts, whichever is greater. Gray enamel finish with black front panel designations. An ideal laboratory instrument of superior performance.

VOLTAGE AND CURRENT RATINGS
105—125 V, 50—60 CPS INPUT

MODEL NO.	OUTPUT VOLTAGE	OUTPUT CURRENT
2601	0—300 V DC REG.	0—100 MA
2602	0—300 V DC REG.	0—200 MA
2603	0—300 V DC REG.	0—300 MA

CUSTOM ENGINEERING

Electronic Measurements provides custom engineering and design changes in stock models at extremely modest costs. Many power supplies are built to customer specifications. Write for prices and delivery. Please include complete specifications, quantity, and delivery schedules. (Local sales offices are listed on opposite page.)

ELECTRONIC MEASUREMENTS COMPANY, INC. • EATONTOWN, NEW JERSEY

See YELLOW SECTION for Local Offices, Telephone, etc.

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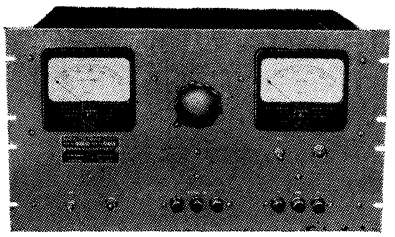


VOLTAGE AND CURRENT RATINGS
105—125 V, 50—60 CPS INPUT

MODEL NO.	OUTPUT VOLTAGE	OUTPUT CURRENT
205A	100—325 V DC REG. 0—150 V DC REG. 6.3 V AC	0—150 MA 0—5 MA 6 AMPS
200B	0—325 V DC REG. 6.3 V AC	0—125 MA 6 AMPS
204A	0—500 V DC REG. 6.3 V AC	0—300 MA 10 AMPS
204AB	0—500 V DC REG. 0—150 V DC REG. 6.3 V AC	0—300 MA 0—5 MA 10 AMPS

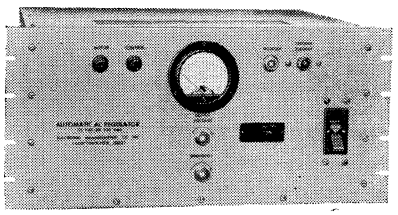
GENERAL UTILITY SERIES

The first wide range power supplies introduced over 14 years ago, they are still in demand. Tough, reliable, they are recommended where good regulation, appearance and low cost are primary considerations.

These power supplies may be used in original equipment or in the laboratory, with equal assurance of long dependable service.
Dark gray wrinkle finish with machine engraved front panel designations.

*DUAL-VOLTAGE LINE REGULATOR

ONE VOLTAGE REGULATOR FOR 110 V AC OR 220 V AC LINES . . . UP TO 6 KVA OUTPUT



* Covered by U. S. Patents

A versatile voltage regulator for regulating either 110 or 220 V AC lines. Switchover from one voltage to another is made in seconds. Provided with over-voltage protection. Used by leading manufacturers of electronic equipment operating on either 110 or 220 V AC. Will provide up to ± 30 V correction.

Please specify mounting type desired.

SPECIFICATIONS

INPUT:

NOMINAL VOLTAGE: 115 or 230.

FREQUENCY: 47 to 63 cps nominal (Operation at slightly lower or higher frequencies is possible.)

PHASE: Single.

OUTPUT:

WITH 115 V INPUT . . . adjustable, 110 to 120 V ±1% at 6 KVA ±15 V correction.

WITH 115 V INPUT . . . adjustable, 110 to 120 V ±2% at 3 KVA ±30 V correction.

WITH 230 V INPUT . . . adjustable, 220 to 240 V ±1% at K KVA ±30 V correction.

WAVE FORM DISTORTION: None.

CORRECTION RATE: 0.15 seconds per volt.

AMBIENT TEMPERATURE: —40° C to +60° C.

MOUNTING: Enclosed wall mounting type or for standard 19″ rack. Please specify.

DIMENSIONS:

Wall Mounting Type:
17″ H x 13½″ W x 8¾″ D, approx.

Rack Mounting Type:
8¾″ H x 19″ W x 13½″ D, approx.

WEIGHT: 90 pounds approx.

OPTIONAL ACCESSORIES: Output voltmeter.

ENGINEERING SPECIFICATION CHART

TYPE	MODEL NUMBER	OUTPUT Voltage	OUTPUT Current	REGULATION LINE 105—125 V AC 50—60 CPS %	LINE V	NO LOAD TO FULL LOAD %	NO LOAD TO FULL LOAD V	MAX. RIPPLE IN MV	MOUNTING	DIMENSIONS H	W	D	WGT. IN LBS.	PRICE
REGATRON	212A[1]	0—100 V DC	0—100 MA	0.15	0.05	0.1	0.05	½	MAY BE USED IN	3½	19	9¼	14	$129.00
	2-212A[1]	Equivalent to two model 212A's. Outputs may be used in series, parallel, or independently.							RACK OR ON TABLE.	5¼	19	9¼	27	258.00
PROGRAMMABLE TRANSISTOR POWER PACKS	213A	0—50 V DC	0—1 AMP	0.1	0.05	0.1	0.05	1		7	19	11	35	345.00
	214A	0—100 V DC	0—1 AMP	0.1	0.05	0.1	0.05	1		7	19	11	35	379.00
	215A	0—50 V DC	0—3 AMP	0.1	0.05	0.1	0.05	1		10½	19	16	75	670.00
	218A	0—100 V DC	0—3 AMP	0.1	0.05	0.1	0.05	1		10½	19	16	75	720.00
	220A	0—50V DC	0—500 MA	0.1	0.05	0.1	0.05	1		5¼	19	12½	30	299.00
	221A	0—100 V DC	0—500 MA	0.1	0.05	0.1	0.05	1		5¼	19	12½	30	329.00
	224A[1]	0—100 V DC	0—200 MA	0.15	0.05	0.1	0.05	1		3½	19	9¼	16	189.00
REGATRON PROGRAMMABLE GENERAL PURPOSE POWER PACKS	229A	0—150 V DC 6.3 V AC	0—300 MA 6 AMP	0.1	0.1	0.1	0.1	1	RACK OR TABLE.	5¼	19	12½	30	$234.00
	231A	0—300 V DC 0—150 V DC 6.3 V AC	0—100 MA 0—5 MA 6 AMP	0.1 0.5	0.1 —— 0.5% AT MAX. SET.	0.1	0.1	1 3	RACK OR TABLE AS REQUESTED.[6]	7	19	11½	30	214.00
	232A	SAME AS MODEL 231A EXCEPT 0—300 V DC OUTPUT IS 200 MA												234.00
	233A	SAME AS MODEL 231A EXCEPT 0—300 V DC OUTPUT IS 300 MA												254.00
	234A	0—300 V DC	0—500 MA	0.1	0.1	0.05	0.05	1	MAY BE USED IN	7	19	11½	30	325.00
	235A	0—600 V DC	0—500 MA	0.05	0.05	0.025	0.03	1	RACK OR ON TABLE.	10½	19	16	78	625.00
	236A	0—600 V DC 0—150 V DC 6.3 V DC	0—200 MA 0—5 MA 10 AMP	0.05 0.5	0.05 —— 0.5% AT MAX. SET.	0.02	0.03	1 3		8¾	19	14½	58	325.00
REGATRON NON-PROGRAMMABLE GENERAL PURPOSE POWER PACKS	209B[1,2]	0—600 V DC 0—150 V DC 6.3 V AC	0—600 MA 0—5 MA 10 AMP	0.02 0.5	0.05 —— 0.5% AT MAX. SET.	0.01	0.02	½ ½	MAY BE USED IN RACK OR ON TABLE.	10¼	19	15	75	$525.00
	219B[1,2]	SAME AS MODEL 209B EXCEPT 0—600 V DC OUTPUT IS 1000 MA AND 0.05 LOAD REG.								10½	19	15	80	675.00
	222A[3]	0—1000 V DC	0—500 MA	0.02	0.05	0.01	0.02	1		10½	19	15	80	675.00
	2300[4]	0—300 V DC 6.3 V AC	0—1.5 AMP 10 AMP	0.02	0.05	0.015	0.02	1		10½	19	15	80	675.00
REGATRON CALIBRATORS	2601[5]	0—300 V DC	0—100 MA	0.03	0.03	0.02	0.02	1	CABINET MODEL IS STANDARD. ALSO AVAILABLE FOR STANDARD 19-INCH RACK MOUNTING.	7	11	15	33	234.00
	2602[5]	SAME AS MODEL 2601 EXCEPT OUTPUT CURRENT IS 200 MA												254.00
	2603[5]	SAME AS MODEL 2601 EXCEPT OUTPUT IS 300 MA												374.00
EM GENERAL UTILITY POWER PACKS	205A	100—325 V DC 0—150 V DC 6.3 V AC	0—150 MA 0—5 MA 6 AMP	1 1	—— —— 0.5% AT MAX.SET.	1	——	10 10	MAY BE USED IN RACK OR ON TABLE.	7	19	11	40	$150.00
	200B	0—325 V DC 6.3 V DC	0—125 MA 6 AMP	1	——	1	0.2	5		7	19	11	40	185.00
	204AB	0—500 V DC 0—150 V DC 6.3 V AC	0—300 MA 0—5 MA 10 AMP	½ ——	0.2 —— 0.5% AT MAX.SET.	1	0.2	5 5		10½	19	15	71	375.00
	204A	SAME AS MODEL 204AB EXCEPT WITHOUT 0—150 V DC SUPPLY												360.00
EM AIRBORNE CONVERTERS	327-1015	300 V DC ±5%	400 MA	1/3	1/3% 110—120V LINE			80	SHOCK AND VIBRATION PROOF.	5⅝	6	9	8½	$135.00
(Not described Request Spec. Sheet)	327-1016	300 V DC ±5%	200 MA	SAME AS MODEL 327-1015										
	327-1017	150 V DC ±5%	400 MA	SAME AS MODEL 327-1015										

NOTES:
[1] HAS MODULATION INPUT.
[2] DIAL CALIBRATION GUARANTEED ACCURATE TO 0.25% OR 0.3 V.
[3] DIGITAL-TYPE PRESENTATION WITH A GUARANTEED CALIBRATION ACCURACY OF 0.25% OR 0.5V.
[4] DIAL CALIBRATION GUARANTEED ACCURATE TO 0.3% OR 0.4 V.
[5] DIAL SETTINGS ARE ACCURATE WITHIN 0.1% AND/OR 0.025 V, WHICHEVER IS GREATER. TOLERANCE OF 1-VOLT CONTROL IS ±5% CORRESPONDING TO 0.05 V.
[6] ADD SUFFIX R FOR RACK MOUNTING.
ADD SUFFIX T FOR ENCLOSED TABLE MOUNTING.

E/M
ELECTRONIC MEASUREMENTS COMPANY, INCORPORATED
EATONTOWN • NEW JERSEY

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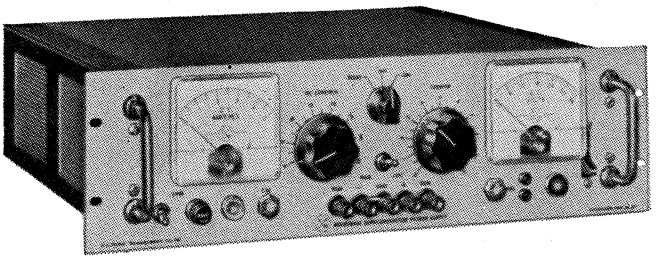
SEMICONDUCTOR POWER SUPPLIES

Transistorized • Wide or Narrow Range

®Regatran Super-Regulated



- **short circuit proof**
- **overload protection**
- **super-regulated**
- **essentially pure DC output**
- **low output impedance**
- **high-speed regulation**
- **null balance control**
- **sensing terminations**
- **reversible ground or floating output**
- **front panel calibration**
- **small size, light weight**

SPECIFICATIONS

REGULATION: Line (105 to 125 volts)—0.03% or 0.01 volt.
Load (no load to full load)—0.03% or 0.01 volt.

RIPPLE: Less than 1 millivolt.

INPUT RANGE: 105 V to 125 V, 50 to 60 cps.

REGULATION SPEED: 100 microseconds.

OUTPUT IMPEDANCE: Approx. 0.001 ohm 1 KC up to 0.2 ohm up to 100 KC.

CIRCUIT PROTECTION: Input Line Fused. Electronic Circuit Breaker. Electromagnetic Circuit Breaker.

TERMINATIONS: Front or rear (front normally supplied).

REMOTE SENSING: All models.

OUT POLARITY: Positive ground, negative ground, or floating output.

METERING: Optional.

AMBIENT TEMPERATURE: 0° to 45°C.

MOUNTING: Rack and table.

FINISH: Light gray baked enamel with black silk screened panel designations.

ADVANCED FEATURES

Regatran Power Supplies utilize high-efficiency components for smallest size and lightest weight. They are rugged and dependable; utilizing etched circuitry, all-electronic transistor protection, plug-in series subassembly, and other advanced constructional features.

Wide-range models and narrow-range models marked with an asterisk have a programming (remote control) provision. This feature permits setting the output voltage to any value by shunting two terminals with a resistor. The power supply will deliver one volt for each 10 ohms placed across these terminals.

By utilizing several resistors and a multiple position switch, instant voltage changes can be made without using the front panel controls. In original equipment, this feature enables the designer to locate the power supply away from the main control panel, conserving panel space and grouping controls for the most convenient operation.

The ability to use the power supply with ungrounded output permits special circuit arrangements, i.e., utilizing the power supply to operate servo motors and other actuators with center-tapped grounded field.

CONSTANT CURRENT

All programmable Regatrans are convertible to constant current by the user. The conversion is made by means of external connections only.

Other models (not listed) are specifically designed for constant current use. Request information from factory.

® Registered U. S. Patent Office.
* U. S. Patents Issued & Pending.

BUILT-IN DEPENDABILITY

*Regatran Semiconductor Power Supplies employ improved techniques of transistor application and protection. An exclusive, instantaneous, all-electronic circuit breaker, developed by Electronic Measurements Company, protects the transistors from damage due to short circuits.
The Regatran fully transistorized circuit employs such features as a balanced zero potential comparator system, high system gain . . . combining all the best advantages offered by transistors. Regatran Power Supplies operate in an efficient, stable and trouble-free manner. Wide range models will provide rated current and regulation even at voltages below one volt.

OPERATING FEATURES

All oprating controls are located on the front panel for greatest operating convenience. Resetting in the event of a short circuit is accomplished by simply actuating a front-panel switch. Calibration and null balance controls are also located on the front panel. In addition to the main voltage control, wide range models have a vernier control covering one volt.

*WIDE RANGE MODELS

DC OUTPUT VOLTS	DC OUTPUT AMPS	MODEL NUMBER	CONTROL (VOLTS) MAIN	CONTROL (VOLTS) VERNIER	DIMENSIONS IN INCHES H	W	D	APPROX. WEIGHT IN LBS.
0-7	0-15	*T07-15	0-6	1	8¾	19	15	57
0-7	0-10	*T07-10	0-6	1	7	19	15	48
0-7	0-5	*T07-5	0-6	1	5¼	19	15	30
0.14	0.10	*T014-10	0-13	1	8¾	19	15	57
0-14	0-7.5	*T014-7.5	0-13	1	7	19	15	48
0-14	0-5	*T014-5	0-13	1	5¼	19	15	30
0-32	0-15	T032-15	0-31	1	8¾	19	15	72
0-32	0-10	T032-10	0-31	1	7	19	15	61
0-32	0-5	T032-5	0-31	1	5¼	19	15	40
0-36	0-15	T036-15	0-35	1	8¾	19	15	72
0-36	0-10	T036-10	0-35	1	7	19	15	61
0-36	0-5	T036-5	0-35	1	5¼	19	15	40
0-60	0-7.5	T060-7.5	0-59	1	8¾	19	15	72
0-60	0-5	T060-5	0-59	1	7	19	15	61
0-60	0-2.5	T060-2.5	0-59	1	5¼	19	15	40

*MODELS MARKED WITH AN ASTERISK ARE PROGRAMMABLE.

*NARROW RANGE MODELS

5-7.5	0-15	T6-15	5-7.5	NONE	7	19	15	57
5-7.5	0-10	T6-10	5-7.5	NONE	5¼	19	15	48
5-7.5	0-5	T6-5	5-7.5	NONE	8¾	19	15	30
7-11	0-15	T9-15	7-11	NONE	7	19	15	57
7-11	0-10	T9-10	7-11	NONE	5¼	19	15	48
7-11	0-5	T9-5	7-11	NONE	8¾	19	15	30
11-14	0-15	T12-15	11-14	NONE	7	19	15	57
11-14	0-10	T12-10	11-14	NONE	5¼	19	15	48
11-14	0-5	T12-5	11-14	NONE	8¾	19	15	30
14-17	0-15	T16-15	14-17	NONE	7	19	15	57
14-17	0-10	T16-10	14-17	NONE	5¼	19	15	50
14-17	0-5	T16-5	14-17	NONE	8¾	19	15	30
17-20	0-15	T19-15	17-20	NONE	7	19	15	62
17-20	0-10	T19-10	17-20	NONE	5¼	19	15	50
17-20	0-5	T19-5	17-20	NONE	8¾	19	15	35
20-23	0-15	T22-15	20-23	NONE	7	19	15	62
20-23	0-10	T22-10	20-23	NONE	5¼	19	15	50
20-23	0-5	T22-5	20-23	NONE	8¾	19	15	35
22.5-27	0-12	T25-12	22.5-27	NONE	7	19	15	62
22.5-27	0-10	T25-10	22.5-27	NONE	5¼	19	15	50
22.5-27	0-5	T25-5	22.5-27	NONE	8¾	19	15	35
25-31	0-12	T28-12	25-31	NONE	7	19	15	62
25-31	0-10	T28-10	25-31	NONE	5¼	19	15	50
25-31	0-4.5	T28-4	25-31	NONE	8¾	19	15	35
31-33.5	0-12	T32-12	31-33.5	NONE	7	19	15	62
31-33.5	0-10	T32-10	31-33.5	NONE	5¼	19	15	50
31-33.5	0-5	T32-5	33.5-36	NONE	8¾	19	15	35
33.5-36	0-12	T35-12	33.5-36	NONE	7	19	15	62
33.5-36	0-10	T35-10	33.5-36	NONE	5¼	19	15	50
33.5-36	0-5	T35-5	31-33.5	NONE	8¾	19	15	35

*ALL NARROW RANGE MODELS ARE PROGRAMMABLE.

WIDE RANGE AND NARROW MODELS ARE ALSO AVAILABE IN A 3 AMP. SERIES AND A 30 AMP. SERIES.
Semiconductor Power Supplies for Every Application

ELECTRONIC MEASUREMENTS COMPANY OF RED BANK
EATONTOWN • NEW JERSEY

See YELLOW SECTION for Local Offices, Telephone, etc.

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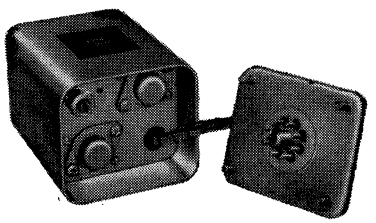
ERA's PRODUCT DIGEST . . .

TRANSPAC®—Miniaturized Power Packs
For Transistor, Vacuum Tube and Standard Applications

Self contained AC operated DC power packs in 60 and 400 cycle models. Wired into circuits like other components these units supply a rugged reliable, stable source of DC power. Over 80 models to choose from, in regulated and non-regulated types. Size of typical units—2⅜" x 2¾" x 2 13/16".

Write For Complete Technical Bulletin—Catalogue #102



TRANSPAC® Transistorized INVERTERS and CONVERTERS

Converts low voltage DC to AC or higher voltage DC. Stock model DC-DC converters available for inputs of 6, 12, or 24 VDC with outputs of 150 to 350 VDC. DC-AC inverters cover same input range with outputs 115 VAC, 60 or 400 cps, output power 15 to 150 VA. Inverters have provision for external synchronization. All models potted in transformer housing, transistors located on inner header for easy accessibility. Special models to meet customer and military specifications available.

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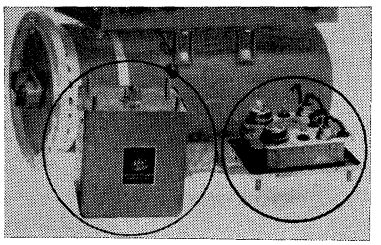
TRANSPAC®—TRANSISTORIZED FREQUENCY CHANGERS



Static semi-conductor designs convert a given input frequency to a different frequency at high power levels. Covers 60 to 400 cps and 50 to 60 cps. Designed for 115 VAC input, 115 VAC output. Stock units available in 50, 100 and 150 volt-ampere ratings. Size of typical 100 VA unit—4 5/16" x 5 1/16" x 5½".

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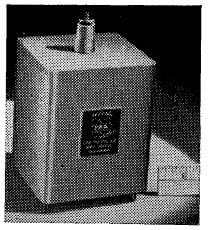


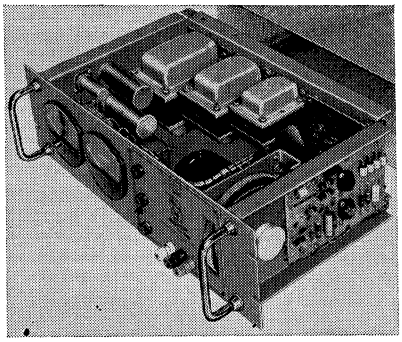
HYPAC®—MINIATURE HI-VOLTAGE DC POWER SUPPLIES

Solid-state designs provide high voltage regulated outputs. Designed for either DC or AC inputs. Units available in a variety of output voltages up to 10,000 VDC. Standard AC input units are for 105-125 VAC, 60 or 400 cps. Line and load regulation ±0.5% DC input units are for 26-29 VDC.

Write For Complete Technical Bulletin—Catalogue #501

MAGITRAN SOLID® STATE POWER SUPPLIES

New designs combine the properties of a special magnetic controller with the fast response characteristics and advantages of the transistor regulator. This controller provides zero output in the event excessive current flows due to overload or short in the external circuit. The transistor regulator accommodates all fast line or load variations and transients and provides for ripple reduction. Models available for high voltage outputs up to 600 VDC @ 1 ampere. Low voltage models 0-36 with current ratings from 4 through 20 amperes.



Write For Complete Technical Bulletin—Catalogue #114

LABORATORY SUPPLIES FOR TRANSISTOR APPLICATIONS

- **TUBELESS DUAL TRANSISTOR SUPPLY** . . . model 310 series regulated dual output, for high and low current transistors. Input 105-125 with dual ungrounded voltage outputs of 0-30 VDC @ 0-1.5 amps.
- **TUBELESS HIGH CURRENT SUPPLY** . . . model 30 series portable, regulated DC/AC for high amperage applications. Input/output same as model 310 but single output.
- **TRANSISTOR LABORATORY SUPPLY** . . . model 210 series provide double dual continuously adjustable constant voltage and constant current outputs—dual 0-1/10/100 VDC constant voltage and dual 2-30 ma constant current.
- **TUBELESS DUAL TRANSISTOR SUPPLY** . . . model 110 series for transistors and other multi-polarity low voltage applications. Dual voltage outputs, 0-1/10/100 VDC @ 0-100 ma.

Write For Complete Technical Bulletin—Catalogue #107

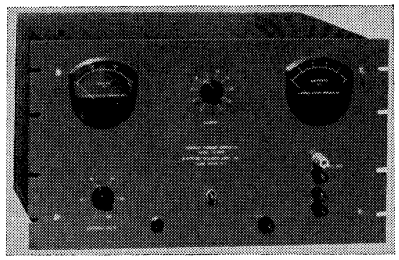
SPECIAL PURPOSE POWER SUPPLIES

- **CONSTANT CURRENT GENERATOR**

model CC250 (5-250 ma)

model CC2000 (25 ma-2 amps) (illustrated)

Provides adjustable constant current over a wide range of output load fluctuation. Input range 105-125 VAC, 60 cps.



- **CONSTANT CURRENT CONVERTER** . . . model CC60 converts any power supply into a continuously adjustable constant current generator.
- **MAGNETIC REGULATOR DC POWER SUPPLIES** . . . model 312 series, tubeless DC/AC power supply where low heat dissipation, long operating life and freedom from transient limitations are required.

Write For Complete Technical Bulletin—Catalogue #109

TRANSISTORIZED REGULATED DC POWER SUPPLIES

Adjustable voltage, laboratory and industrial types. Input 105-125 VAC, 60 or 400 cps. DC output is continuously adjustable. Line regulation better than 0.5% load regulation better than 0.5%. Ripple less than 0.2%.

Write For Complete Technical Bulletin—Catalogue #105

TRANSISTOR CIRCUIT PROTECTOR
For Transistor Power Supply and Load Circuit Protection

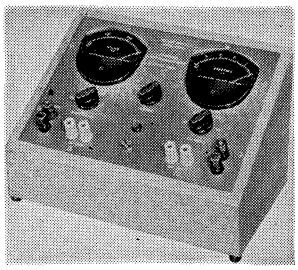
The RV30 is interposed between the load circuit and power supply and disconnects the load in the event of either over-voltage or excessive current condition. Over-voltage adjustment range 5-50 VDC, current limiter range 100 ma-1 ampere. Voltage drop within the unit is less than 0.4v. Response time approx. 25 microseconds.

Write For Complete Technical Bulletin—Catalogue #112

TRANSISTOR TEST EQUIPMENT

- **TRANSISTOR COMPARISON TESTER** . . . model TT11A compares a reference unit or equivalent circuit with the transistor under test and yields comparative measurements of Re, Rb, Re, gain, and stability characteristics.
- **AUTOMATIC TRANSISTOR NF METER** . . . model NFT-2 measures noise figures of all types of transistors and transistor amplifiers. Noise figure range, 5 to 65 db.
- **TRANSISTOR ALPHA-BETA TESTER** . . . model AT10B automatically indicates dynamic values of α, β for all types of transistors as a function of emitter and collector bias. Alpha range, 0-0.99. Beta range, 0-100/200/400.
- **ZENER VOLTAGE TESTER (Illustrated)** . . . model DT100 automatically indicates zener voltage of zener diodes, transistors, and other semiconductors as a function of diode current. Also tests for zener impedance.

Write For Complete Technical Bulletin—Catalogue #101 and 115



ZENER VOLTAGE TESTER

ELECTRONIC RESEARCH ASSOCIATES, INC.

Laboratories and Factory: 67 Factory Place, Cedar Grove, New Jersey • *Telephone* CEnter 9-3000 • *TWX* - Verona NJ 1144

SUBSIDIARIES: ERA PACIFIC INCORPORATED • SANTA MONICA, CALIFORNIA • ERA ELECTRIC CORPORATION • NUTLEY, NEW JERSEY

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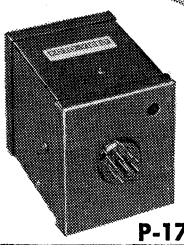
ELECTRONICS • ENGINEERING AND MANUFACTURING

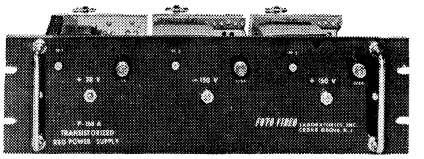
P-37

ALL TRANSISTOR POWER SUPPLIES

- Silicon Rectifiers
- Large Power Handling Ability
- Compactness
- Completely Transistorized
- High Efficiency
- Regulation Against Both Line and Load
- Zero Warmup Time
- Short Recovery Time
- Short-Circuit Protected
- Conservative Design
- Continuous Rating
- Stable Over Long Periods

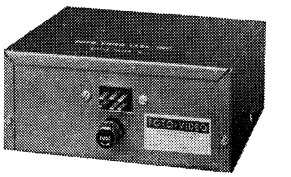


P-172



P-158

P-91



P-41

Model	Input	Current in Amps		Voltage	Regulation in %	Ripple in mv.	Max. Source Imped. in Ohms	Price
P-37A	22-30 VDC	2.0		21	0.5	3	0.5	$ 95.00
P-37B	22-30 VDC	2.0		16-21	2.0	10	2.0	59.00
P-41A	22-30 VDC	2.0		28	0.5	3	0.5	125.00
P-58A	115V-125V 50 to 400 Cycle	0.250 / 0.005	and	150 / −150	0.5	3	0.5	343.00
P-60A	115V-125V 50 to 400 Cycle	3		28	1.0	10	0.5	250.00
P-91A	115V-125V 50 to 400 Cycle	1		24-32	1.0	1	0.5	595.00
P-291A	115V-125V 50 to 400 Cycle	0.250		50-60	0.5	1	0.5	350.00
P-158A		Two P-58's + one P-41			0.5	3	0.5	595.00

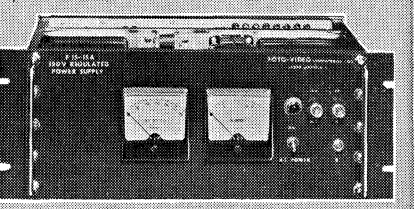
Note 1: All the above except P-158 are compact modules.

Note 2: P-158 has 3 modules in 19" rack mount frame 5¼" high.

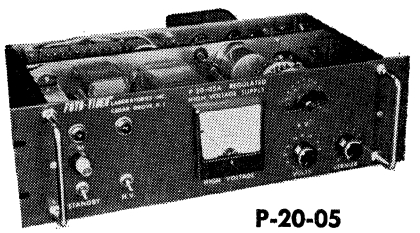
Note 3: Many other models available, write for catalogue information.

HIGH POWER, HIGH VOLTAGE AND SUPER REGULATED POWER SUPPLIES

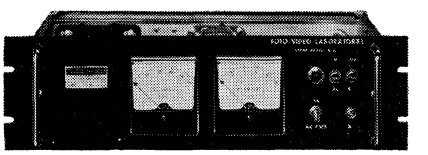
- Silicon Rectifiers
- Excellent Regulation
- Extremely Low Ripple
- Regulation Against Both Line and Load Variation
- Economical In Rack Height
- Conservative Design
- Continuous Duty
- 50 to 400 Cycle Operation
- Excellent Mechanical Design
- Out-Swinging Chassis
- All Parts Readily Accessible
- 6.3 V and 5 V. AC Outputs Provided on Most Models



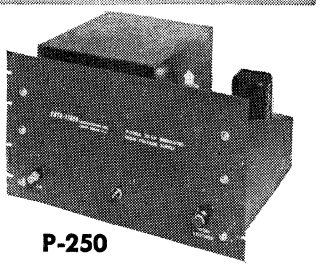
P-15-15



P-20-05



P-62



P-250

INPUT FOR ALL MODELS: 115-125V 50-400 CYCLE

Model	Current in ma	Voltage See Note #2	Regulation in %	Ripple in mv	Max. Source Imped. in Ohms	Rack Height in Inches	Price See Note #1
P-68A	100	150	0.1	1	0.5	3¼	$185.00
P-46A	200	150	0.1	1	0.5	5¼	270.00
P 8-15A	800	150	0.1	1	0.5	7	395.00
P 15-15A	1500	150	0.1	1	0.5	7	595.00
P 73A	200	300	0.1	1	0.5	5¼	225.00
P-65A	800	300	0.1	1	0.5	5¼	395.00
P 15-30	1500	300	0.1	1	0.5	7	595.00
P-250	1	15-30 kv	0.5	10	2	10½	325.00
P-20-05	10	300 to 1610	0.005	1	0.1	5¼	485.00

Note 1: All models furnished with meters for current and voltage at $30.00 additional charge.

Note 2: Voltage adjustable ±10% unless otherwise indicated.

Note 3: Many other models available, write for catalog information.

Complete line of Television Terminal and Test Equipment.
Write for Catalog

FOTO-VIDEO® LABORATORIES, INC.
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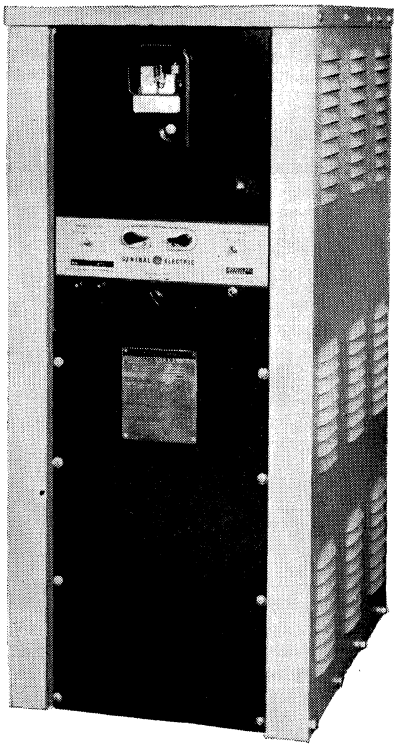
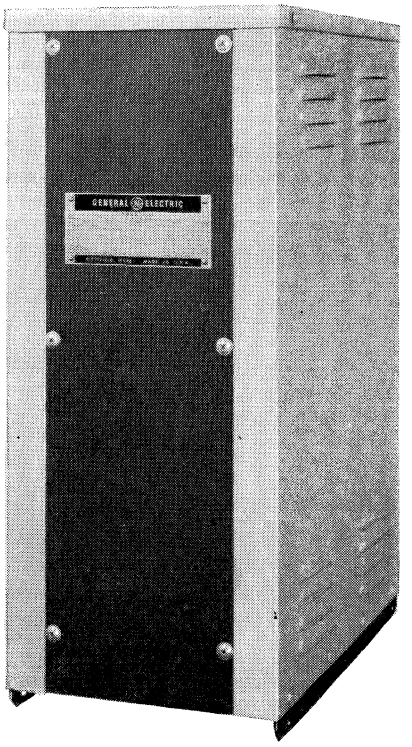
GENERAL ELECTRIC INDUCTROL* VOLTAGE REGULATORS

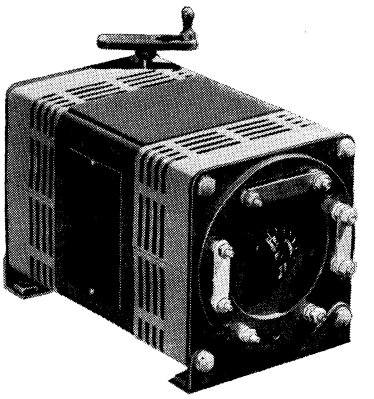
DRIFT-FREE, DISTORTION-FREE, STEPLESS VOLTAGE REGULATION



Automatic-Controlled



Motor-Driven



Hand-Operated

To meet the increasing demand for smooth and reliable voltage regulation in electronic apparatus, General Electric has designed a complete line of Inductrol* voltage regulators. Radar, TV-microwave, computer, and communications equipment can be made more reliable by providing accurate voltage control with Inductrol regulators.

The Inductrol regulator consists basically of a laminated steel stator, on which is wound the regulating (series) winding, and a laminated steel rotor on which is wound an exciting (shunt) winding. By changing the position of the rotor, the magnitude of the voltage induced in the series winding is controlled, thus adding to or subtracting from the supply voltage to produce the required output voltage.

Inductrol voltage regulators are available in many standard ratings up to 300-kva, single-phase, and 2000-kva, three-phase service. There are three types: hand-operated; motor-driven (controlled from a remote push-button station); and automatic (controlled from an Inductrol control panel which is an integral part of the Inductrol regulator, or which is mounted separately in a remote location of the customer's choosing). Ranges of regulation extend from ± 5 to ± 100 per cent (0 to 200 per cent of input voltage). Automatic Inductrol regulators are usually supplied for a-c voltage control. Inductrol regulator controls can also regulate a-c current or rectified d-c voltage or current. Automatic panels for cyclic industrial processes are also obtainable.

**Registered trade-mark of General Electric Company for induction voltage regulators.*

Features

No Brushes—High reliability because there are no brushes to wear out or to cause maintenance trouble. Simple and rugged, the induction principle of operation provides an infinite number of voltage levels.

No harmful wave-form distortion—The Inductrol regulator does not introduce harmful wave-form distortion.

Load power factor—Has no effect on the output voltage of automatic Inductrol regulators.

Drift-free controls—Voltage automatically held to within ± 1 per cent band width. Unique temperature and frequency compensated controls on Inductrol regulators make it unnecessary to continually reset voltage level.

High short-circuit strength—Electrically, the Inductrol regulator will withstand up to 25 times normal short-circuit current.

Overload characteristics—The Inductrol regulator will withstand up to 100 per cent overload for one hour while maintaining excellent long-life operating characteristics.

Basic Types of Inductrol Regulators

1. *Automatic*—Used to automatically provide a precisely regulated output voltage from a varying supply voltage.
2. *Motor-driven*—Used where an adjustable output voltage is required from a relatively constant supply voltage.
3. *Hand-operated*—Used to provide an adjustable output voltage from a relatively constant supply voltage.

Write for Bulletins GEC-1450 and GEA-6261.

Complete information on all of these Inductive Voltage Regulators is available from your nearest G-E Apparatus Sales Office, or by writing to Section 640-496, General Electric Company, Schenectady 5, N.Y.

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NOBRUSH FREQUENCY

The most advanced, most dependable units

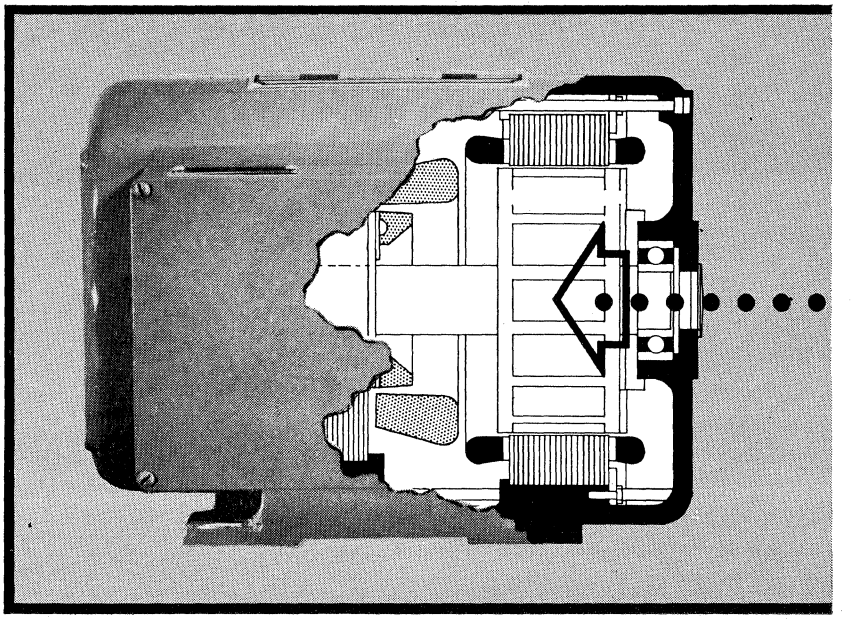
CHECK THESE REASONS WHY:

Rugged Construction: permanently aligned unit shell design; direct coupling utilized.

Maintenance Free: dependable operation; brushless, contactless, high quality induction motor. Sealed-for-life, oversize prelubricated ball-bearings.

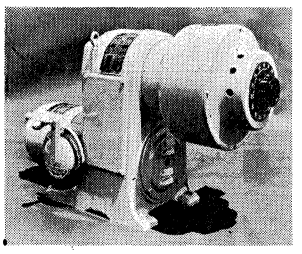
Whisper-Quiet Operation: efficient design, modern low-noise fan construction reduces audible noise to lowest levels in converter history.

Output Voltage Stabilized: rotating system yields stable voltage output with varying input. 10% change of input causes less than ½% change of output.



Applications: Source of high frequency power built into: electronic computers, portable radio transmitters, military electronic devices for lab and test work in: electronic and electrical research; servicing aircraft equipment; routine testing of high frequency equipment. Operation of high frequency motors in: magnetic drum operation; blowers, tools and grinding wheels. Voltage stabilizer where stable output with variable input is required. Low-impedance power source ideal for pulse loads.

NOBRUSH offers to engineers a complete line of compact, efficient converters or motor generators for virtually every



VARIABLE FREQ. MODEL

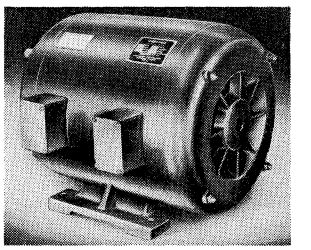
Ideal for testing equipment to determine operation at different frequencies and voltages. Smooth, stepless output voltage control allows selection of any combination of voltage and frequency within range of unit. Suitable for operation of motors to control speed by controlling frequency. Ratings from 500 VA to 12 KVA single phase: from 500 VA to 25 KVA three phase.

Cat. No.	Phase	Rating	Length	Height	Width	Weight-lbs.
6C40A28MV	1	600 VA	31½″	18½″	16″	200
1K40C28MV	3	1 KVA	26½″	18½″	17″	300

UNIT SHELL MODEL

A compact, dependable, efficient unit with 400 cycle output, 60 cycle input. Aluminum alloy unit shell construction yields light, elegantly simple design. Audible noise exceptionally low. In ratings between 150 VA and 2½ KVA. Militarized construction on special order. Other input and output frequencies possible in some ratings.

from $415



Cat. No.	Rating KVA	Phase	Speed RPM	Length	Width	Height	Weight-lbs.
25X40A14M1	.25	1	3600	11″	9½″	8″	35
5C40A14M1	.50	1	3600	11″	9½″	8″	45
1K40A28M1	1.0	1	1800	16″	14″	11½″	116
25X40C14M1	.25	3	3600	11″	9½″	8″	35
5C40C14M1	.50	3	3600	11″	9½″	8″	45
15C40C28M1	1.5	3	1800	16″	14″	11½″	116
2K40C28M1	2.0	3	1800	16″	14″	11½″	116
25C40C28M1	2.5	3	1800	17″	14″	11½″	160

NOBRUSH MAKES GENERATORS TOO!

Low or high frequency or D.C. Single, two or three phase, standard or special voltage. 100 VA to 10 KVA (or higher in some types) with typical NOBRUSH performance and dependability. With the large NOBRUSH library of designs, a large variety of special and standard requirements can be met. Your special may be our standard. Write for details.

When it comes to Generators, Generator Sets or

CALL NOW - COLLECT - EMPIRE 8-2101 - OR WRITE TODAY FOR FREE DETAILED

PHILADELPHIA CALL ENTERPRISE 6411, ST. LOUIS CALL ENTERPRISE 8380, L. A. CALL ZENITH 0565, CHICAGO

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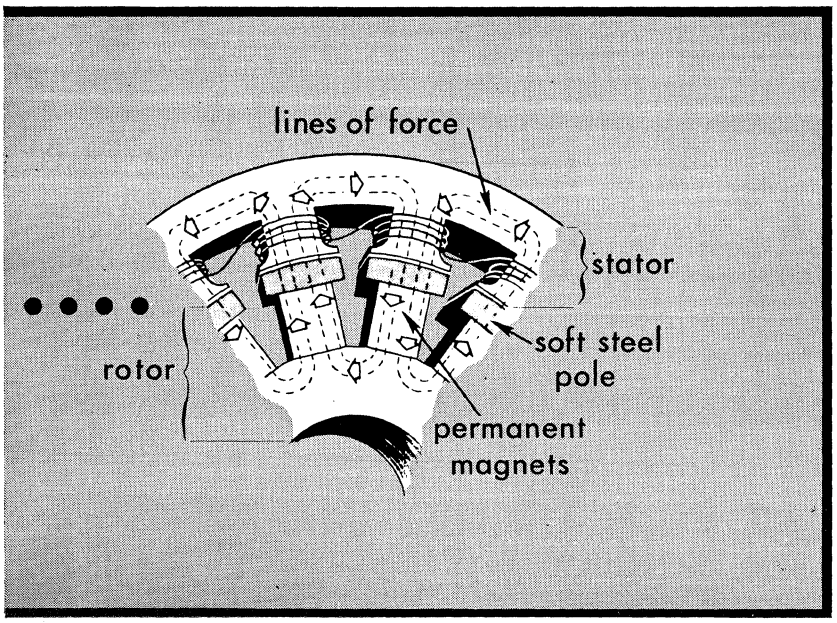
CONVERTERS & GENERATORS

for supply of high or low frequency power



PERMANENT MAGNET ROTOR GIVES:

Amazingly Stable Voltage: often within 1%.

Brushless Construction.

Efficient and Cool Operation: elimination of excitation losses.

Elimination of All R.F.: no filtering or suppression needed.

Tremendous Overload Capacity.

Unusual Compactness.

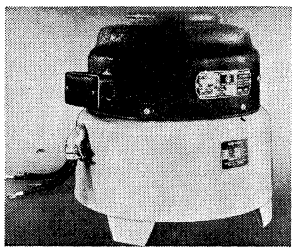
Immunity to Short-Circuit Damage.

Good Wave Form.

Absence of Exposed Contacts: yields immunity to dust, grit and moisture.

Locked-In Magnetism: never needs recharging.

converter need. Utilizing the most modern advances in magnet materials and in principles of application, units have been made amazingly compact, efficient and rugged. Maintenance attention has been reduced to that of a three phase induction motor. Long continued, dependable service with minimum risk of failure is achieved by "Nobrush" design. The many successful applications of "Nobrush" converters to the most trying industrial and military applications attest to their sound engineering and quality construction. With the large library of "Nobrush" designs, there is hardly a converter problem beyond its scope. Inquiries are invited for units not shown.



VERTICAL MODEL

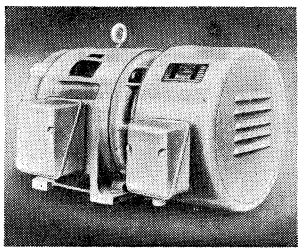
Uses "pancake" motor with vertical shaft, supported by generator in base. Takes up minimum floor room. Unit is mechanically and electrically stable. Unusually quiet. Can be used directly under test bench. Ratings from 2½ KVA to 10 KVA, 400 cycles. Ideal for test work or as component in electronic equipment. Other frequencies available. ***from $950***

Cat. No.	Rating KVA	Phase	Speed RPM	Height	Length	Width	Weight-lbs.
25C40A28M3	2½	1	1800	15½″	19½″	19″	190
35C40A28M3	3½	1	1800	15½″	19½″	19″	230
5K40A28M3	5	1	1800	17″	22″	21½″	281
5K40C28M3	5	3	1800	17″	22″	21½″	227
75C40C28M3	7½	3	1800	17″	22″	21½″	290
10K40C28M3	10	3	1800	19″	22″	24″	410

Note: Single phase input available in some ratings on special order.

SYNC. DRIVEN CONVERTER

The ultimate in frequency converter quality. Drive from 1200 R.P.M. brushless synchronous motor. Direct mounted 40-pole "Nobrush" generator delivers stable, almost pure sine-wave voltage. Immune to voltage disturbances on input line. Militarized versions available. Ratings from 2.5 KVA to 10 KVA.



Cat. No.	Rating KVA	Phase	Length	Width	Height	Weight-lbs.
25C40A40MS3	2.5	1	26″	22″	19″	470
5K40A40MS3	5	1	30″	21½″	19″	650
25C40C40MS3	2.5	3	26″	22″	19″	475
5K40C40MS3	5	3	28″	22″	19″	629
10K40C40MS3	10	3	30″	21½″	19″	675

Frequency Converters – You can rely on Georator

CATALOGUE ! *Georator Corporation* **MANASSAS, VIRGINIA**

CALL DAVIS 8-4800, BOSTON CALL CEDAR 5-1623, N. Y. C. CALL OLYMPIA 7-8630, SEATTLE CALL ZENITH 9348

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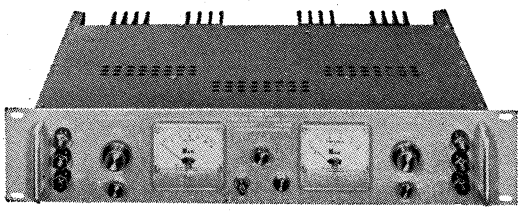
HLAB regulated transistorized power supplies



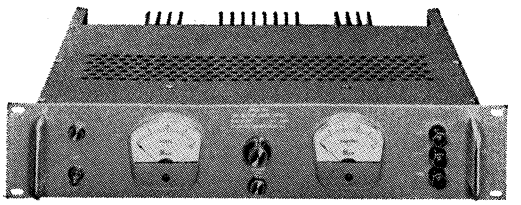
802A

TWIN SUPPLY – .01% REGULATION

2 0-30 VOLT, @ 0-1.0 AMPERE OUTPUTS

LINE REGULATION: less than 3.0 millivolts
LOAD REGULATION: less than 3.0 millivolts
RIPPLE AND NOISE: less than 250 microvolts rms.

SPECIAL FEATURES: By connecting the outputs in series, 0-60 volts @ 1.0 ampere can be obtained. Automatic short circuit protection. Fast recovery time. Output terminals front and rear. Remote sensing. Continuously variable.



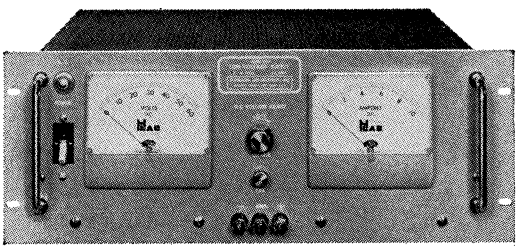
806A

PROGRAMMABLE – .01% REGULATION

0-20 VOLTS @ 0-2.0 AMPERES

LINE REGULATION: less than 2.0 millivolts
LOAD REGULATION: less than 2.0 millivolts
RIPPLE AND NOISE: less than 200 microvolts rms.

SPECIAL FEATURES: Remote programming at 100 ohms per volt. Fast recovery time. Output terminals provided on front and rear. Remote sensing. Continuously variable. Automatic overload protection.



810A

RACK MOUNTED SUPPLY

0-50 VOLTS @ 0-7.5 AMPERES

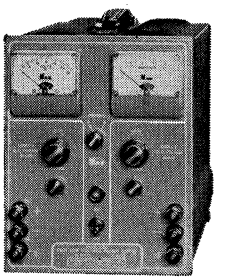
LINE REGULATION: less than 10 millivolts
LOAD REGULATION: less than 10 millivolts
RIPPLE AND NOISE: less than 1.0 millivolts

SPECIAL FEATURES: Excellent transient response. Output terminals both front and rear. Designed to work with sudden load changes. External sensing provided. Automatic overload protection.

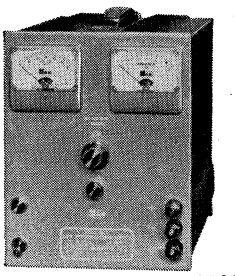
TWIN SUPPLY BENCH TYPE

2-36 VOLTS @ 0-1.0 AMPERE

LINE REG: less than 10 mv.
LOAD REG: less than 10 mv.
RIPPLE & NOISE: less than 500 μv. rms.
SPEC. FEATURES: A twin power supply —may be connected in series to provide 4 to 72 volts at 1.0 ampere. Has automatic overload protection.



800A



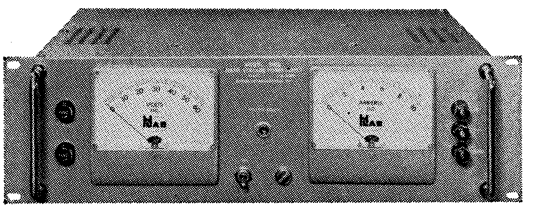
800B

LABORATORY BENCH TYPE

2-30 VOLTS @ 0-2.5 AMPERES

LINE REG: less than 10 mv.
LOAD REG: less than 10 mv.
RIPPLE & NOISE: less than 500 μv. rms.

SPEC. FEATURES: An inexpensive laboratory type power supply with automatic overload protection.



812B

FIXED VOLTAGE – ECONOMICAL

(SELECTABLE 0-32 VOLTS) @ 10 AMPERES

LINE REGULATION: less than 15.0 millivolts
LOAD REGULATION: less than 15.0 millivolts
RIPPLE AND NOISE: less than 1.0 millivolts rms.

SPECIAL FEATURES: For fixed voltage applications and not continuously variable. An economical high current supply with excellent transient response. Automatic overload protection.

HARRISON LABORATORIES, INC.

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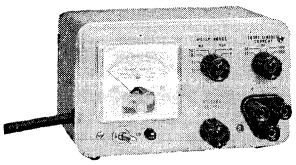
Regulated and Klystron Power Supplies

NEW! 721A Transistor Power Supply

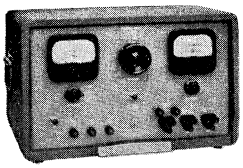


New, completely transistorized, compact, regulated supply. Output 0 to 30 v, continuously variable. 150 ma maximum output, output impedance less than 0.2 ohms. Regulation, no load to full load, 0.3% or 30 mv whichever is greater. Line voltage change of ± 10% causes output change of less than 0.3% or ± 15 mv, whichever is greater. Front panel switch limits maximum output current preventing damage to transistors, etc., from accidental overload. Reads ma, v direct. $145.00.

Instrument	Primary Use	Characteristics	Price
-*hp*- 711A Laboratory Power Supply	General purpose regulated dc supply for lab and field use	0 to 500 volts @ 100 ma	$250.00
-*hp*- 712B Power Supply	Same as 711A	0 to 500 volts @ 200 ma	365.00△
-*hp*- 715A Klystron Power Supply	Regulated beam, reflector source for low power klystrons	250 to 400 volts @ 50 ma	300.00
-*hp*- 721A Transistor Power Supply	Powering transistors, similar applications	0 to 30 v, 150 ma	145.00

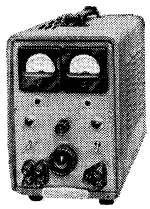
△ Rack mounted instruments $15.00 less.

712B Power Supply



This -*hp*- instrument features high regulation of 50 mv no load to full load, 0.1 millisecond transient response, internal impedance 0.1 ohms in series with 25 μH; full-load maximum hum less than 500 μv, sealed transformers, chokes and condensers. 0 to 500 v, 200 ma supply and fixed −300 v tap providing a 50 ma, 300 to 800 v variable supply for klystron operation. $365.00△.

711A Power Supply



High regulation, 0 to 500 volt supply with separate meters. Ideal for powering experimental setups, other basic applications. Regulation 0.5% to 1.0 volt, whichever is greater, no load to full load or on line voltages 110/230 v ±10%. Less than 0.1 mv ripple, overload relay protection. Includes two 6.3 v ac 3 amp supplies. $250.00 (rack mount, $255.00).

Sales and Service Representatives in the United States and Canada

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Neely Enterprises
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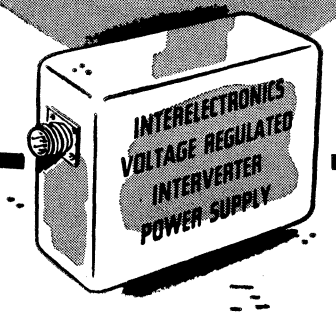
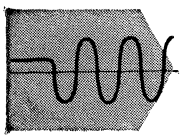
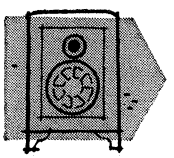
NEW!

DC to DC and DC to AC solid-state power converters voltage regulated, frequency controlled, for missiles, telemetering, gyros, servos

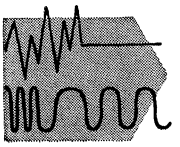




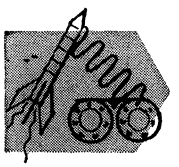
Interelectonics Interverter solid-state thyratron-like elements and magnetic components convert DC to any number of voltage regulated or controlled frequency AC or filtered DC outputs from 1 to 1800 watts. Light weight, compact, 90% or better conversion efficiency.



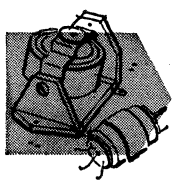
Ultra-reliable in operation, no moving parts, unharmed by shorting output or reversing input polarity. Complies with MIL specs for shock, acceleration, vibration, temperature, RF noise.



Now in use in major missiles, powering telemetering transmitters, radar beacons, electronic equipment. Single and polyphase AC output units now power airborne and marine missile gyros, synchros, servos, magnetic amplifiers.



Interelectronics — first and most experienced in the DC input solid-state power supply field, produces its own solid-state gating elements, all magnetic components, has the most complete facilities and know-how — has designed and delivered more working KVA than any other firm!



For complete engineering data write Interelectronics today, or call LUdlow 4-6200 in N. Y.

INTERELECTRONICS CORPORATION 2432 GR. CONCOURSE, N. Y. 58, N. Y.

See YELLOW SECTION for Local Offices, Telephone, etc.

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SOLID-STATE COMPONENTS:

SMALLER, LIGHTER, MORE RELIABLE.

Hydro-Aire is developing these and related products for numerous ground-based and airborne applications. Ratings shown here are available, but do not describe the complete line. Our specialty is developing new products to your special requirements; we will welcome the chance to work with you.

HYDRO-AIRE

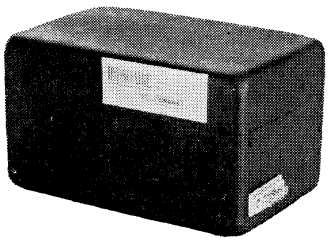
Power supply: Input 28vdc ±10%, output 150vdc ±1%, output load 100 to 200 ma. Units also available to 10kv, to 3kw, and with regulation down to ±0.1%.

DC-DC POWER SUPPLY

This solid-state device offers outstanding advantages over conventional dynamotors. Unit converts input voltages of approximately 28vdc to an output of 150vdc, which is regulated and essentially independent of line fluctuations or load variations. No moving parts; no brush wear, replacement, dust, or arcing; increased efficiency means lighter input batteries can be used.

Comparison of typical units

	Conventional Dynamotor	Hydro-Aire solid-state power supply
Volume	72 cu. in.	32 cu. in.
Weight	6 to 7 lbs	27 ounces
Efficiency	30% to 40%	80% to 90%

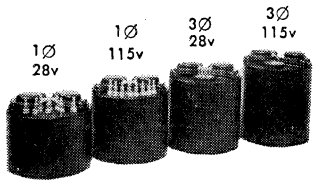


Model 50-011 3Ø voltage regulator; performance characteristics shown at right. Other models available: 1-, 2-, or 3-phase; 40 VA to 1.5 KVA; 60 to 1600 cps.

3-PHASE VOLTAGE REGULATOR

Especially valuable in missiles and similar applications where several voltages must be regulated and where weight is critical. One of these solid-state devices can replace six or eight separate regulators, each one of which contains inefficient "loss elements." Result: Weight savings up to 70%.

Typical characteristics:
Input Voltage: 102 to 125v line-to-neutral (−11% to +8%) (3-Ø, 4-wire)
Output Voltage: 115v ±1%, line-to-neutral (3-Ø, 4-wire)
Frequency range: 380 to 420 cps
Power: 400 watts
Efficiency: 95%
Life: 1000 hours
Operating temperature: −55°C to +71°C
Temperature effects on output voltage*: increases linearly to 0.8% ±0.2% at +71°C
decreases linearly to 1.2% ±0.3% at −55°C
*in accordance with missile specifications
Applicable specifications: MIL-E-5272, MIL-I-6181, MIL-E-7854, MIL-E-8189

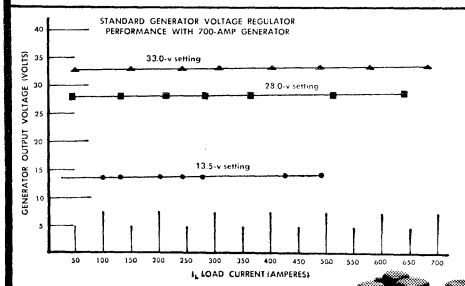


Four typical inverter ratings. Others available on request.

GYRO INVERTER

These compact, highly reliable DC-to-AC inverters are designed for use in driving synchronous rate gyros. Use of solid-state components eliminates drawbacks of d-c gyro motor, such as radio noise, brush wear, and the possibility of brush dust fouling precise gyro bearings.

Characteristics:
Input: 28vdc
Output: 115vac, single-phase, 400 cps
Load: 25-30 va starting, 20-25 va running
P.F.: 50%
Max ambient: 71°C



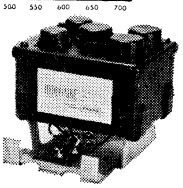
Regulation is virtually perfect at any setting.

VOLTAGE REGULATOR FOR DC GENERATORS

Completely transistorized, this unit weighs less than half as much as the conventional carbon-pile regulator it replaces.

Unlike the carbon-pile regulator, the new Hydro-Aire unit has no moving parts, requires no shock mounting, dissipates virtually no heat, requires no forced cooling, and adjusts to different voltages easily. Response time is improved by a factor of 5:1; operational life is extended to 10,000 hours.

The Model 50-029 is physically and functionally interchangeable with the Mil Standard carbon-pile unit—simply plug in to existing receptacle.



Dimensions: 3¼ x 4⅛ x 2⅞
Weight: 1¼ pounds
Temperature limits: −55°C to +71°C (units available for service to 125°C)
Voltage: may be set to any value between 26 and 30 volts, in increments of 0.1 volt
Rated life: 5000 hours
Maintenance: none required during the life of the regulator

HYDRO-AIRE

Division of Crane Co.
3000 Winona Avenue
Burbank, California

Solid-state components: voltage regulators, power supplies, inverters. Rotating components: motors, tachometers, generators

See YELLOW SECTION for Local Offices, Telephone, etc.

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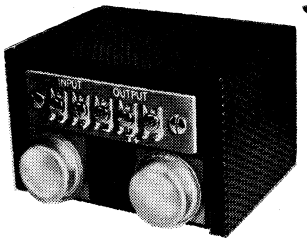


Model CA 1252-10

OVERALL DIMENSIONS
3-3/8" x 4-1/8" x 2-1/2" high
WEIGHT - Approx. 1-1/2 lb.
(Model IA-1260-10 slightly larger and heavier)

The logical answer for:
MOBILE COMMUNICATIONS SYSTEMS
PORTABLE ELECTRONIC APPARATUS

LOW COST Transistorized Power Supplies

CONVERT LOW VOLTAGE D.C. TO HIGH VOLTAGE D.C. or A.C.

ENJOY ADVANTAGES OVER MECHANICAL CONVERTERS

- High Efficiency..often exceeds 80%. Transformer has grain-oriented thin-ribbon core. Conserves battery power.
- Mechanically and Electrically Quiet. No arcing - No pitted contacts - No radio interference.
- Instant Starting..Reliable for immediate response.
- Rugged..No vacuum tubes. Remarkably shock resistant. Almost maintenance-free. Unaffected by moisture or vibration.
- Long Life..Many thousands of hours. No moving parts.
- Compact..High Power capacities for size and weight of unit. More watts per ounce.
- Steady D.C. Output. Ripple = 0.4% max.
- Excellent Voltage Regulation..
- Wide Ambient Temperature Range..Units behave well from -55° C. to +60° C. (-67° F. to 140° F.)
- Heavy aluminum chassis and perforated cover dissipate heat.
- Handy Package Form..Screw hole mounting allows direct attachment to associated chassis.

O.E.M. PRICE	MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	OUTPUT POWER
$30.00	CA-0631-05	6.3 V.D.C	300/150 V.D.C.	165/330 M.A.	50 W.
33.00	CA-1231-10	12.6 V.D C	300/150 V.D C.	330/400 M.A.	100 W.
36.00	CA-1252-10	12.6 V.D.C	500/250 V.D.C.	200/400 M.A	100 W.
53.00	CA-2452-20	24 V.D.C.	500/250 V.D C.	400 M.A.	200 W.
58.00	CA-2852-22	28 V.D C	500/250 V.D.C.	450 M.A	225 W
30.00	IA-1260-10	12.6 V.D C	117 V.A.C.	60 CYC	100 W.
26.50	IA-124C-10	12.6 V.D.C	117 V A.C.	400 CYC	100 W

We Also Design and Build Custom Power Supplies

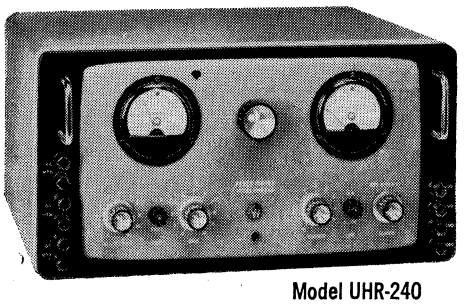
Send a print or description of your needs to Kupfrian for a quotation;

KUPFRIAN MANUFACTURING CORP.

363 STATE STREET BINGHAMTON, N. Y.

Krohn-Hite REGULATED POWER SUPPLIES

- **Load regulation to 0.001% from no load to full load**
- **Extremely low output impedance to 1 mc with no peaks**
- **Ripple less than 100 microvolts**



Model UHR-240

	MAIN DC OUTPUT						OTHER OUTPUTS		
MODEL	VOLTS	MAX. MA	DC OHMS	AC OHMS	REGULATION	RIPPLE	BIAS	HEATERS	PRICE
UHR-220	0-500	200	0.01	0.1	0.001%	100μv	0-150v, 5ma	6.3v ac, 5a 6.3v ac, 5a	$390.00
UHR-225	150-500	200	0.02	0.1	0.002%	100μv	****	(2) 6.3v ac, 5a	$275.00
UHR-216	160-600	100	0.02	0.1	0.002%	100μv	****	(2) 6.3v ac, 5a	$295.00
UHR-240	0-500	500	0.005	0.05	0.001%	100μv	0-150v, 5ma	(2) 6.3v ac, 10a 5-13v dc, 2.5a	$625.00
UHR-245	150-500	500	0.01	0.05	0.002%	100μv	****	(2) 6.3v ac, 10a	$425.00
UHR-211	130-500	1000	0.01	0.03	0.004%	200μv	****	(2) 6.3v ac, 10a	$795.00
UHR-230R	Dual Power Supply consists of two Models UHR-220 rack mounted								$790.00
UHR-235R	Dual Power Supply consists of two Models UHR-225 rack mounted								$560.00
UHR-236R	Dual Power Supply consists of two Models UHR-216 rack mounted								$600.00

For more detailed information on power supplies, wide-range RC oscillators, power amplifiers, and variable electronic filters, write:
Krohn-Hite Corporation, 580 Massachusetts Ave., Cambridge, Mass.
See YELLOW SECTION for local offices, telephones, etc.

use the PRODUCT DIRECTORY *to locate information quickly*

The *eem* Product Index and Directory pinpoints any electronic product and the manufacturers making it. The index refers you to the manufacturer's catalog pages in *eem*. If a manufacturer does not have catalog pages, the Product Index refers you to the manufacturers' Directory (Yellow Section) where you will find the manufacturer's name, address, phone number, key personnel and local Sales Offices.

eem is organized to supply information accurately, quickly.

ACCELEROMETERS ..... *p. 456*
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Bendix Aviation Corp., Pacific Div., 11600 Sherman Way, North Hollywood, Cal.
Bergen Laboratories, 247 Crooks Ave., Clifton, N. J.
Bourns Laboratories, Inc., P. O. Box 2112, Riverside, Cal.-Pg. 456
Brush Instruments, Div. of Clevite Corp., 3405 Perkins Ave., Cleveland 14, Ohio
ADHESIVES ..... *pp. 123, 789,*
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American Products Mfg. Co., 8127-33 Oleander St., New Orlean

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Tell Them You Saw It In **eem**

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Kepco VRPS *

TRANSISTORIZED

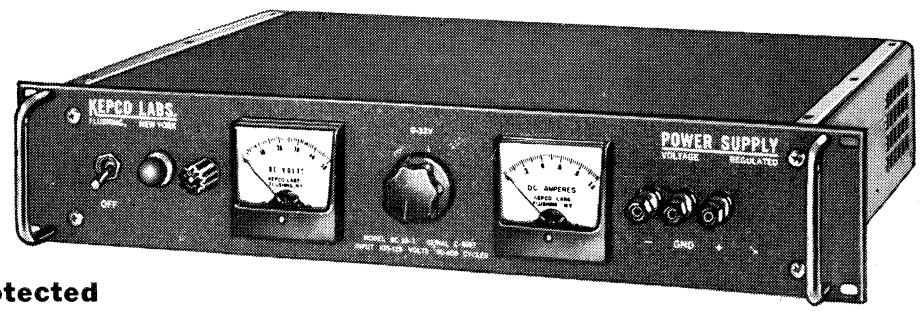
*VOLTAGE REGULATED POWER SUPPLIES

Model	DC Output Volts	DC Output Amps.	Output Impedance Ohms DC-1 KC	Output Impedance Ohms 1 KC-100 KC	Rack Mount W	Rack Mount H	Rack Mount D
SC-32-0.5	0-32	0-0.5	0.02	0.2	19"	3½"	13"
SC-32-1	0-32	0-1	0.01	0.1	19"	3½"	13"
SC-32-1.5	0-32	0-1.5	0.01	0.1	19"	3½"	13"
2SC-32-1.5	0-32	0-1.5	0.01	0.1	19"	7"	13"
DUAL OUTPUT	0-32	0-1.5	0.01	0.1			
SC-32-2.5	0-32	0-2.5	0.01	0.1	19"	3½"	13"
SC-32-5	0-32	0-5	0.005	0.05	19"	5¼"	13"
SC-32-10	0-32	0-10	0.001	0.01	19"	8¾"	14⅜
SC-32-15	0-32	0-15	0.001	0.01	19"	8¾"	14⅜
SC-60-2	0-60	0-2	0.01	0.1	19"	5¼"	13"
SC-60-5	0-60	0-5	0.005	0.05	19"	8¾"	14⅜
2SC-100-0.2	0-100	0-0.2	0.1	1.0	19"	5¼"	13"
DUAL OUTPUT	0-100	0-0.2	0.1	1.0			
SC-150-1	0-150	0-1	0.05	0.5	19"	5¼"	13"
SC-300-1	0-300	0-1	0.1	1.0	19"	8¾"	14⅜

the most complete line of POWER SUPPLIES

0.01%

REGULATION and STABILITY



Model
SC-32-0.5
SC-32-1
SC-32-1.5
SC-32-2.5

- **Tubeless**
- **Transistorized**
- **Short circuit protected**

REGULATION: 0.01% for line changes 105-125 volts at any output voltage in range 0 to maximum.

0.01% or 0.002 volt for load changes 0 to maximum (whichever is greater) at any output voltage in the range 0 to maximum.

RIPPLE: 1 mv. RMS.

RECOVERY TIME: 50 microseconds.

STABILITY: (for 8 hours) 0.01% or 0.002 volt whichever is greater).

AMBIENT OPERATING TEMPERATURE: 50°C maximum. Over-temperature protection provided. Unit turns off when over-temperature occurs. Power-on-off switch on front panel resets unit.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.01% per °C.

SHORT CIRCUIT PROTECTION: No fuses, circuit breakers or relays! Designed to operate continuously into a short circuit. Returns instantly to operating voltage when overload is removed. Ideal for lighting lamps and charging capacitive loads

OVER-CURRENT CONTROL: Can be set from 0 to 120% of full load on all 0-32 volt units. All other units are factory set to 120% of rated full load current.

REMOTE PROGRAMMING at approximately 300 ohms per volt is provided. 1000 ohms per volt available on special order. Remote programming allows mounting a voltage control at a remote point. Programmable models are – SC-32-0.5, SC-32-1.5, SC-32-1, SC-32-2.5, SC-32-5, 2SC-32-1.5, 2SC-100-0.2

REMOTE ERROR SIGNAL SENSING is provided to maintain stated regulation directly at the load.

CONSTANT CURRENT OPERATION: These units can be set up for constant current operation without internal modification. Models SC-32-0.5, SC-32-1, SC-32-1.5, SC-32-2.5, SC-32-5, 2SC-32-1.5, 2SC-100-0.2 can be set up for constant current operation.

CONTROLS: Power-on-off switch, 10 turn voltage control, on front panel. Over-current control on rear of unit

POWER REQUIREMENTS: 105-125 volts, 50-65 cycles. 400 cycle units available.

OUTPUT TERMINATIONS: DC terminals are clearly marked on the front panel. All terminals are isolated from the chassis. Either positive or negative terminal of each DC output may be grounded. A terminal is provided for connecting to the chassis. The DC terminals, the remote programming terminals and the remote error signal sensing terminals are brought out at the rear of the unit.

RESOLUTION: 0.005% with 10 turn voltage control.

METERS: Ammeter and Voltmeter included in above models.

Continuously Variable Output Voltage.
No voltage switching.
Suitable for square wave pulsed loading.
Either positive or negative can be grounded
Units can be series connected.
High efficiency ■ Low heat dissipation.
Compact, light weight ■ For bench or rack use.
Color: Gray hammertone. Special finishes available.

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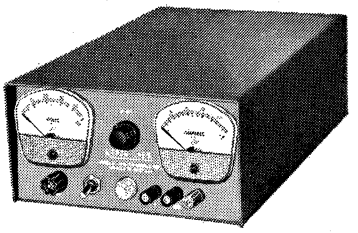
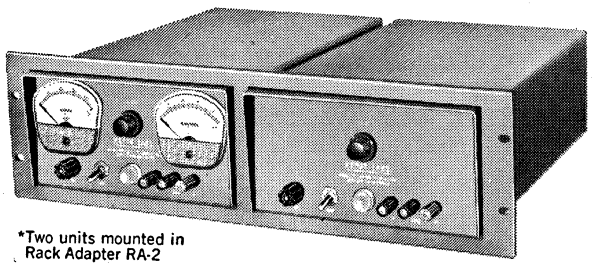
the most complete line of POWER SUPPLIES

REGULATION and STABILITY 0.1%



Model SC-18-2-M



*Two units mounted in Rack Adapter RA-2

Model SC-18-4-M

* VOLTAGE REGULATED POWER SUPPLIES

MODEL	OUTPUT VOLTS DC	OUTPUT AMPERES DC	OUTPUT IMPEDANCE DC-1KC	OUTPUT IMPEDANCE 1KC-100KC	SIZE W	SIZE H	SIZE D
SC-18-0.5	0-18	0-0.5	.04	.4	8 5/32"	4 1/4"	13 5/8"
SC-18-1	0-18	0-1	.02	.2	8 5/32"	4 1/4"	13 5/8"
SC-18-2	0-18	0-2	.01	.1	8 5/32"	4 1/4"	13 5/8"
SC-18-4	0-18	0-4	.005	.05	19"	3 1/2"	13"
SC-36-0.5	0-36	0-0.5	.08	.8	8 5/32"	4 1/4"	13 5/8"
SC-36-1	0-36	0-1	.04	.4	8 5/32"	4 1/4"	13 5/8"
SC-36-2	0-36	0-2	.02	.2	19"	3 1/2"	13"
SC-3672-0.5	36-72	0-0.5	.15	1.0	8 5/32"	4 1/4"	13 5/8"
SC-3672-1	36-72	0-1	.08	.8	19"	3 1/2"	13"

Patent Pending

(TUBELESS) TRANSISTORIZED SHORT CIRCUIT PROTECTED

- **REGULATION:** 0.1% for line changes 105-125 volts at any output voltage in the range minimum to maximum.

  0.1% or 0.003 volt for load changes 0 to maximum (whichever is greater) at any output voltage in the range minimum to maximum.
- **RIPPLE:** 1 mv. RMS.
- **RECOVERY TIME:** 50 microseconds.
- **STABILITY:** (for 8 hours) 0.1% or 0.006 volt (whichever is greater).
- **AMBIENT OPERATING TEMPERATURE:** 50°C maximum. Over-temperature protection provided. Unit turns off when over-temperature occurs. Power-on-off switch on front panel resets unit.
- **TEMPERATURE COEFFICIENT:** Output voltage changes less than 0.05% per °C.
- **SHORT CIRCUIT PROTECTION:** No fuses, circuit breakers or relays! Designed to operate continuously into a short circuit. Returns instantly to operating voltage when overload is removed. Ideal for lighting lamps and charging capacitive loads.
- **OVER-CURRENT CONTROL:** Can be set from 0 to 120% of full load on all 0-18 and 0-36 volt units. All other units are factory set to 120% of rated full load.
- **REMOTE PROGRAMMING** at 1000 ohms per volt is provided. Remote programming allows mounting a voltage control at a remote point.
- **REMOTE ERROR SIGNAL SENSING** is provided to maintain stated regulation directly at load.
- **CONSTANT CURRENT OPERATION:** These units can be set up for constant current operation without internal modification.
- **POWER REQUIREMENTS:** 105-125 volts, 50-65 cycles. 400 cycle units available.
- **OUTPUT TERMINATIONS:** DC terminals are clearly marked on the front panel. All terminals are isolated from the chassis. Either positive or negative terminal of each DC output may be grounded. A terminal is provided for connecting to the chassis. The DC terminals, the remote programming terminals and the remote error signal sensing terminals are brought out at the rear of the unit.
- **CONTROLS:** Power-on-off switch, one turn voltage control, on front panel. Over-current control on rear of unit. Ten turn voltage control available on special order.
- Continuously Variable Output Voltage. No voltage switching.
- Suitable for square wave pulsed loading.
- Either positive or negative can be grounded.
- Units can be series connected.
- High efficiency
- Low heat dissipation.
- Compact, light weight
- For bench or rack use.
- Color: Gray hammertone. (Special finishes available).

ORDERING INFORMATION:

Units without meters use model numbers indicated in table. To include meters add M to the Model No. (e.g. SC-18-1-M).

*Rack adapter for mounting any two 8 5/32" x 4 1/4" units is available. Model No. RA2 is 5 1/4" high 19" wide.

*Rack adapter for mounting any one 8 5/32" x 4 1/4" unit is available. Model No. RA3 is 5 1/4" high 19" wide.

KEPCO OFFERS MORE THAN 120 STANDARD VOLTAGE REGULATED POWER SUPPLIES COVERING A WIDE RANGE OF MAGNETIC, TUBE AND TRANSISTOR TYPES. MOST MODELS AVAILABLE FROM STOCK. SEND FOR BROCHURE B-591

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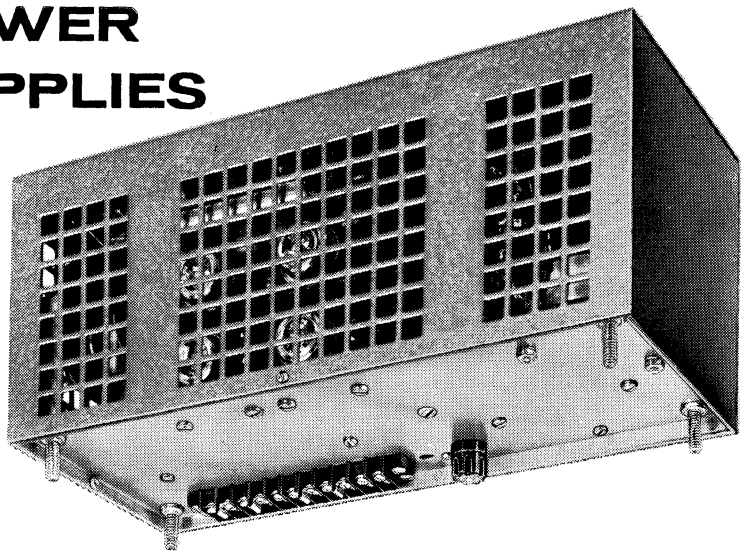
new compact VOLTAGE REGULATED TRANSISTORIZED POWER SUPPLIES



0.02%

REGULATION and STABILITY

■ **Tubeless** ■ **Short circuit protected**

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS.
PSC- 5-2	0- 7.5	2
PSC-10-2	7.5-12.5	2
PSC-15-2	12.5-17.5	2
PSC-20-2	17.5-22.5	2
PSC-28-1	22.5-32.5	1
PSC-38-1	32.5-42.5	1

REGULATION: 0.02% for line changes 105-125 volts at any output voltage in the range minimum to maximum.
0.02% or 0.002 volt for load changes minimum to maximum (whichever is greater) at any output voltage in the range minimum to maximum.

RIPPLE: 1 mv. RMS.

RECOVERY TIME: 50 microseconds.

IMPEDANCE: DC to 1KC, 0.01 ohms; 1KC to 100KC, 0.1 ohms.

STABILITY: (for 8 hours) 0.02% or 0.004 volt (whichever is greater).

AMBIENT OPERATING TEMPERATURE: 50° C maximum. Over-temperature protection provided. Unit turns off when over-temperature occurs. Interrupting input power resets unit.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.01% per °C.

SHORT CIRCUIT PROTECTION: No fuses, circuit breakers or relays! Designed to operate continuously into a short circuit. Returns instantly to operating voltage when overload is removed. Ideal for lighting lamps and charging capacitive loads.

OVER-CURRENT CONTROL: Can be set from 0 to 120% of full load. Current is limited to preset value for any load including short circuit.

REMOTE PROGRAMMING at approximately 1000 ohms per volt is provided. Remote programming allows mounting a voltage control at a remote point without removing the internal voltage control.

REMOTE ERROR SIGNAL SENSING is provided to maintain stated regulation directly at the load.

CONSTANT CURRENT OPERATION: These units can be set up for constant current operation without internal modification.

POWER REQUIREMENTS: 105-125 volts, 50-65 cycles. 400 cycle units available.

INPUT AND OUTPUT TERMINATIONS: The AC input, the DC output and ground terminals, remote programming and remote error signal terminals are brought out to a barrier terminal board at the base of the unit. Either the positive or negative terminal of the DC output may be grounded.

CONTROLS: 25 turn control available through hole in base plate. One turn over-current control is located inside the unit and is accessible by removing cover.

- ■ Continuously Variable Output Voltage. No voltage switching.
- ■ Suitable for square wave pulsed loading.
- ■ Either positive or negative can be grounded.
- ■ Units can be series connected.
- ■ High efficiency.
- ■ Low heat dissipation.
- ■ Compact, light weight.
- ■ Size: 5¼"x 5¼"x 12¼"
- ■ Color: Gray hammertone. (Special finishes available.)

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Kepco

VOLTAGE REGULATED WIDE RANGE POWER SUPPLIES

the most complete line of POWER SUPPLIES

USING ADVANCED VACUUM TUBE REGULATOR CIRCUITRY

MODEL	OUTPUT VOLTS	OUTPUT CURRENT	REGULATION* LOAD 0-MAX. % or ΔV		LINE 105-125 % or ΔV		RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC CT	RACK MOUNT W	H	D
800B	#1 0-600	0-200 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.5	10 Amp.	19"	12¼"	17"
	#2 0-600	0-200 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.5	10 Amp.			
	Parallel 1 & 2 0-600	0-400 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.2				
	Series 1 & 2 0-1200	0-200 ma.	0.01	0.1V	0.02	0.3V	5 mv.	0.5				
510B	#1 200-500	0-200 ma.	0.02	0.2V	0.04	0.2V	3 mv.	1.0	10 Amp.	19"	12¼"	17"
	#2 200-500	0-200 ma.	0.02	0.2V	0.04	0.2V	3 mv.	1.0	10 Amp.			
	Parallel 1 & 2 200-500	0-400 ma.	0.02	0.2V	0.04	0.2V	3 mv.	0.5				
	Series 1 & 2 400-1000	0-200 ma.	0.03	0.3V	0.03	0.3V	5 mv.	1.0				
430D	#1 0-450	0-300 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.3	10 Amp.	19"	12¼"	17"
	#2 0-450	0-300 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.3	10 Amp.			
	Parallel 1 & 2 0-450	0-600 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.2				
	Series 1 & 2 0-900	0-300 ma.	0.01	0.1V	0.03	0.3V	5 mv.	0.3				
2400B	#1 0-400	0-150 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.5	10 Amp.	19"	10½"	17"
	#2 0-400	0-150 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.5	10 Amp.			
	#3 0-150 Bias	0-5 ma.	*	*	0.007	*	1 mv.	*				
	Parallel 1 & 2 0-400	0-300 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.3				
	Series 1 & 2 0-800	0-150 ma.	0.01	0.1V	0.03	0.3V	5 mv.	0.5				
103✧	#1 0-300	0-75 ma.	Unregulated				30 mv.		5 Amp.	16"	8"	8"
	#2 0-300	0-75 ma.	Unregulated				30 mv.					
	#3 -50 to +50	0-5 ma.	Unregulated				10 mv.					
	Parallel 1 & 2 0-300	0-150 ma.					30 mv.					

MODEL 430D

MULTIPLE OUTPUT POWER SUPPLIES

REGULATION and STABILITY TO 0.01%

all models feature

- Fast recovery time. Suitable for square wave pulsed loading.
- Voltage Range continuously variable without switching.
- Either positive or negative may be grounded.
- Power requirements 105-125 volts, 50-65 cycles except Model 2500 which requires 60 cycles.
- Wire harness and resistor board construction.
- Terminations on front and rear of unit, Model 2500 terminations on rear only.
- Voltage controls, AC, DC switches, fuses and pilot lights on front panel.
- Color Gray Hammertone.
- Guarantee one year.

* **REGULATION:** In the output voltage range the output voltage variation is less than the figure shown in the table for line fluctuations from 105 to 125 volts and load variations from 0 to maximum current. Regulation in the % column is the % regulation at the highest ouput voltage. At any setting of output voltage the △V for full line or load changes never exceeds the absolute value shown in the △V column.

RIPPLE: Less than the value shown in the table.

STABILITY: The output voltage variation is less than the regulation specification for a period of 8 hours.

RECOVERY TIME: Less than 50 microseconds. The excursion in the output voltage during the recovery period is less than the regulation specification for line fluctuations from 105 to 125 volts and load variations from 0 to maximum current. For Model 2000B the excursion in output voltage during the recovery time is less than 50 mv.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.01% per °C.

AMBIENT OPERATING TEMPERATURE: 50°C maximum.

OUTPUT IMPEDANCE: Less than the figure shown in tables.

***REGULATION FOR BIAS VOLTAGE:** In the range 0 to 150 volts the output voltage variation is less than 0.007% for line fluctuation from 105 to 125 volts. At 150 volts the output voltage variation is less than ½% for load variation from 0 to 5 ma. At settings below 150 volts the internal resistance of the supply will increase to a maximum of 25,000 ohms.

† All AC Voltages are unregulated.

✧These units are supplied in cabinets. The chassis, when removed from their cabinets, will mount directly into a standard 19" wide relay rack. All units are designed for relay rack mounting or bench use.

All units contain voltage and current meters except Models 103, 315B and 2500.

ALL MODELS AVAILABLE (on special order) For programmable remote voltage control. For 400 cycle operation.

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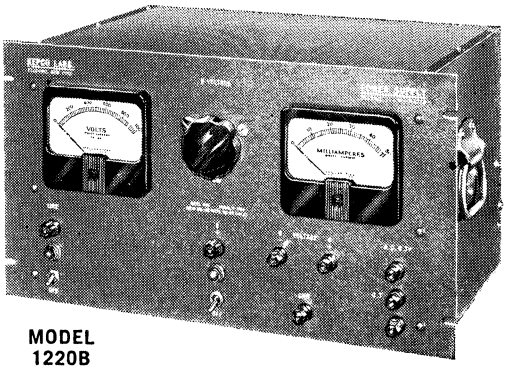
REGULATION and STABILITY TO 0.004%
HIGH VOLTAGE POWER SUPPLIES

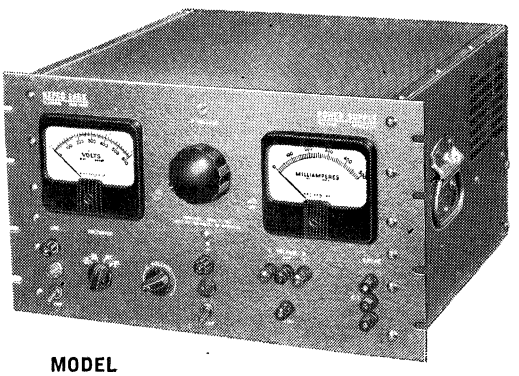
MODEL	OUTPUT VOLTS	OUTPUT CURRENT	REGULATION* LOAD 0-MAX. % or ΔV		LINE 105-125 % or ΔV		RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC CT	RACK MOUNT W	H	D
2500	0-2500	0-50 ma.	0.004	0.1V	0.008	0.2V	5 mv.	0.5		19"	12¼"	17"
1520B✧	0-1500	0-200 ma.	0.006	0.1V	0.01	0.2V	3 mv.	0.5		19"	21"	13"
1220B	0-1200	0-20 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.5	10 Amp.	19"	10½"	13"
1250B✧	0-1000	0-500 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.2		19"	26¼"	13"
1020B	0-1000	0-50 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.5	10 Amp.	19"	10½"	13"



MODEL 1220B

REGULATION and STABILITY TO 0.01%
0-600 VOLT POWER SUPPLIES

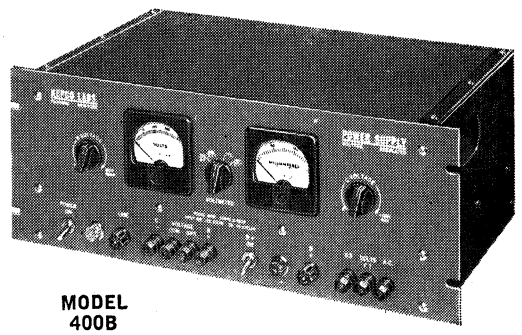
MODEL	OUTPUT VOLTS	OUTPUT CURRENT	REGULATION* LOAD 0-MAX. % or ΔV		LINE 105-125 % or ΔV		RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC CT	RACK MOUNT W	H	D
780B✧	0-600	0-3 Amp.	0.01	0.1V	0.02	0.2V	3 mv.	0.03		19"	45½"	17"
770B✧	0-600	0-2.25 Amp.	0.01	0.1V	0.02	0.2V	3 mv.	0.04		19"	45½"	17"
760B✧	0-600	0-1.5 Amp.	0.01	0.1V	0.02	0.2V	3 mv.	0.06		19"	31½"	17"
750B✧	0-600	0-750 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.1		19"	26¼"	13"
605	0-600 0-150 Bias	0-500 ma. 0-5 ma.	0.01 *	0.1V *	0.02 0.007	0.2V *	3 mv. 1 mv.	0.2 *	20 Amp.	19"	10½"	17"
615B	0-600 0-150 Bias	0-300 ma. 0-5 ma.	0.01 *	0.1V *	0.02 0.007	0.2V *	3 mv. 1 mv.	0.3 *	10 Amp.	19"	10½"	13"
500RB	0-600	0-300 ma.	0.01	0.1V	0.02	0.2V	3 mv.	0.3	10 Amp.	19"	10½"	13"
815B	0-600 0-150 Bias	0-200 ma. 0-5 ma.	0.01 *	0.1V *	0.02 0.007	0.2V *	3 mv. 1 mv.	0.5 *	10 Amp.	19"	10½"	13"
245B	200-500	0-200 ma.	0.02	0.2V	0.04	0.2V	3 mv.	0.5	10 Amp.	19"	7"	7½"



MODEL 605

REGULATION and STABILITY TO 0.02%
0-400 VOLT POWER SUPPLIES

MODEL	OUTPUT VOLTS	OUTPUT CURRENT	REGULATION* LOAD 0-MAX. % or ΔV		LINE 105-125 % or ΔV		RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC CT	RACK MOUNT W	H	D
400B	0-400 0-150 Bias	0-150 ma. 0-5 ma.	0.02 *	0.1V *	0.04 0.007	0.2V *	3 mv. 1 mv.	0.5 *	10 Amp.	19"	7"	11"
315B	0-400 0-150 Bias	0-150 ma. 0-5 ma.	0.02 *	0.1V *	0.04 0.007	0.2V *	3 mv. 1 mv.	0.5 *	10 Amp.	19"	7"	11"
141B	0-400	0-150 ma.	0.02	0.1V	0.04	0.2V	3 mv.	0.5	10 Amp.	19"	7"	11"
2000B	0-400	0-150 ma.	0.002	10mv.	0.002	10mv.	1 mv.	0.05		19"	10½"	13"
730B✧	0-350	0-3 Amp.	0.03	0.1V	0.06	0.2V	3 mv.	0.03		19"	26¼"	17"
720B✧	0-350	0-2.25 Amp.	0.03	0.1V	0.06	0.2V	3 mv.	0.04		19"	26¼"	17"
710B	0-350	0-1.5 Amp.	0.03	0.1V	0.06	0.2V	3 mv.	0.06		19"	12¼"	17"
700B	0-350	0-750 ma.	0.03	0.1V	0.06	0.2V	3 mv.	0.1		19"	10½"	13"



MODEL 400B

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MAGNETIC TUBELESS REGULATED POWER SUPPLIES

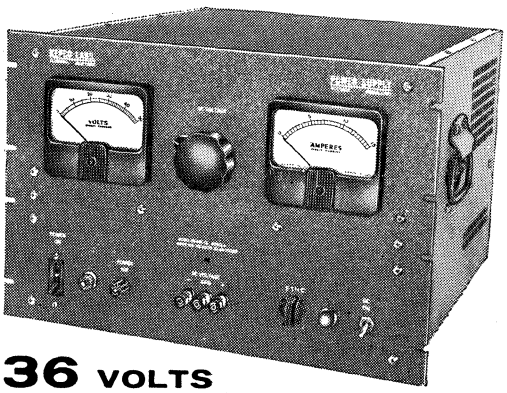
0.5%

REGULATION and STABILITY

MODEL	OUTPUT VOLTS	OUTPUT CURRENT	REGULATION LOAD 0-MAX. % or ΔV		REGULATION LINE 105-125 % or ΔV		RIPPLE RMS	RACK MOUNT W	H	D
KM236-15A	0.1-36	0-15 Amp.	0.5	0.025	0.5	0.025	0.5% or 25 mv.	19″	12¼″	17″
KM236-30✧	0.1-36	0-30 Amp.	0.5	0.025	0.5	0.025	0.5% or 25 mv.	19″	26¼″	17″
KM236-50✧	0.1-36	0-50 Amp.	0.5	0.025	0.5	0.025	0.5% or 25 mv.	19″	36¾″	17″

FEATURING:

- **Output voltage within 0.5% during recovery time for line transients 105-125 volts.**
- **Short circuit will not damage supply.**
- **Full current may be drawn at any voltage from 0.1-36 volts.**



MODEL KM236-15A

REGULATION: In the range 0.1-36 volts the output voltage variation is less than 0.5% or 25 millivolts for line fluctuation from 105-125 volts, and less than 0.5% or 25 millivolts for load variations from minimum to maximum current, whichever is greater.

RIPPLE VOLTAGE: Less than 0.5% or 25 millivolts RMS, (whichever is greater).

STABILITY: (for 8 hours) less than 0.5% or 25 millivolts (whichever is greaer).

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.05% per °C.

AMBIENT OPERATING TEMPERATURE: 50°C maximum.

REMOTE ERROR SIGNAL SENSING is provided to maintain stated regulation directly at the load.

FUSE PROTECTION: Input fuse on front panel.

OVERLOAD PROTECTION: An automatic current limiting device allows direct shorting of the output terminals without damage to the supply.

POWER REQUIREMENTS: KM236-15A and 30 — 105-125 volts, 57-63 cycles. KM236-50 — 208V ± 10% or 230V ± 10%, 57-63 cycles, single phase.

METERS: Ammeter and Voltmeter 4½″ rectangular.

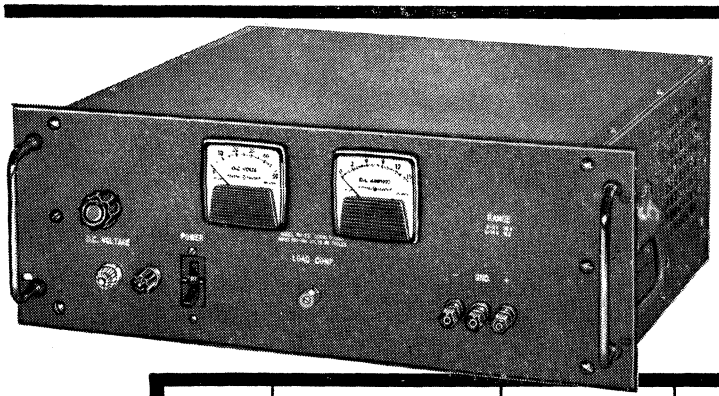
0.1-36 VOLTS IN 15, 30 AND 50 AMP. UNITS

OUTPUT TERMINATIONS: DC terminals are clearly marked on the front panel, except on Model KM-236-50 where they appear on the rear only. Either positive or negative terminal of the supply may be grounded. DC terminals are isolated from the chassis. A binding post is available for connecting to the chassis. All terminals are also brought out at the rear of the chassis. Two terminals are mounted at the rear of the chassis to provide for picking up the error signal directly at the load. This connection compensates for the voltage drop in the wires connecting the power supply to the load.

CONTROLS: Power on-off switch, DC on-off switch, coarse and fine voltage controls.

OPERATIONAL CHARACTERISTICS: This regulated unit consists of a ferro-resonant line regulator followed by a magnetic amplifier regulator. The ferro-resonant line regulator furnishes well regulated transient free AC power. The high gain magnetic amplifier is used to regulate the DC output voltage to compensate for voltage changes in the power unit for varying currents. The response time for pulse loads is less than 0.2 second.

✧These units are supplied in cabinets.



± 1%

REGULATION and STABILITY

to operate
tubes
transistors
relays
solenoids
filaments
in electrical
and
electronic
systems

Model	D.C. Output Volts Low Range	D.C. Output Volts High Range	D.C. Output Amps. High Range	D.C. Output Amps. Low Range	Ripple (rms) % of Max. Voltage	Rack Mount W	H	D
KM-251	2-8	8-14	15.0	30.0	0.50	19″	7″	13″
KM-252	5-20	20-35	7.0	12.0	0.10	19″	7″	13″
KM-253	20-40	40-60	4.0	6.0	0.05	19″	7″	13″
KM-254	30-60	60-90	2.8	4.0	0.04	19″	7″	13″
KM-255	60-120	120-180	1.4	2.0	0.03	19″	7″	13″
KM-256	150-200	200-250	1.0	1.5	0.02	19″	7″	13″
KM-257	250-325	325-400	0.6	0.75	0.02	19″	7″	13″

REGULATION: Less than ±1% for line changes from 100 to 130 volts. Control on front panel can be set to optimize load regulation at any given output voltage to within ±1%.

RIPPLE: 0.1% RMS of maximum output voltage at full load. Except Model 251 which is 0.5%.

STABILITY: For eight hours less than ± 1%.

AMBIENT OPERATING TEMPERATURE: 50° C maximum.

POWER REQUIREMENTS: 100-130 volts, 60 cycles.

OUTPUT TERMINATIONS: DC terminals are clearly marked on the front panel. Either positive or negative terminals of the supply may be grounded. DC terminals are isolated from the chassis. A binding post is available for connecting to the chassis. All terminals are also brought out at the rear of the chassis. Two terminals are mounted at the rear of the chassis to provide for picking up the error signal directly at the load. This connection compensates for the voltagle drop in the wires connecting the power supply to the load.

CONTROLS: Power on-off switch, DC voltage control and load regulation control are mounted on front panel.

METERS: Voltmeter and ammeter included — 2½″ wide view.

OPERATIONAL CHARACTERISTICS: This regulated unit consists of a ferro-resonant line regulator followed by a magnetic amplifier regulator. The ferro-resonant line regulator furnishes well regulated transient free AC power. The high gain magnetic amplifier is used to regulate the DC output voltage to compensate for voltage changes in the power unit for varying currents. The response time for pulse loads is less than 0.3 second.

- Maximum reliability. ■ No warm up time.
- Minimum maintenance. ■ Negligible drift.
- Resolution good. ■ High efficiency
- Short circuit and overload protection.
- Excellent line transient response.

Kepco

131-38 SANFORD AVENUE
FLUSHING 55, N. Y.
INDEPENDENCE 1-7000

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Kepco

KR SERIES

USING ADVANCED VACUUM TUBE REGULATOR CIRCUITRY

0.1% REGULATION and STABILITY

★ ***FAST*** **RECOVERY TIME**
★ ***GOOD*** **STABILITY**
★ ***LOW*** **OUTPUT IMPEDANCE**

KR Power Supplies are conservatively rated and are designed for continuous duty at 50°C ambient.

REGULATION: In the output voltage range the output voltage variation is less than the figure shown in the table for line fluctuations from 105 to 125 volts and load variations from 0 to maximum current. Regulation in the % column is the % regulation at the highest output voltage. At any setting of output voltage the △V for the full line or load changes never exceeds the absolute value shown in the △V column.

RIPPLE: Less than 3 mv. RMS.

STABILITY: The output voltage variation is less than the regulation specification for a period of 8 hours.

RECOVERY TIME: Less than 50 microseconds. The excursion in the output voltage during the recovery period is less than the regulation specification.

AMBIENT OPERATING TEMPERATURE: 50°C maximum.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.01% per °C.

OUTPUT IMPEDANCE: Less than the figure in tables.

- All AC Voltages are unregulated.
- Fast recovery time, suitable for square wave pulsed loading.
- Voltage range continuously variable without switching.
- Either positive or negative may be grounded.
- Wire harness and resistor board construction.
- Power Requirements 105-125 volts, 50-65 cycles. 400 cycle units available.
- Locking type voltage control. AC, DC switches, fuses, pilot lights.
- Terminations on rear of unit.
- Oil filled condensers.
- Color Gray Hammertone.

ALL MODELS AVAILABLE (on special order)

For programmable remote voltage control.

For 400 cycle operation.

GUARANTEE ONE YEAR

ORDERING INFORMATION

Units for rack mounting without meters—use Model Nos. indicated in tables • To include 3" meters — add M to Model No. (e.g. KR1-M) • To include cover and handles add C to Model No. (e.g. KR1-C) • To include Meters, cover and handles, add MC to Model No. (e.g. KR-1-MC)

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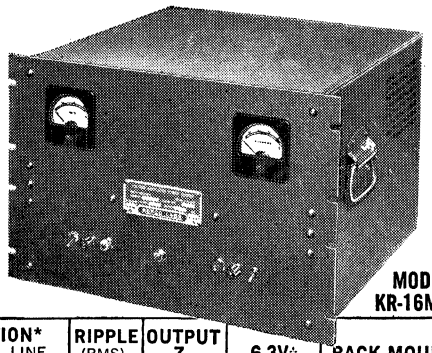
INDEPENDENCE 1-7000

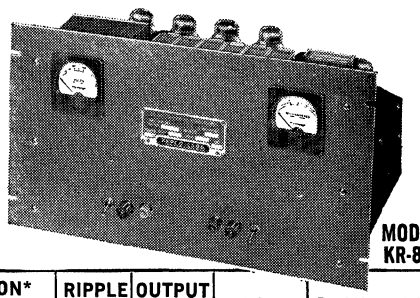
1.5 AMP. KR SERIES



MODEL KR-16MC

MODEL	OUTPUT VOLTS	REGULATION* LOAD 0-MAX. %	LOAD 0-MAX. ΔV	LINE 105-125 %	LINE 105-125 ΔV	RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC	RACK MOUNT W	H	D
KR16	0-150	0.1	0.2V	0.1	0.2V	3 mv.	0.1	Each Supply	19"	12¼"	17"
KR17	100-200	0.1	0.2V	0.1	0.2V	3 mv.	0.1	has two	19"	12¼"	17"
KR18	195-325	0.06	0.2V	0.06	0.2V	3 mv.	0.1	15 Amp.	19"	12¼"	17"
KR19	295-450	0.04	0.2V	0.04	0.2V	3 mv.	0.1	Outputs	19"	12¼"	17"

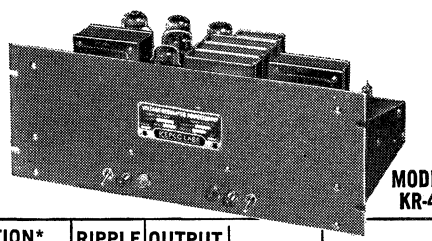
600 Ma. KR SERIES



MODEL KR-8M

MODEL	OUTPUT VOLTS	REGULATION* LOAD 0-MAX. %	LOAD 0-MAX. ΔV	LINE 105-125 %	LINE 105-125 ΔV	RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC	RACK MOUNT W	H	D
KR8	0-150	0.1	0.2V	0.1	0.2V	3 mv.	0.3	Each Supply	19"	10½"	13"
KR5	100-200	0.1	0.2V	0.1	0.2V	3 mv.	0.3	has two	19"	10½"	13"
KR6	195-325	0.06	0.2V	0.06	0.2V	3 mv.	0.3	15 Amp.	19"	10½"	13"
KR7	295-450	0.04	0.2V	0.04	0.2V	3 mv.	0.3	Outputs	19"	10½"	13"

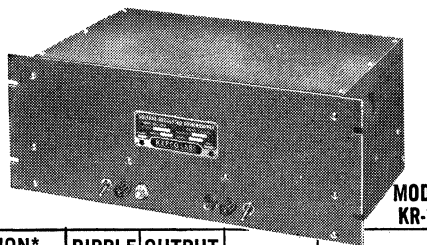
300 Ma. KR SERIES



MODEL KR-4

MODEL	OUTPUT VOLTS	REGULATION* LOAD 0-MAX. %	LOAD 0-MAX. ΔV	LINE 105-125 %	LINE 105-125 ΔV	RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC	RACK MOUNT W	H	D
KR12	0-150	0.1	0.2V	0.1	0.2V	3 mv.	0.5	Each Supply	19"	7"	11"
KR3	100-200	0.1	0.2V	0.1	0.2V	3 mv.	0.5	has two	19"	7"	11"
KR4	195-325	0.06	0.2V	0.06	0.2V	3 mv.	0.5	5 Amp.	19"	7"	11"
KR10	295-450	0.04	0.2V	0.04	0.2V	3 mv.	0.5	Outputs	19"	7"	11"

125 Ma. KR SERIES



MODEL KR-1C

MODEL	OUTPUT VOLTS	REGULATION* LOAD 0-MAX. %	LOAD 0-MAX. ΔV	LINE 105-125 %	LINE 105-125 ΔV	RIPPLE (RMS)	OUTPUT Z OHMS DC-100KC	6.3V† AC	RACK MOUNT W	H	D
KR11	0-150	0.1	0.2V	0.1	0.2V	3 mv.	0.9	Each Supply	19"	7"	11"
KR1	100-200	0.1	0.2V	0.1	0.2V	3 mv.	0.9	has one	19"	7"	7½"
KR2	195-325	0.06	0.2V	0.06	0.2V	3 mv.	0.9	3 Amp.	19"	7"	7½"
KR9	295-450	0.04	0.2V	0.04	0.2V	3 mv.	0.9	Output	19"	7"	7½"

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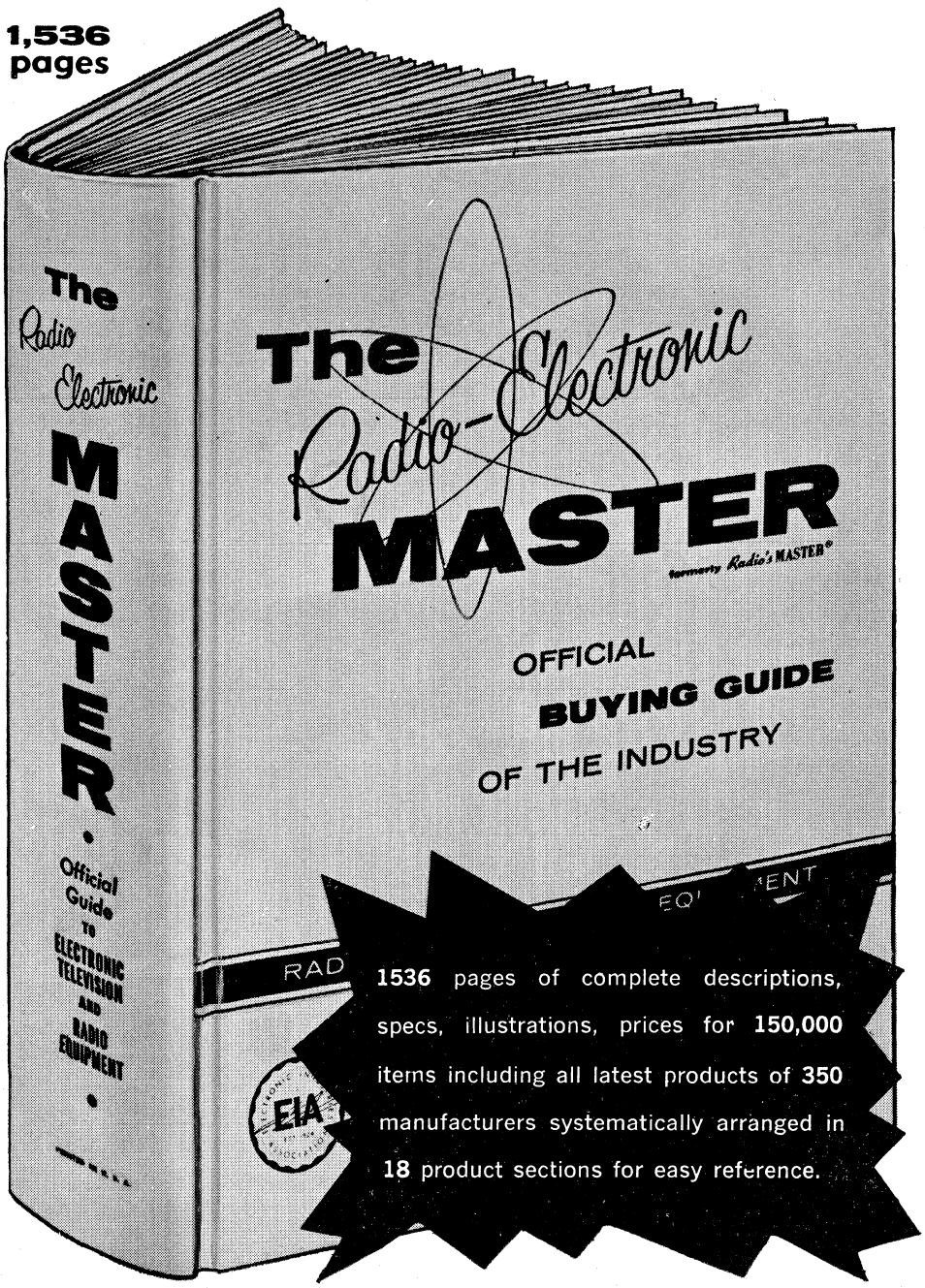

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LAMBDA'S ALL-TRANSISTOR LINE
FOUR NEW POWER SUPPLIES

Delivered now • Guaranteed for five years

1-AMP AND 2-AMP—CONVECTION COOLED

No internal blowers
No moving parts

0-32 VDC

0-1 AMP 0-2 AMP

CONDENSED DATA

Voltage Bands . . 0-8, 8-16, 16-24, 24-32 VDC

Line Regulation . . . Better than 0.15 per cent or 20 millivolts (whichever is greater). For input variations from 105-125 VAC.

Load Regulation . . Better than 0.15 per cent or 20 millivolts (whichever is greater). For load variations from 0 to full load.

AC Input . . . . . 105-125 VAC, 50-400 CPS

Electrical Overload Protection . . . Magnetic circuit breaker, front panel mounted. Unit cannot be injured by short circuit or overload.

Thermal Overload Protection . . . Thermostat, manual reset, rear of chassis. Thermal overload indicator light, front panel.

Size . . . . . 3½" H x 19" W x 14⅜" D.

- **Ambient 50° C at full rating.**
- **High efficiency radiator heat sinks.**
- Silicon rectifier.
- 50-400 cycles input.
- Special, high-purity foil, long-life electrolytics.

- **Compact. Only 3½" panel height.**
- **Short-circuit proof.**
- Protected by magnetic circuit breakers.
- Hermetically-sealed transformer. Designed to MIL-T27A.

- **All transistor. No tubes.**
- **Fast transient response.**
- Excess ambient thermal protection.
- Excellent regulation. Low output impedance. Low ripple.
- Remote sensing and DC vernier.

Model LT 1095	**$285**
Model LT 1095M (metered)	**$315**
Model LT 2095	**$365**
Model LT 2095M (metered)	**$395**

LAMBDA ELECTRONICS CORP.
11-11 131 STREET • COLLEGE POINT 56, NEW YORK

GUARANTEED BY LAMBDA FOR FIVE FULL YEARS **INDEPENDENCE 1-8500 CABLE ADDRESS: LAMBDATRON, NEW YORK**

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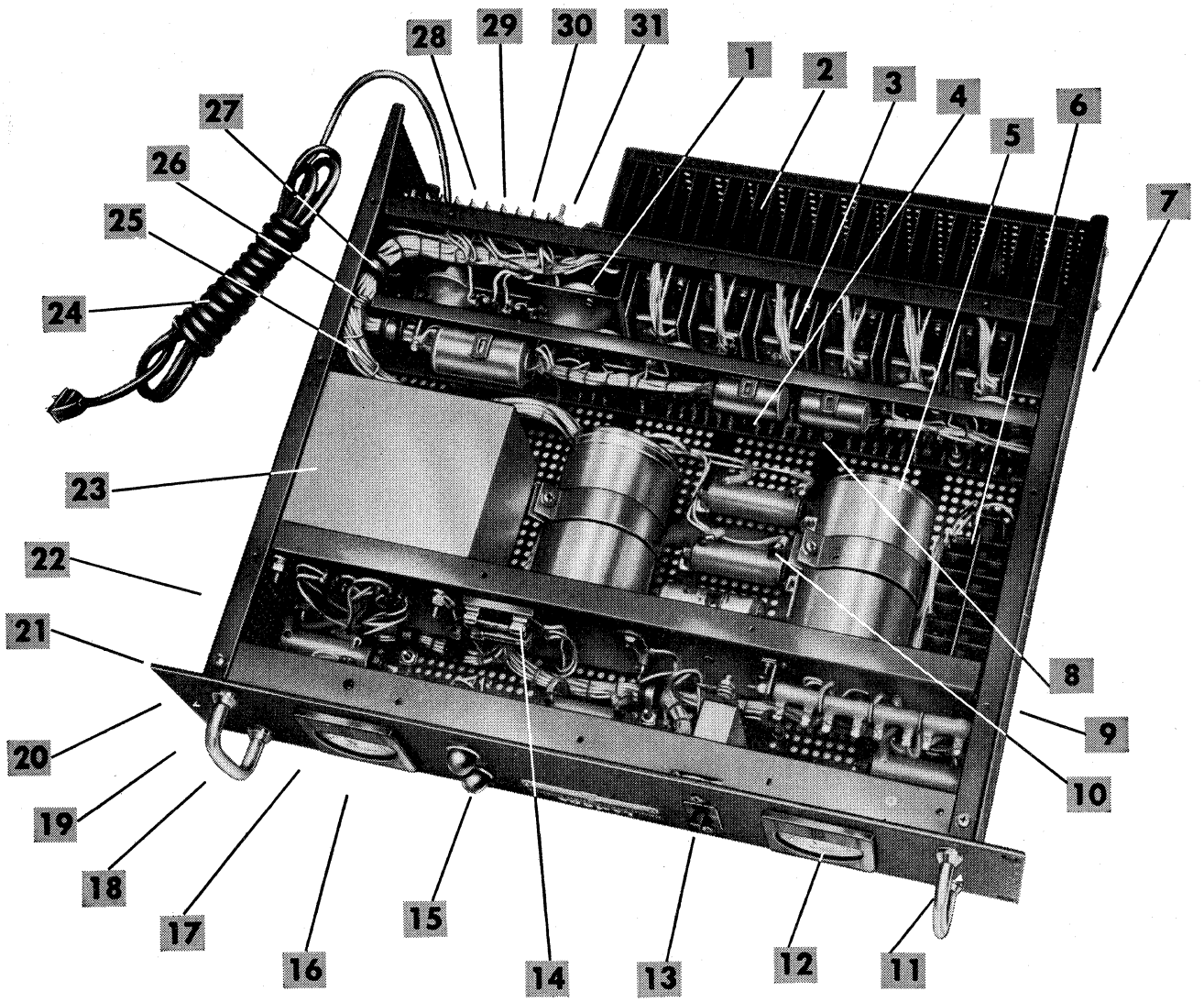
LAMBDA L-T TRANSISTORIZED POWER SUPPLIES



DESIGN AND PERFORMANCE FEATURES

1. Thermal overload breaker for excess ambient temperature protection
2. High efficiency, convection heat sinks
3. Industrial type power transistors inherently protected against overload
4. Highly stable Zener voltage reference diode
5. Special, high-purity foil, hermetically sealed, long-life electrolytic capacitors
6. Silicon rectifier
7. Excellent regulation, low output, impedance, low ripple
8. Stable, low-noise wire-wound reference networks and multipliers
9. Unit welded chassis and frame
10. Every connection and solder joint individually inspected and checked
11. Sturdy gripping handles
12. Meters on "M" models
13. Magnetic circuit breaker
14. Fuses, internal failure protection
15. Thermal overload indicator light
16. Fast transient response
17. Every specification lab-checked before shipment
18. Rated for full load over entire voltage range
19. Advanced packaging for optimum thermal and mechanical design
20. Rated for 24-hour continuous duty
21. Compact—only 3½" panel height
22. Rated for operation from 50-400 cycle source
23. Hermetically-sealed transformer—designed to Mil-T 27A
24. Heavy-duty extra-length industrial cord
25. Harness wiring
26. Nylon jacketed vinyl wire
27. Sturdy cable clamp anchors
28. Remote DC vernier adjustment terminals
29. Remote sensing terminals
30. All controls clearly identified and marked
31. Heavy-duty barrier-type terminal block located for convenient rack cabling

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FOR ALL POWER SUPPLY NEEDS THROUGH 1.5 AMPERES

NEED ONLY 8¾" OF PANEL HEIGHT!

NEED ONLY 7" OF PANEL HEIGHT!

NEED ONLY 5¼" OF PANEL HEIGHT!

NEED ONLY 5¼" OF PANEL HEIGHT!

Three voltage ranges: 0-200, 125-325, 325-525 VDC

(metered)
MODEL C-1580M: 0-200 VDC, 0-1500 MA. **580.00**
MODEL C-1581M: 125-325 VDC, 0-1500 MA. **605.00**
MODEL C-1582M: 325-525 VDC, 0-1500 MA. **680.00**
(unmetered)
MODEL C-1580: 0-200 VDC, 0-1500 MA. **550.00**
MODEL C-1581: 125-325 VDC, 0-1500 MA. **575.00**
MODEL C-1582: 325-525 VDC, 0-1500 MA. **650.00**

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MODEL C-880M: 0-200 VDC, 0-800 MA. **370.00**
MODEL C-881M: 125-325 VDC, 0-800 MA. **345.00**
MODEL C-882M: 325-525 VDC, 0-800 MA. **390.00**
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MODEL C-880: 0-200 VDC, 0-800 MA.. **340.00**
MODEL C-881: 125-325 VDC, 0-800 MA.. **315.00**
MODEL C-882: 325-525 VDC, 0-800 MA.. **360.00**

(metered)
MODEL C-480M: 0-200 VDC, 0-400 MA. **289.50**
MODEL C-481M: 125-325 VDC, 0-400 MA. **274.50**
MODEL C-482M: 325-525 VDC, 0-400 MA. **289.50**
(unmetered)
MODEL C-480: 0-200 VDC, 0-400 MA.. **259.50**
MODEL C-481: 125-325 VDC, 0-400 MA.. **244.50**
MODEL C-482: 325-525 VDC, 0-400 MA.. **259.50**

(metered)
MODEL C-280M: 0-200 VDC, 0-200 MA. **214.50**
MODEL C-281M: 125-325 VDC, 0-200 MA. **189.50**
MODEL C-282M: 325-525 VDC, 0-200 MA. **199.50**
(unmetered)
MODEL C-280: 0-200 VDC, 0-200 MA.. **184.50**
MODEL C-281: 125-325 VDC, 0-200 MA.. **159.50**
MODEL C-282: 325-525 VDC, 0-200 MA.. **169.50**

LAMBDA COM-PAK® POWER SUPPLIES

Less space! Improved performance!
Long, trouble-free service!
Transient free output!

Fill the need for compact, regulated DC power supplies. Economy of panel space, functional simplicity, new quick-service features.

Wiring, tubes and other components readily accessible. You can reach them easily, service them fast

400 MA, 800 MA, and 1.5 ampere models include new, high-efficiency, long-life, hermetically-sealed semi-conductor rectifiers. All Com-Pak models are constructed with hermetically-sealed magnetic components and capacitors for long trouble-free service.

Condensed Data

LINE REGULATION ..... Better than 0.15% or 0.3 Volt, whichever is greater.

LOAD REGULATION ..... Better than 0.25% or 0.5 Volt, whichever is greater.

INTERNAL IMPEDANCE

C- 200 Series ..... Less than 6 ohms.
C- 400 Series ..... Less than 3 ohms.
C- 800 Series ..... Less than 1.5 ohms.
C-1500 Series ..... Less than 0.75 ohms.

RIPPLE AND NOISE..... Less than 3 millivolts rms.

POLARITY ..... Either positive or negative may be grounded.

AMBIENT TEMPERATURE..... Continuous duty at full load up to 50°C (122°F) ambient.

AC OUTPUT
(unregulated) ..... 6.5 VAC (at 115 VAC Input).

C- 200 Series ..... 10 AMP
C- 400 Series ..... 15 AMP
C- 800 Series ..... 20 AMP
C-1500 Series ..... 30 AMP

AC INPUT ..... 105-125 VAC, 50-400 CPS

OVERLOAD PROTECTION AC and DC fuses; built-in blown-fuse indicators.

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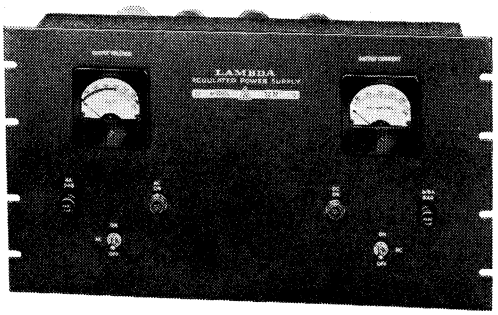
OTHER LAMBDA POWER SUPPLIES—RACK MODELS.....

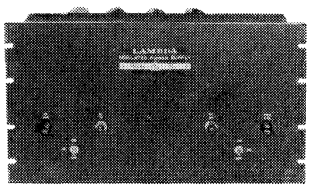
300 MA SERIES

Wide range regulated power supplies in popular 300 MA range for rack mounting



Model 32M: 200-325 VDC, 0-300 MA, with meters, $169.50
Model 33M: 100-200 VDC, 0-300 MA, with meters, 184.50

Widely used power supplies for intermediate power requirements. Models 32 and 33 in this heavy-duty series are designed for standard 19" rack mounting. Models 32M and 33M are identical to 32 and 33, with the addition of 3½" rectangular voltmeters and milliameters.

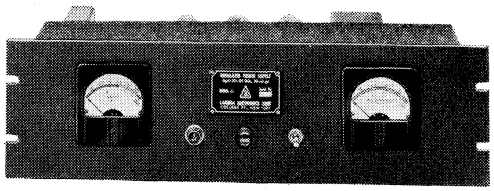


Model 32: 200-325 VDC, 0-300 MA, without meters, $139.50

Model 33: 100-200 VDC, 0-300 MA, without meters, $154.50

100 MA SERIES

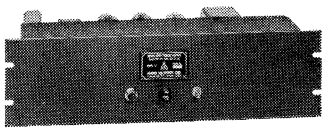
Complete power supply dependability



Model 28M: 200-325 VDC, 0-100 MA, with meters, $89.50
Model 29M: 100-200 VDC, 0-100 MA, with meters, 99.50

These long-lasting, dependable sources of power deliver "work-horse" service...yet cost as little as $59.50.

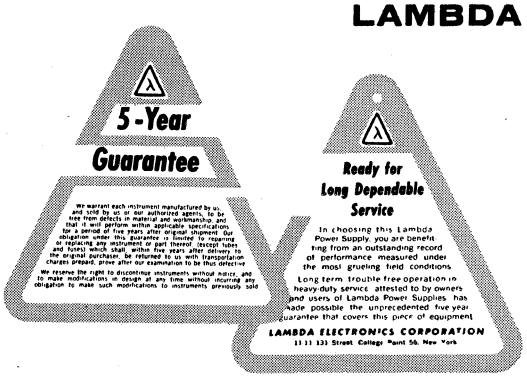
Intended primarily for fixed voltage use, they provide a convenient, low-cost power source for auxiliary equipment; also suited to production line applications.



Model 28: 200-325 VDC, 0-100 MA, without meters, $59.50

Model 29: 100-200 VDC, 0-100 MA, without meters, $69.50

LAMBDA GIVES FIVE-YEAR GUARANTEE



Lambda Electronics is now giving an extended guarantee on Lambda power supplies which covers material and workmanship for five full years.

The new guarantee, by far the most liberal offered by any power supplies manufacturer, has been made possible by the outstanding record of field performance achieved by Lambda equipment.

Lambda has been a pioneer in the manufacture of power supplies, and one of the relatively few electronics organizations which has specialized entirely in this field.

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HEAVY DUTY AND PORTABLE MODELS

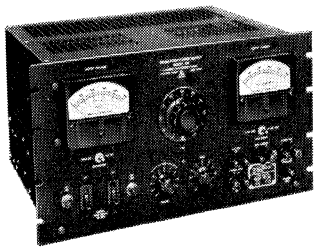
500 MA

Wide range power supplies in bench and rack models

Bench Model 50: 0-500 VDC, 0-500 MA, $440.00

Lambda Model 50 is a general purpose, heavy duty power supply for bench use. It is housed in a compact cabinet provided with a rear access door and two sturdy carrying handles.

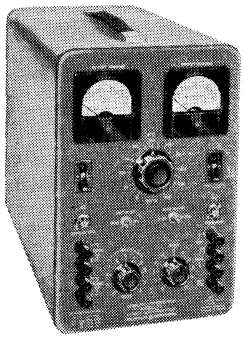
Rack Model 50R, intended for mounting in a standard 19" rack, is identical to Model 50 except that a ventilated dust cover is supplied in place of the cabinet.



Rack Model 50R: 0-500 VDC, 0-500 MA, $420.00

200 MA PORTABLE

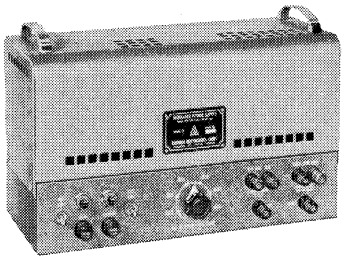
Wide range de luxe portable power supply for broad field and laboratory applications



Model 71: 0-500 VDC, 0-200 MA, $310.00

Built for heavy-duty service, this versatile precision unit features maximum compactness and portability. Weight: 49 lbs. Only 13" high, 8¾" wide, 14½" deep.

Model 71 is mounted on rubber bumper feet and is equipped with a sturdy fold-down leather handle.



100 MA PORTABLE

Model 25: 200-325 VDC, 0-100 MA, $69.50

Model 26: 100-200 VDC, 0-100 MA, $79.50

COMPACT...PORTABLE...LOW COST

Supplies both regulated voltages and unregulated AC voltage for a variety of uses. Popularly used as a power source for electronic equipment and for many other applications requiring a source of stabilized DC voltage. Weight: only 19 lbs. Size: 8"H x 14"W x 6"D.

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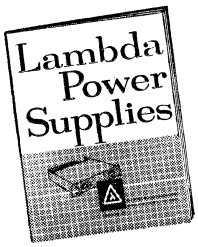

New 36-page edition contains information and specifications on Lambda's full line of transistor-regulated and tube-regulated power supplies.

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LAMBDA ELECTRONICS CORP.

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CHECK LIST: LAMBDA REGULATED DC POWER SUPPLIES

Model	Style	Voltage Range (VDC)	Current Range (MA DC)	Regulation Impedance Ripple (Table I)	6.3 VAC Output (Amps)	Meters	Output Voltage Control	Output Terminals	Size Weight (Table II)	Price (U.S. and Canada) F.O.B. Factory College Pt., N. Y.	Pages for Complete Data
REGULATED POWER SUPPLIES—RACK MOUNTING											
TRANSISTORIZED											
LT-1095	Rack	0-32	0-1000	A	—	None	Rear	Rear	S-1	285.00	6-9
LT-1095M	Rack	0-32	0-1000	A	—	2½" rect	Rear	Rear	S-1	315.00	6-9
LT-2095	Rack	0-32	0-2000	B	—	None	Rear	Rear	S-1	365.00	6-9
LT-2095M	Rack	0-32	0-2000	B	—	2½" rect	Rear	Rear	S-1	395.00	6-9
TUBE REGULATED											
C-280	Rack	0-200	0-200	C	10A	None	Rear	Rear	S-2	184.50	10-13
C-280M	Rack	0-200	0-200	C	10A	3½" rect	Rear	Rear	S-2	214.50	10-13
C-281	Rack	125-325	0-200	C	10A	None	Rear	Rear	S-2	159.50	10-13
C-281M	Rack	125-325	0-200	C	10A	3½" rect	Rear	Rear	S-2	189.50	10-13
C-282	Rack	325-525	0-200	C	10A	None	Rear	Rear	S-2	169.50	10-13
C-282M	Rack	325-525	0-200	C	10A	3½" rect	Rear	Rear	S-2	199.50	10-13
C-480	Rack	0-200	0-400	D	15A	None	Rear	Rear	S-2	259.50	10-13
C-480M	Rack	0-200	0-400	D	15A	3½" rect	Rear	Rear	S-2	289.50	10-13
C-481	Rack	125-325	0-400	D	15A	None	Rear	Rear	S-2	244.50	10-13
C-481M	Rack	125-325	0-400	D	15A	3½" rect	Rear	Rear	S-2	274.50	10-13
C-482	Rack	325-525	0-400	D	15A	None	Rear	Rear	S-2	259.50	10-13
C-482M	Rack	325-525	0-400	D	15A	3½" rect	Rear	Rear	S-2	289.50	10-13
C-880	Rack	0-200	0-800	E	20A	None	Rear	Rear	S-3	340.00	10-13
C-880M	Rack	0-200	0-800	E	20A	3½" rect	Rear	Rear	S-3	370.00	10-13
C-881	Rack	125-325	0-800	E	20A	None	Rear	Rear	S-3	315.00	10-13
C-881M	Rack	125-325	0-800	E	20A	3½" rect	Rear	Rear	S-3	345.00	10-13
C-882	Rack	325-525	0-800	E	20A	None	Rear	Rear	S-3	360.00	10-13
C-882M	Rack	325-525	0-800	E	20A	3½" rect	Rear	Rear	S-3	390.00	10-13
C-1580	Rack	0-200	0-1500	F	30A	None	Rear	Rear	S-4	550.00	10-13
C-1580M	Rack	0-200	0-1500	F	30A	3½" rect	Rear	Rear	S-4	580.00	10-13
C-1581	Rack	125-325	0-1500	F	30A	None	Rear	Rear	S-4	575.00	10-13
C-1581M	Rack	125-325	0-1500	F	30A	3½" rect	Rear	Rear	S-4	605.00	10-13
C-1582	Rack	325-525	0-1500	F	30A	None	Rear	Rear	S-4	650.00	10-13
C-1582M	Rack	325-525	0-1500	F	30A	3½" rect	Rear	Rear	S-4	680.00	10-13
28	Rack	200-325	0-100	G	3A	None	Rear	Rear	S-5	59.50	16-17
28M	Rack	200-325	0-100	G	3A	3½" rect	Rear	Rear	S-5	89.50	16-17
29	Rack	100-200	0-100	H	3A	None	Rear	Rear	S-5	69.50	16-17
29M	Rack	100-200	0-100	H	3A	3½" rect	Rear	Rear	S-5	99.50	16-17
32	Rack	200-325	0-300	J	2 @ 5A	None	Rear	Rear	S-6	139.50	20-21
32M	Rack	200-325	0-300	J	2 @ 5A	3½" rect	Rear	Rear	S-6	169.50	20-21
33	Rack	100-200	0-300	J	2 @ 5A	None	Rear	Rear	S-6	154.50	20-21
33M	Rack	100-200	0-300	J	2 @ 5A	3½" rect	Rear	Rear	S-6	184.50	20-21
50R	Rack	0-500	0-500	K	2 @ 5A	4½" rect	Front	Fr & rear	S-7	420.00	22-23
		0-50 }	Bias	L							
		0-200 }	High Imped.	M							
REGULATED POWER SUPPLIES—PORTABLE AND BENCH											
25	Bench	200-325	0-100	G	3A	None	Front	Front	S-8	69.50	14-15
26	Bench	100-200	0-100	H	3A	None	Front	Front	S-8	79.50	14-15
50	Bench					See Model 50R above			S-9	440.00	22-23
71	Portable	0-500	0-200	N	2 @ 5A	3½" rect	Front	Front	S-10	310.00	18-19
		0-50 }	Bias	P							
		0-200 }	High Imped.	Q							

TABLE I

DC OUTPUT VOLTAGE REGULATION, IMPEDANCE, RIPPLE

	REGULATION		Internal Impedance (ohms)	Ripple, rms (millivolts or %)
	Line (105-125 VAC)	Load (min to max)		
	Less than	Less than	Less than	Less than
A	0.15% or 20MV	0.15% or 20MV	0.50	1 mv
B	0.15% or 20MV	0.15% or 20MV	0.025	1 mv
C	0.15% or 0.3V	0.25% or 0.5V	6	3 mv
D	0.15% or 0.3V	0.25% or 0.5V	3	3 mv
E	0.15% or 0.3V	0.25% or 0.5V	1.5	3 mv
F	0.15% or 0.3V	0.25% or 0.5V	0.75	3 mv
G	1%	1%	10	10 mv
H	1%	1%	10	5 mv
J	1%	1%	4	10 mv
K	0.15% or 0.1V	0.5% or 0.3V	2	8 mv
L	0.1%	unregulated	3,300	2 mv
M	0.1%	unregulated	17,500	5 mv
N	0.15% or 0.3V	0.15% or 0.3V	4	5 mv
P	0.1%	unregulated	5,500	2 mv
Q	0.1%	unregulated	25,000	5 mv

TABLE II

SIZES AND WEIGHTS

	Size H x W x D (inches)	WEIGHT Net (lbs)	WEIGHT Shipping (lbs)
S-1	3½ x 19 x 14⅜	35	65
S-2	5¼ x 19 x 14⅜	53	80
S-3	7 x 19 x 14⅜	84	100
S-4	8¾ x 19 x 14⅜	120	140
S-5	5¼ x 19 x 8	19	23
S-6	10½ x 19 x 9¼	42	52
S-7	10½ x 19 x 14¼	89	140
S-8	8 x 14 x 6	19	23
S-9	12½ x 22 x 15	110	158
S-10	13 x 8¾ x 14½	49	85

GENERAL SPECIFICATIONS

Sufficient tolerance is incorporated in the specifications to allow for normal commercial component and tube deviations. Tube replacements may be made with any equivalent tubes meeting E.I.A. specifications.

INPUT

105-125 VAC, 50-400 CPS, single phase. Exceptions: Models 50, 50R and 71—105-125 VAC, 50-60 CPS.

DC OUTPUT

Voltage Range: Continuously variable over ranges specified, except where otherwise noted.

Current Range: The current ranges given apply to the entire DC output voltage range, and for input voltages from 105 to 125 VAC. No "de-rating" is necessary.

Polarity: Either positive or negative terminal may be grounded.

AC OUTPUT

The AC output is unregulated, isolated and ungrounded. It has a value of slightly higher than 6.3 V (when fully loaded) at an input of 115 VAC. This value allows for voltage drop in connecting leads. Dual outputs may be connected in series or parallel.

DUTY CYCLE

Continuous duty at full load.

METERS

Where meters are indicated, a separate voltmeter and milliammeter are provided.

OVERLOAD PROTECTION

Ample protection is provided against external overload and internal failure conditions by means of fuses.

Circuit breakers of the magnetic, "trip-free" type are employed in Models 50, 50R, 71 and LT series as protection against external overloads. And in the LT series, the transistor complement is independently protected by special transistor circuitry.

STYLE

Rack Models are designed for mounting on standard 19" relay racks.

Bench Models are provided with compact, specially-designed, ventilated cabinets equipped with carrying handles. The power supply units may be removed from their cabinets for mounting in standard relay racks (except Models 25, 26 and 71).

RATINGS AND COMPONENTS

All components used are of the highest quality and are operated well within manufacturers ratings. Hermetically sealed, oil-filled capacitors are used exclusively, except in LT series, where special high purity foil, long-life electrolytics are used. Ample safety factors are provided in the design to insure the long life, and the dependable, trouble-free operation so desirable in industrial and laboratory appilcations.

All specifications and prices subject to change without notice.

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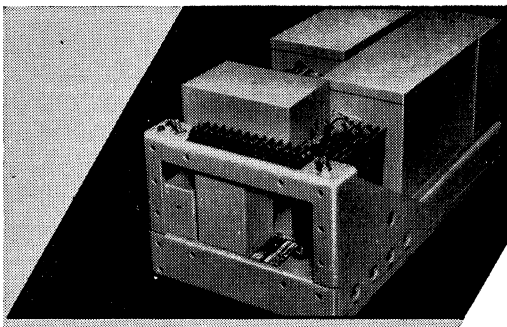

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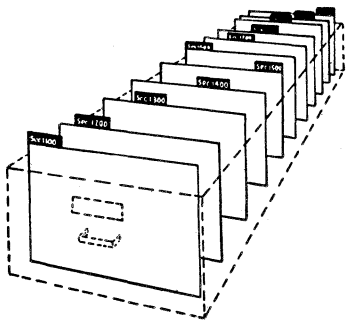

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MRC DUAL REGULATED POWER SUPPLIES

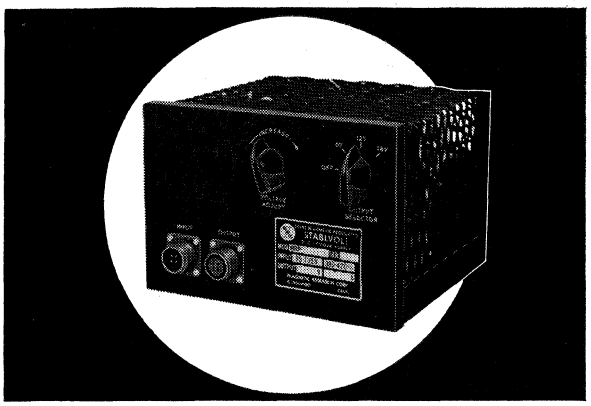
GENERAL DESCRIPTION

MRC Power Supplies are tubeless-precision-airborne power sources. Magnetic flux oscillator circuitry is used to provide precision regulated transient-free DC output voltage.

The units are tubeless, dual magnetic systems which effectively isolate line voltage transients from the output and regulates DC to 0.1% accuracy. All units are short circuit proof and require no fusing. Most units are hermetically sealed with all components cast in thermosetting plastic and meet Specification MIL-T-27 and MIL-E-5272-A. The units operate on standard 115V-400 cycle aircraft supply mains.

The regulators provide for a very precise regulation of the DC output voltage, irrespective of change in line voltage, line frequency, or DC load current. The two magnetic regulators operate independent of each other. One regulator corrects for line changes. It virtually eliminates any line transients from disturbing the DC output voltage. The second regulator corrects changes in DC output voltage which are due to change in DC load current. Inasmuch as these two regulators are of the static magnetic type (magnetic amplifier type) they are extremely reliable and not subject to wear.

This dual magnetic regulation system is an exclusive MRC development. It achieves a superior DC voltage regulation never before obtained with magnetic amplifier type voltage regulator systems. The high overall efficiency, the great reliability, the transient free output voltage, and the low internal impedance make the power supplies ideal for all types of applications where precision regulated DC voltage is required.



DUAL REGULATED POWER SUPPLIES (380-420 cps)

	MODEL NO.	PART NO.	INPUT VOLTAGE	DC OUTPUT		REGULATION		
				VOLTAGE (Nominal)	CURRENT	STATIC		
						Line Voltage	Line Frequency	Load Current
1	MRP-5-1S	40-103-0	95-135	5.0	0-1.0A	0.1%	±0.1%	0.1%
2	MRP-15D-0.2	40-109-0	105-125	+15 −15	0-200 ma	±0.2%	±0.3%	±0.1%
3	MRP 22-.1	40-110-0	95-135	22.5	0-100 ma	±0.25%	±0.25%	±0.25%
4	MRP 618-6	40-117-0	95-135	6 12 18	0-6A	0.25%	0.2%	0.2%
5	MRP 20-0.25	40-128-0	95-135	20V	0-.25A	0.1%	±0.1%	0.1%
6	MRP 5-0.4	40-130-0	115	5	400 ma	±0.25%	±0.25%	±0.25%
7	MRP 20-5	40-131-0	95-135	18-22 (Adjustable)	0-5A	±0.25%	±0.3%	0.25%
8	MRP 12-2	40-132-0	95-135	10.5-13.5 (Adjustable)	3A**	0.15%	±0.25%	0.25%
9	MRP 10-0.5	40-133-0	95-135	10V DC	0-0.5A	0.1%	±0.1%	0.1%

	DYNAMIC Line Voltage Transients (10V)	DRIFT (%/5 hrs/ 66°C)	RIPPLE (rms Full Load)	AMBIENT TEMPERATURE	RECOVERY TIME***	DIMENSIONS (inches) H W D	WEIGHT
1	1%	<±0.1%	0.5%	−55°C to +82°C	<0.2 sec	4⅞ x 3 11/16 x 3	<4.5 lbs.
2			0.1%	−55° to +71°C	<0.2 sec	4 15/16 x 4½ x 3 11/16	<6.0 lbs.
3	1%	<±0.1%	0.5%	−40° to +85°C	<0.4 sec	1½ x 2½ x 3½	26 ozs.
4	4%*	< 0.2%	0.5%	−51° to +77°C	.02 sec	7¼ x 8 x 5½	15 lbs.
5	1%	<±0.1%	0.5%	−55° to +82°C	<0.2 sec	3½ x 3 x 5 5/16	3.11 lbs.
6	1.5%	< 0.1%	0.5%	−40° to +85°C	.025 sec	1½ x 2½ x 3½	26 ozs.
7	3%	0.5%	0.5%	−51° to +71°C	<0.2 sec	6 x 6 x 7	15 lbs.
8	1.0%	0.5%	<0.5%	−51° to +71°C	<0.4 sec	6 x 6 x 7	13 lbs.
9	1%	0.1%	0.5%	−55°C to +82°C	<0.2 sec	4 13/16 x 3 11/16 x 5 11/16	<4.5 lbs.

* Transient Data Measured at 18V, 3A

** Measured at 12V Output

*** Within ½% of Rated Output Voltage

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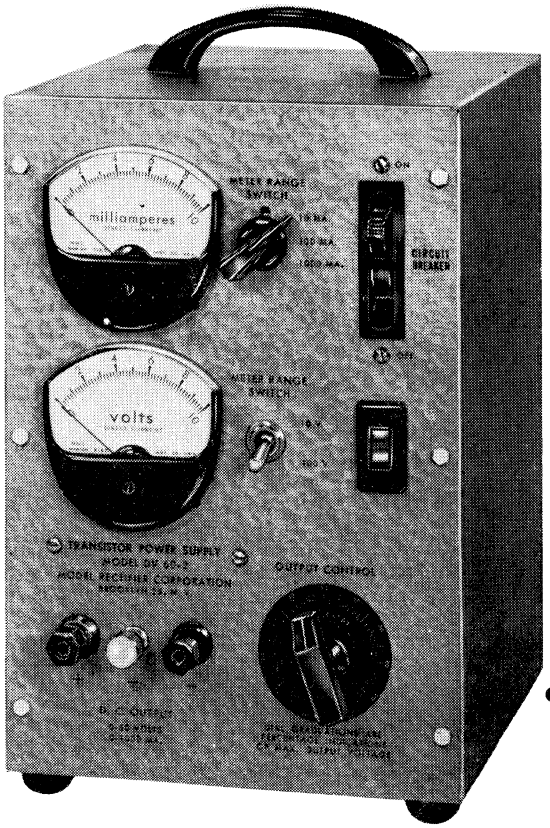
DV60-2 OR DV30-2 $125.00



Built with strict attention to detail, these versatile, convenient *MRC* Transistor Power Supplies offer unparalleled performance at an unbelievably low price! One DV60-2 or DV30-2 will efficiently replace *several* high-priced power sources. SAVE TIME! End annoying battery and meter hook-up problems. These rugged instruments have proven far superior to conventional high voltage power supplies which often perform erratically at low transistor voltages. For the utmost in quality at the lowest cost . . . *it's MRC!*

CONTROLS: Front-mounted switch-type magnetic circuit breaker; pilot light; precise, continuously variable output control; large, easy-to-read, multi-range Voltmeter *and* Milliameter accurate to 2%; 5-way output binding posts. DIMENSIONS: 10⅜" H x 7" W x 9¼" D. WEIGHT: 21 pounds, net. FINISH: Baked grey hammertone enamel.

WRITE FOR FULL INFORMATION ON MRC POWERUNIT, LAB PACK AND CUSTOM POWER SUPPLIES HAVING OTHER CURRENT AND VOLTAGE RANGES.

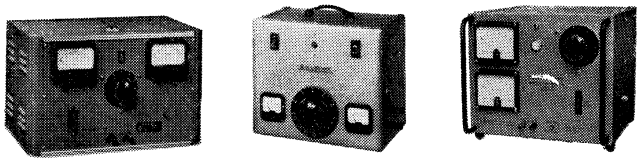
SPECIFICATIONS:

MODEL DV60-2

VOLTAGE OUTPUT—0 to 60 Volts, D.C.
CURRENT OUTPUT—0 to 1 Ampere
RIPPLE SUPPRESSION—Better than .05% at full output with 2-section choke input filter.
RECTIFICATION—Silicon Rectifier.
INPUT—115 Volts, 60 cycles, single phase.
PRICE—$125 Net, F.O.B. Brooklyn, N. Y.

MODEL DV30-2

VOLTAGE OUTPUT—0 to 30 Volts, D.C.
CURRENT OUTPUT—0 to 2 Amperes.
RIPPLE SUPPRESSION—Better than .05% at full output with 2-section choke input filter.
RECTIFICATION—Silicon Rectifier.
INPUT—115 Volts, 60 cycles, single phase.
PRICE—$125.00 Net, F.O.B. Brooklyn, N. Y.



MODEL RECTIFIER CORPORATION

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SOLID STATE DC Power Supplies

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NOTES

METERS: Ammeter and voltmeter furnished as standard equipment on all models. 3" or 4½" rectangular (depending on panel height) ±2% of full-scale, single range. Unmetered models and multiple ranges available on special order only.

POLARITY: All supplies can be floated up to 500V peak off ground. Either polarity may be grounded to chassis. Ground terminal provided.

DERATING: These supplies are rated for continuous duty at 45°C ambient temperature. Consult our engineering department for ratings at higher ambient temperatures.

TRANSIENT RESPONSE: These supplies exhibit "zero-lag" behavior. Their output voltage will not leave the specified static regulation region for instantaneous, prolonged "steps" of line voltage of ±10%, nor a regulation region of ±1% of maximum rating, for instantaneous, prolonged "steps" of load current of ±25% of maximum rating. Recovery to rated static regulation region is complete in less than 50 microseconds.

TOTAL STATIC REGULATION: The static regulation figures given in the chart to the right refer to line voltage variation of 115V ±10%, and static load current changes from 0-100% of rating. When regulation is given as "±__% or ±__millivolts", the larger value (at any given output voltage) governs. Line regulation is preserved over input frequency range of 55-65 cps, or 380-420 cps; 55-65 cps models are standard. Nominal additional charge is made for modifying a unit for 400 cps input.

FINISH: The exterior finish is smooth light grey enamel (Mil spec # MIL--E-15090). Interior metal work has appropriate baked enamel or plated finish. Other finishes on special order only.

CONSTRUCTION: Solid State supplies are normally furnished as rack equipment with full dust covers. They are entirely suitable for bench use as normally constructed. Consult our engineering department for quotations on special cabinetry or sub-chassis construction.

INPUT-OUTPUT TERMINATION: All terminals on rear, through appropriate barrier strip.

REMOTE SENSING: All models are provided with remote sensing circuits to permit reduction of static regulation errors due to external wiring. This feature does not eliminate transient errors due to long-line impedance.

TUBELESS: Completely transistorized. Semi-conductor rectifiers, zener-diode reference standards, transistor series regulators, transistor loop amplifiers. Some high-current models have magnetic-amplifier "buffer" to limit transistor dissipation under extremes of line voltage and load current.

MODEL	OUTPUT		RMS RIPPLE	REGULATION		Internal Impedance DC-20KC
NUMBER	VOLTS	AMPS	MILLI-VOLTS	LOAD	LINE	OHMS
SS-7-15	0-7	0-15	0.5	±0.015% or ±1 MV	±0.03% or ±2 MV	0.005
SS-10-10	0-10	0-10	0.5	±0.015% or ±1 MV	±0.03% or ±2 MV	0.02
SS-10-50	0-10	0-50	1	±0.02% or ±1 MV	±0.03% or ±2 MV	0.004
TR-18-2	0-18	0-2	1	±0.05% or ±2 MV	±0.1% or ±3 MV	0.1
SS-32-3	0-32	0-3	1	±0.015% or ±1 MV	±0.03% or ±2 MV	0.1
SS-32-10	0-32	0-10	1	±0.015% or ±1 MV	±0.03% or ±2 MV	0.04
SS-32-20	0-32	0-20	1	±0.015% or ±1 MV	±0.03% or ±2 MV	0.02
TR-36-1	0-36	0-1	1	±0.05% or ±2 MV	±0.1% or ±3 MV	0.2
SS-3600	10-36	0-50	1	±0.02%	±0.03%	0.004
SS-1503	100-150	0-1.5	1	±0.005%	±0.02%	0.05
SS-1603	0-160	0-1.5	1	±0.005% or ±3 MV	±0.02% or ±3 MV	0.05
SS-3003	200-300	0-1.5	2	±0.005%	±0.01%	0.1
SS-1505	100-150	0-3	1	±0.005%	±0.02%	0.1
SS-1605	0-160	0-3	1	±0.005% or ±3 MV	±0.02% or ±3 MV	0.1

SIZE AND WEIGHT

MODEL NUMBER	PANEL HEIGHT (Inches)	DEPTH* (Inches)	PANEL WIDTH (Inches)	CHASSIS WIDTH (Inches)	APPROX. WEIGHT (Pounds)
SS-7-15	5¼	17½	19	17	60
SS-10-10	5¼	17½	19	17	60
SS-10-50	12¼	17½	19	17	140
TR-18-2	5	14½	8¼	8¼	20
SS-32-3	5¼	14½	19	17	55
SS-32-10	8¾	17½	19	17	90
SS-32-20	12¼	17½	19	17	140
TR-36-1	5	14½	8¼	8¼	20
SS-3600	35	17½	19	17	300
SS-1503	5¼	14¾	19	17	60
SS-1603	7	14¾	19	17	80
SS-3003	10½	14¾	19	17	110
SS-1505	10½	14¾	19	17	110
SS-1605	12¼	17½	19	17	130

*Measured behind panel, including connectors, etc. on rear of chassis.

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SOLID STATE DC Power Supplies

NO COMPROMISE
WITH QUALITY!

NOTES

SHORT-CIRCUIT PROOF! Not just short-circuit protected, but completely impervious to short-circuits. A simple and effective, completely passive circuit configuration forces the output fuse or circuit breaker to blow before transistors or other circuit components can be damaged. No "current-limiting" gimmicks to fail!

COMPACT! More power supply per inch of panel height than ever possible with other techniques.

EFFICIENT! Up to 50 times as efficient as vacuum tube supplies of equivalent ratings.

ZERO-LAGGED! Achieve transient-free performance without massive capacitor banks.

DEPENDABLE! MIL-T-27A style transformers, 100% wire-wound resistors, high-purity foil and paper capacitors, extremely conservative transistor dissipation, current, and voltage rating, and high quality construction ensure the utmost in dependability. No compromise with quality!

ECONOMICAL! Less expensive than comparable vacuum tube equipment.

LOW IMPEDANCE! High-gain loop amplifier and large output bypass capacitor ensure maintenance of low output impedance up to low radio frequencies.

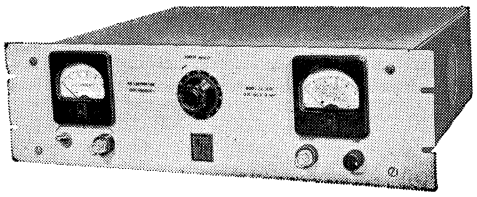
LOW DRIFT! Balanced differential input in loop amplifier and double-stabilized zener reference ensure stability against temperature and time.

RUGGED! Ideal for applications involving moderate shock and vibration. Circuit exhibits no significant microphonics under these conditions.

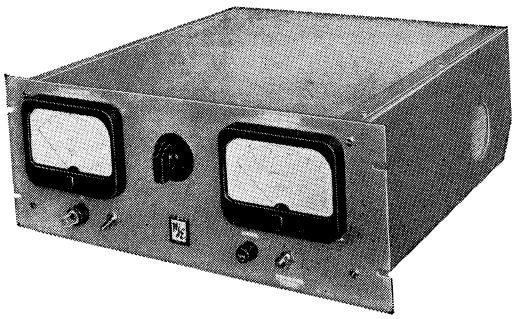
ATTRACTIVE! Clean panel layout, smooth enamel finish, make for a striking, modern appearance.

VERSATILE! Widest range of voltage and current ratings in the field!

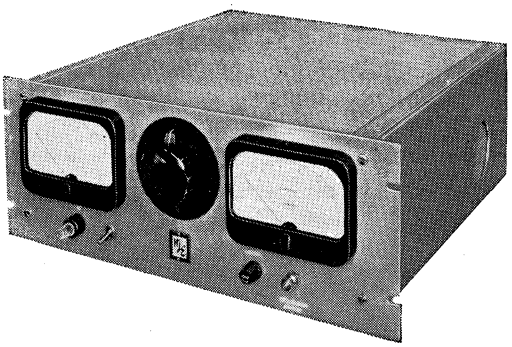
EXCEPTIONAL STABILITY AND REGULATION! The COMBINED load and line regulation of these units compares favorably with the regulation for load alone, offered by equivalent competitive power supplies.



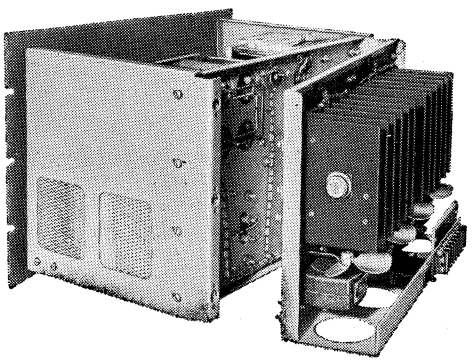
Model SS-10-10, 0-10 Volts,
0-10 amperes DC.



Model SS-32-3, 0-32 Volts,
0-3 amperes DC.



Model SS-1603 Transistorized
plate supply, 0-160 Volts,
0-1.5 amperes DC.



Model SS-32-20, 0-32 Volts,
0-20 amperes DC.

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TRM DC Power Supplies

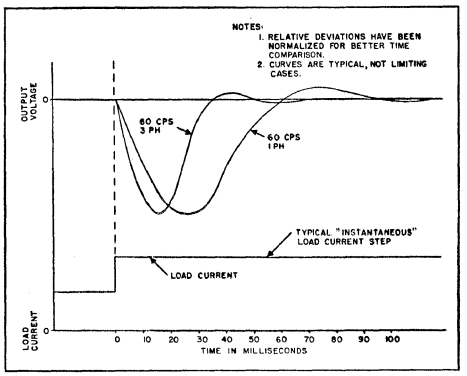
TRANSISTOR-DRIVEN
MAGNETIC-AMPLIFIER REGULATED

MODEL NUMBER	OUTPUT RANGE VOLTS	OUTPUT RANGE AMPERES	Δt* SECONDS
TRM-28-30	24-32	0-30	0.025
TRM-28-60	24-32	0-60	0.025
TRM-28-120	24-32	0-120	0.015
TRM-40-15	5-40	0-15	0.025
TRM-40-30	5-40	0-30	0.025
TRM-40-60	5-40	0-60	0.025
TRM-40-120	5-40	0-120	0.015
TRM-80-7.5	10-80	0-7.5	0.025
TRM-80-15	10-80	0-15	0.025
TRM-80-30	10-80	0-30	0.025
TRM-80-60	10-80	0-60	0.015
TRM-160-7.5	20-160	0-7.5	0.025
TRM-160-15	20-160	0-15	0.025
TRM-160-30	20-160	0-30	0.015

FIRST

SELECT MODEL NUMBER FROM THIS VOLTAGE-CURRENT CHART

*"Turn-around time," used in zero lag equation below.



THEN

CHECK THAT RESPONSE TIME CHARACTERISTIC SATISFIES THE REQUIREMENTS OF YOUR APPLICATION.

NOTES

METERS: Ammeter and voltmeter furnished as standard equipment on all models. 4½" rectangular, accuracy ±2% of full-scale, single range. Unmetered models and multiple ranges available on special order only.

POLARITY: All supplies can be floated up to 500V peak off ground. Either polarity may be grounded to chassis. Ground terminal provided.

FINISH: Front panels are finished in light grey hammertone baked enamel. Frames and chassis have baked enamel or appropriately plated industrial finishes. Cabinets have contrasting dark-grey hammertone baked enamel finish. Other finishes on special order only.

INPUT-OUTPUT TERMINATION: All terminals at rear of chassis. Lower current models employ phenolic barrier terminals of appropriate size. Higher current models have threaded-stud output terminals.

RIPPLE: TRM units have less than 1% RMS ripple at any output voltage or current within rating.

STATIC LOAD REGULATION: The static load regulation of any TRM supply will not exceed 0.1% or 50MV, whichever is greater, for 0-100% load change at constant line voltage.

STATIC LINE REGULATION: The static line regulation of any TRM supply will not exceed 0.1%, or 50MV, whichever is greater, for a ±10% line voltage change, at constant load.

TRANSIENT RESPONSE: The transient response of TRM supplies is best described by two parameters: The so-called "turn-around" time, and the "response time **constant**". These are depicted on the graph to the right. The "turn-around" time, Δ **t**, is used for computing the necessary "zero-lag" capacitor bank requirement for an allowable output voltage deviation, Δ V, which results from either a load current step, Δ I, or from a line voltage step, Δ E_1. In the formula given below, I_0 is the maximum current rating of the supply. E_1 is the nominal line voltage rating of the supply, and C is the capacitor bank capacitance in farads. The table lists conservative values of Δt for both single-phase and three-phase units. The formula given is approximate, but conservative.

$$C = \frac{[\Delta I + \frac{\Delta E_1}{E_1} I_0]\ \Delta t}{\Delta V}$$

example: To determine the capacitance required to hold the maximum output voltage excursion of a TRM-40-15 to 1 volt, against the worst **simultaneous** combination of a 3-ampere load "step" and a 10% line step:

$\Delta V = 1.0$ volt

$\Delta I = 3.0$ amperes

$\Delta E_1 = 10\%$ of E_1, so that $\frac{\Delta E_1}{E_1} = 0.1$

Δt (from chart, above) $= 0.025$ seconds

$I_0 = 15$ amperes

$$C = \frac{[3.0 + (0.1)\ 15]\ 0.025}{1.0} = 0.112 \text{ farads}$$

use 50 volt, 0.2 farad bank (CB-50B) selected from chart at right.

NOTE: TRM power supplies may require adjustment for optimum operation with an external capacitor bank. If the supply and capacitor bank are ordered together, this adjustment will be performed by the factory, without charge.

	15 volts (for 10V supplies)	25 volts (for 20V supplies)	50 volts (for 40V supplies)	125 volts (for 80V supplies)	200 volts (for 160V supplies)
size A	15A 0.4 Farad	25A 0.2 Farad	50A 0.1 Farad	125A 0.05 Farad	200A 0.03 Farad
size B	15B 0.8 Farad	25B 0.4 Farad	50B 0.2 Farad	125B 0.1 Farad	200B 0.06 Farad
size C	15C 1.2 Farad	25C 0.6 Farad	50C 0.3 Farad	125C 0.15 Farad	200C 0.09 Farad
size D	15D 1.6 Farad	25D 0.8 Farad	50D 0.4 Farad	125D 0.2 Farad	200D 0.125 Farad

THEN

IF ZERO-LAG BEHAVIOR IS DESIRED, SELECT APPROPRIATE CAPACITOR BANK NUMBER FROM THIS CHART. (SEE FORMULA AT LEFT.)

Optional "zero-lagging" capacitor bank. Omit if not required.

TRM-40-15-CB-50A

Voltage-current range as selected from chart; in this case, 5-40 V, 0-15 A.

Particular capacitor bank desired, as selected from above chart.

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HIGH CURRENT—TIGHT REGULATION. THESE SUPPLIES COMBINE MAGNETIC AMPLIFIER REGULATORS, WITH THEIR HEAVY CURRENT CAPABILITIES, AND TRANSISTORIZED DRIVER AMPLIFIERS, WITH THEIR HIGH-SPEED RESPONSE. THE RESULT IS A HIGH-POWER UNIT WITH THE PRECISE REGULATION OF A LIGHT-DUTY LABORATORY POWER SUPPLY. THE SENSITIVITY AND SPEED OF RESPONSE OF THESE UNITS EXCEED THAT OF ANY OTHER MAGNETICALLY-REGULATED SUPPLY; YET THESE CHARACTERISTICS ARE NOT ACHIEVED AT THE EXPENSE OF RELIABILITY OR IMMUNITY TO LOAD FAULTS. THERE ARE NO TRANSISTORS IN SERIES WITH THE POWER PATH, AND THE REGULATING ELEMENT IS DESIGNED SO THAT THE UNIT CANNOT BE DAMAGED BY AN EXTERNAL SHORT CIRCUIT.

QUALITY. THIS EQUIPMENT EMPLOYS THE BEST COMMERCIAL GRADE OF TRANSFORMERS, SEMICONDUCTORS, RESISTORS, AND CAPACITORS. RIGID QUALITY CONTROL AND THOROUGH TEST PROCEDURES ENSURE DEPENDABILITY.

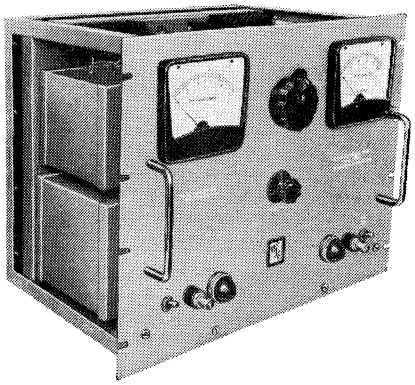
SIZE AND WEIGHT

RACK*			CABINET			POWER SUPPLY MODELS	APPROX. WEIGHT (Lbs.) †	CAPACITOR BANKS	APPROX. WEIGHT (Lbs.) †
TOTAL PANEL HEIGHT (Inches)	MAX. DEPTH (Inches) **	PANEL WIDTH (Inches)	HEIGHT (Inches)	DEPTH (Inches)	WIDTH (Inches)				
5¼	17¾	19	7	18	22			CB-15A CB-25A CB-50A CB-125A CB-200A	30
12¼	17¾	19	14	18	22			CB-15B CB-25B CB-50B CB-125B CB-200B	60
14	17¾	19	15¾	18	22	TRM 40-15 TRM 80-7.5	120		
17½	17¾	19	19¼	18	22	TRM 28-30 TRM 40-30 TRM 80-15 TRM 160-7.5	160	CB-15C CB-25C CB-50C CB-125C CB-200C	90
26¼	17¾	19	28	18	22	TRM 28-60 TRM 40-60 TRM 80-30 TRM 160-15	250	CB-15D CB-25D CB-50D CB-125D CB-200D	120
36¾	17¾	19	42	18	22	TRM 28-120 TRM 80-60 TRM 160-30	300		
42	17¾	19	67⅝	18	22	TRM 40-120	300		

*May be split into two or more sections of standard RETMA rack height for convenience in handling. Panel height dimension given in total.

**Measured behind panel. Includes all projections to rear. Control elements protrude less than 2½ inches in front of panel.

†Weight given is maximum for units in a given size group. Check factory for exact weight, if critical.

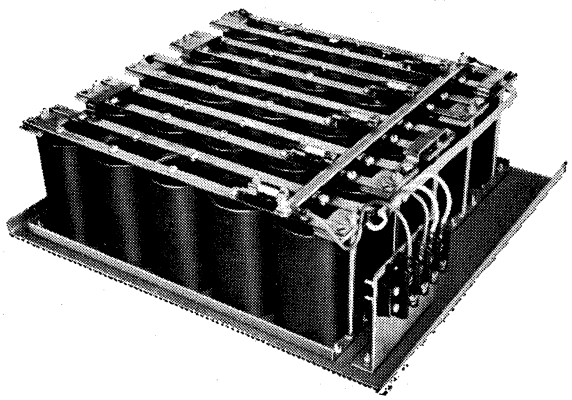


Illustrated: Model TRM-40-15. 14" high rack panel 19" wide. Depth, 17½" behind panel. 5-40 volts, 0-15 amperes.

INPUT REQUIREMENTS

VOLTAGE	CIRCUIT	MODELS
115 VOLTS RMS NOMINAL, 60 CPS	SINGLE-PHASE 2-WIRE, OR 2-WIRE + GROUND	TRM 28-30, TRM 40-15, TRM 40-30 TRM 80-7.5, TRM 80-15, TRM 160-7.5
208/220 VOLTS RMS NOMINAL, 60 CPS	SINGLE-PHASE 2-WIRE, OR 2-WIRE + GROUND	TRM 28-60, TRM 40-60 TRM 80-30, TRM 160-15
208/220 VOLTS RMS NOMINAL, 60 CPS	3-PHASE 3 OR 4 WIRE	TRM 28-120, TRM 40-120 TRM 80-60, TRM 160-30

Typical capacitor bank assembly available as accessory to zero-lag supplies to extend transient response and reduce ripple.



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HIGH VOLTAGE DC Power Supplies

AIR AND OIL-INSULATED
WITH OR WITHOUT LINE REGULATION

NOTES

METERS: Three-range meters are standard, except in the HP-5. All three meter ranges are individually hand-calibrated to ±2% of full scale. Recalibrateable in field by screwdriver adjustment. Ranges are selected for best overlap and easy reading.
Meters are 4½" rectangular (3½" rectangular for HP-5).

POLARITY: Quickly reversible by means of two accessible internal jumpers. Reversal automatically grounds the selected "low" terminal. Meter polarity is reversed by front-panel switch.

RIPPLE: All H-line and HP supplies have capacitor-input filters. HH-line supplies have choke-input filters. In capacitor-input filters, the ripple magnitude is directly proportional to the output current, and the ripple **percentage** is inversely proportional to the selected value of output voltage. In choke-input filters, the ripple **magnitude** is directly proportional to the voltage selected, and the ripple percentage is essentially constant over the entire output voltage and current range. Additional filtering available on special order.
The following chart lists the maximum RMS ripple at maximum rated voltage and maximum rated current for all units.

% RMS Ripple	Model Numbers	Type of Filter
1.0	H-20/30/35/51,	Capacitor
1.0	HH-320/410/600. HH-140/230/150/240/330/520/710.	Choke
2.0	HP-5, H-15/26/36/40/43/50/54/60/80/90.	Capacitor
3.5	H-16/23/24/27/33/41/45/61/62/71.	Capacitor

STATIC LOAD REGULATION: Including the safety resistor in the output lead, H-line supplies exhibit a static load regulation of approximately 15-25%. Model HP-5 has internal provisions for changing the load regulation from approximately 25% to approximately 15%.
HH models have approximately 10% internal regulation.
Check our engineering department for information on improving the static load regulation of any supply.

INPUT-OUTPUT TERMINATION: Model HP-5 is provided with a three-wire line cord and plug. H-line supplies are provided with a heavy duty industrial "Twistlok" plug. H and HP-supplies are provided with at least 10 feet of shielded, flexible, high voltage coaxial cable. In tank units, this cable is provided with a disconnect plug.

FINISH: Front panels are finished in grey hammertone baked enamel. Cabinets and tanks have contrasting dark grey hammertone baked enamel finish. Other finishes on special order only.

Models H-60/61/62/71/80/90 are oil insulated. They are always furnished **less oil**, to save high shipping cost. Approximately 50 gallons of high grade transformer oil are required for all models except H-90, which requires approximately 100 gallons.

	0-2.5KV	0-5.0KV	0-10KV	0-15KV	0-20KV	0-25KV	0-30KV	0-50KV	0-60KV	0-120KV	0-150KV
0-5 MA		H-20	H-30		H-40		H-50	H-60		H-80	H-90
0-10 MA					H-41		H-51	H-61	H-71		
0-15 MA								H-62			
0-20 MA		H-23	H-33		H-43						
0-35 MA		H-24					H-54				
0-50 MA	H-15		H-35		H-45						
0-100 MA	H-16	H-26	H-36			HH-600					
0-150 MA				HH-410			HH-710				
0-200 MA		H-27									
0-250 MA			HH-320		HH-520						
0-500 MA		HH-230	HH-330								
0-1.0 AMP.	HH-140	HH-240									
0-2.0 AMP.	HH-150										

FIRST

SELECT MODEL NUMBER FROM THIS VOLTAGE-CURRENT CHART.

OPTIONAL ACCESSORY FEATURE	SYMBOL	AVAILABLE ON MODELS	NOTES
Auxiliary AC output (peak AC = ½ DC output)	A	All H models	milliameter does not read. Voltmeter reads approx. peak AC.
Ferro-resonant line regulator	L may increase size.	All H models HP-5	regulates DC (peak AC in AC/DC models) to ±1% for ±10% line changes.
Motor-driven-"Powerstat" line regulator (servo type) referenced to internal standard. Permits 3-wire "Raise-Lower" control, local or remote, and external programming.	MR	All HH models	holds DC to ±0.5% of max. output rating for ±10% input variations. Response time, 2 seconds. Also provides approx. the same static **load** regulation. **Will not regulate well against line or load transients.**
Casters	C** increase height.	H-26/27/35/36/43/45/51/54/60/61. H-62/71/80/90. All HH models	mounted on base of units, or on base of oil-tank in 2-section units.

THEN

SELECT OPTIONAL ACCESSORY FEATURES DESIRED FROM THIS CHART.

Power level from chart above. — Line regulator, if selected.

{H / HH}-(A)-{L / MR}-54-C

AC output, if selected. — Casters, if selected. — Voltage-current range, from chart above.

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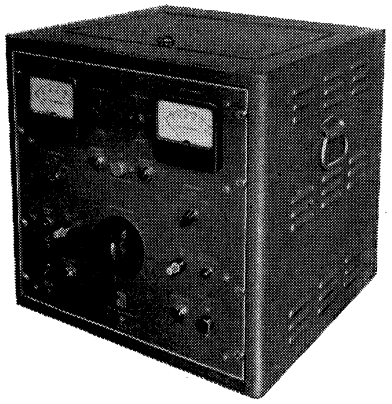
HIGH VOLTAGE DC Power Supplies

AIR AND OIL-INSULATED
WITH OR WITHOUT LINE REGULATION

THE BASIC 20 All H and HH-supplies contain **every one** of the basic 20 safety and performance features listed below. No extras . . . every item in the list is standard in every model!

- Reversible polarity
- Adjustable over-current trip-out
- Adjustable over-voltage trip-out
- Three-range grounded voltmeter
- Three-range grounded milliameter
- Automatic output-grounding switch
- Zero-start interlock
- Interlock protection on doors
- Provision for auxiliary interlock
- Self-holding primary contactor
- Safety resistor in output lead
- Output continuously adjustable, 0 to 100%
- Low corona levels
- RF interference effectively suppressed
- Neon-gap protection on meters, relays
- Three-wire primary circuit
- Six pilot lamps indicate circuit status
- Blown-fuse indicators on all fuses
- All panel elements "dead-front" connected
- Meters are hand-calibrated to 2%

Model H-50, 0-30KV, 0-5MA DC.



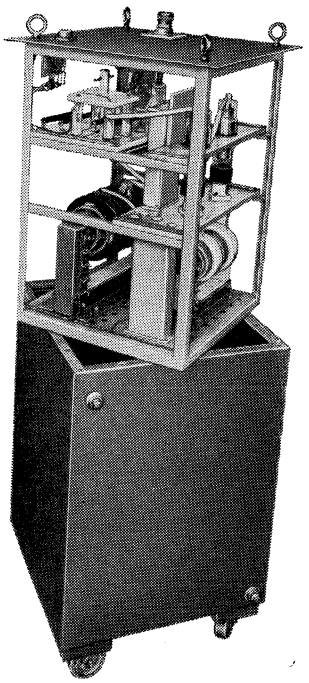
SIZE AND WEIGHT

Construction	Max. height, Inches	Max. width, Inches	Max. depth. Inches	Approx. weight, Lbs.**	MODEL NUMBERS
Air-insulated Bench Cabinet	10½	17	12	60	HP-5
Air-insulated Bench Cabinet	22	22	18	105	H-15/16/20/23/24/30/33/40/41/50.
Air-insulated Control Cabinet and Floor Cabinet	22 28	22 22	18 18	185	H-26/27/35/36/43/45/51/54.
Control Cabinet and Oil Tank	22 27*	22 22*	18 22*	290	H-60/61/62/71/80/90*.
Air-insulated Floor Cabinet	68	22	18	520	HH-140/230/320/330/410/600.
Air-insulated Floor Cabinet	68	22	24	1000	HH-150/240/520/710.*

* on H-90, tank is 30" x 30" x 30"; HH-710 is 76" high, 33" wide, 24" deep.
** less oil in tank units.

INPUT VOLTAGE REQUIRED	INPUT CIRCUIT	MODELS
115 Volts RMS	Single Phase 2-wire or 2-wire plus ground*	HP-5. All H models.
208 or 220 Volts RMS nominal, 60 cps. (available at 115V)	Single Phase 2-wire or 2-wire plus ground*	HH-140/230/410/600.
208 Volts RMS nominal, 60 cps.	Three-Phase 4-wire	HH-150/240/330/520/710.

* UL standard 3-wire single-phase plug available optionally.



Model H-80 (tank section lifted out of oil to show conservative, rugged, correctly-engineered high voltage structure. 0-120KV, 0-5MA DC.

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ECONOMICAL BENCH OR RACK DC "HI-POT" TESTER.

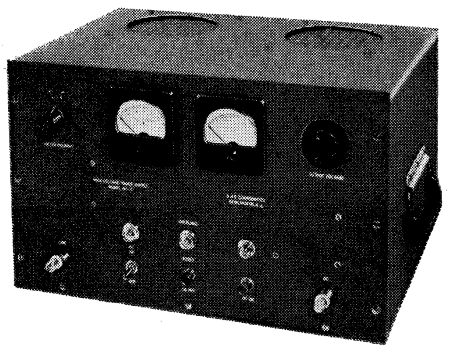
Retains many of the features of the H and HH industrials, but has simplified control panel and fewer operational features.

- Output continuously adjustable 0 to 100%
- Single-range voltmeter and ammeter
- Overcurrent trip-out circuit with reset button
- All panel elements dead-front connected
- Meters in ground leg of circuit
- Reversible polarity
- External interlock provision
- Blown fuse indicators

MODEL HP-5

OUTPUT VOLTAGE: 0-30 KILOVOLTS
OUTPUT CURRENT: 0-2 MILLIAMPERES
MAXIMUM RIPPLE: 2.0% RMS
LOAD REGULATION: 35%/15%

The bench model (illustrated) is standard. On special order, the HP-5 can be furnished for mounting in a standard 19-inch relay rack or cabinet. Panel height is 10½ inches. Depth behind panel is 12½ inches. An AC output is not available on this unit. A line regulator is available, but sizes increase. Check factory for details.



Model HP-5 "high pot" tester. 0-30KV, 0-2MA.

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THYRATRON REGULATED DC Power Supplies

FAST RESPONSE
ET STYLE or ZERO-LAG STYLE

NOTES

RIPPLE: ET units have less than 1% RMS ripple at any output voltage or current within rating. Zero-lag units have less than 0.1% RMS ripple at any output voltage or current within rating.

STATIC LOAD REGULATION: The static load regulation of any NJE thyratron supply will not exceed 0.1% or 50 millivolts, whichever is greater, for 0-100% load change at constant line voltage.

STATIC LINE REGULATION: The static line regulation in any NJE thyratron supply will not exceed 0.1% or 50 millivolts, whichever is greater, for ±10% line voltage change, at constant load.

METERS: Ammeter and voltmeter furnished as standard equipment on all models. 4½" rectangular, accuracy ±2% of full-scale, single range. Unmetered models and multiple ranges available on special order only.

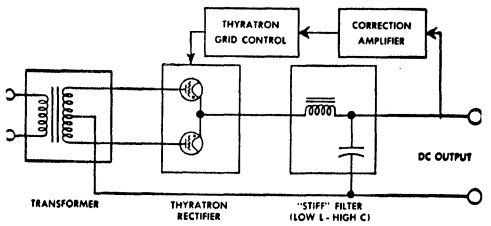
TRANSIENT RESPONSE: The curves drawn to the right represent the behavior of the supplies in response to either a ±10% instantaneous line voltage step, infinitely prolonged, or a ±25% load current step, infinitely prolonged. As noted elsewhere on the page, additional capacitor banks may be purchased separately, and added to the zero-lag units, so that they will have even "stiffer" transient properties.

POLARITY: All supplies can be floated up to 500V peak off ground. Either polarity may be grounded to chassis. Ground terminal provided.

FINISH: Front panels are finished in light grey hammertone baked enamel. Frames and chassis have baked enamel or appropriately plated industrial finishes. Cabinets have contrasting dark-grey hammertone baked enamel finish. Other finishes on special order only.

INPUT-OUTPUT TERMINATION: All models up to 30 amperes have both front and rear terminals. Higher current models have outputs at rear only. All input terminals are at rear only.

REMOTE SENSING: All models are provided with remote sensing circuits to permit reduction of static regulation errors due to external wiring. This feature does not eliminate transient error due to long-line impedance.



THE ZERO-LAG DC SYSTEM

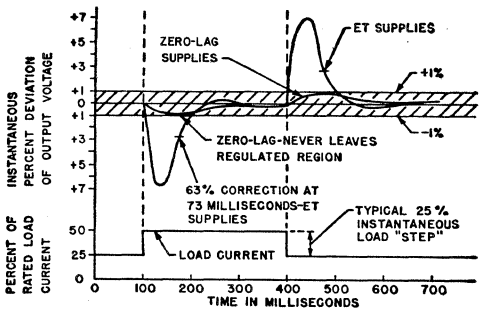
For additional zero-lagging (against load transients larger than ±25%) for lower ripple, or for less than ±1% maximum deviation on normal load or line transients, one or more of the capacitor banks listed on page 3 can be added to any zero-lag supply. These banks are also useful for "zero-lagging" our brute force supplies. However, they should be purchased together with the power supply, so that adjustment for proper operation, when required, can be made at the factory. (This adjustment is made without charge.) Check our engineering department for details.

	4-10 VOLTS	8-20 VOLTS	16-40 VOLTS	32-80 VOLTS	64-160 VOLTS
0-4 AMPS	10	20	30	40	50
0-10 AMPS	11	21	31	41	51
0-18 AMPS	12	22	32	42	52
0-30 AMPS	13	23	33	43	53
0-50 AMPS	14*	24*	34*	44*	54*
0-100 AMPS	15*	25*	35*	45*	55*

* NOTE: 50-ampere and 100-ampere units are built after receipt of order, and are therefore on longer delivery cycle.

FIRST

SELECT MODEL NUMBER FROM THIS VOLTAGE-CURRENT CHART. (SAME NUMBER APPLIES TO EITHER ET OR ZERO-LAG TYPES.)



THEN

SELECT TRANSIENT CHARACTERISTIC DESIRED FROM THIS GRAPH—75 MILLISEC. RESPONSE T. C. OR 1% ZERO-LAG.

ET—75 millisec.
Z—1% zero-lag.

{ET / Z}-41-{R / C}M

Standard metered model. On special unmetered models, omit letter "M".

Voltage-current range, from chart above.

Rack or cabinet.

THEN

CONSTRUCT COMPLETE CATALOG NUMBER AS SHOWN.

See YELLOW SECTION for Local Offices, Telephones, etc.
For Prices, See NJE Pages 938-939

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THYRATRON REGULATED DC Power Supplies

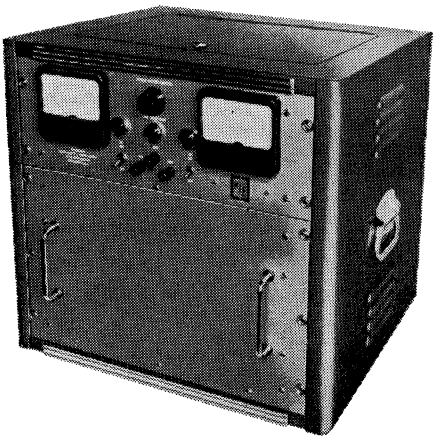
FAST RESPONSE
ET STYLE or ZERO-LAG STYLE

EXCELLENT REGULATION: The static regulation of these supplies is comparable to that of the finest vacuum tube equipment, despite the large current ratings, and is superior to most conventional magnetic-amplifier-regulated equipment of comparable ratings. The transient regulation of the large zero-lagged supplies is unmatched by any equipment of comparable power rating.

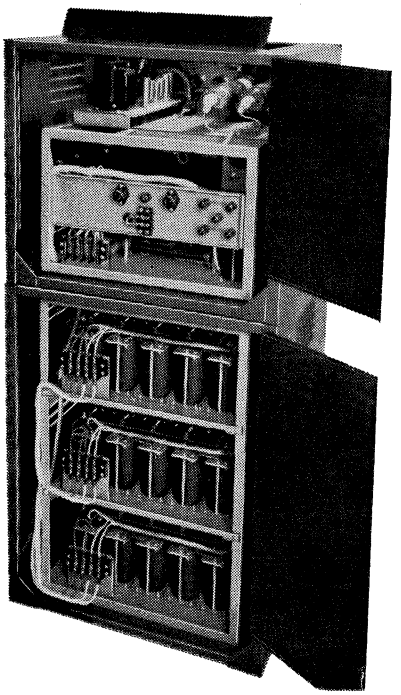
ECONOMY Thyratron rectification is a very economical way of creating large DC power sources. Compare performance per dollar before investing in outmoded equipment!

QUALITY: NJE thyratron supplies employ only Xenon thyratrons of the highest quality. The other thermionic tubes in the equipment are thoroughly derated, and are contained in a single, pluggable assembly to permit rapid maintenance. The power and filter components of these supplies are of the same high quality found in all NJE industrial equipment. Rigid quality control and complete test procedures ensure a dependable product.

Model ET-50-CM thyratron DC power supply. 64-160V, 0-4 amperes.



Model Z-51-CM zero-lagged thyratron DC supply. 64-160V, 0-10 amperes.



SIZE AND WEIGHT

RACK*			CABINET††				
Total Panel Height Inches	Max. Depth Inches**	Panel Width Inches	Height Inches††	Depth Inches	Width Inches	MODELS	Approx. Max. Weight Lbs.†
17½	16¾	19	19¼	18	21¾	ET-10/11/20/21/30/31/ 40/41/50	250
26¼	16¾	19	28	18	21¾	ET-12/22/32/42/51/52 Z-10/20/30/40/50	350
36¾	16¾	19	41⅞	18	21¾	ET-13/23/33/43/53	475
43¾	16¾	19	47¼	18	21¾	Z-11/21/31/41/51	525
52¼	16¾	19	56	18	21¾	Z-12/22/32/42/52	750
61¼	16¾	19	66⅜	18	22	ET-14/24/34/44	950
71¾	16¾	19	78⅝	18	21¾	Z-13/23/33/43/53	1050
77	16¾	19	82⅛	18	22	ET-54/15/25/35	1150
143½	16¾	19	2 x 78⅝	18	21¾	ET-45/55 Z-14/24/34/44	1800
143½	23	19	2 x 78⅝	24	22	Z-54/15/25/35/45	2400
154	23	24	2 x 82⅛	24	28	Z-55	2900

* May be split into two or more sections of standard RETMA rack height for convenience in handling. Interconnecting cable is provided. Dimension given is **total** panel height.

** Measured **behind** panel. Includes all projections to rear. Control elements protrude less than 2½" in **front** of panel.

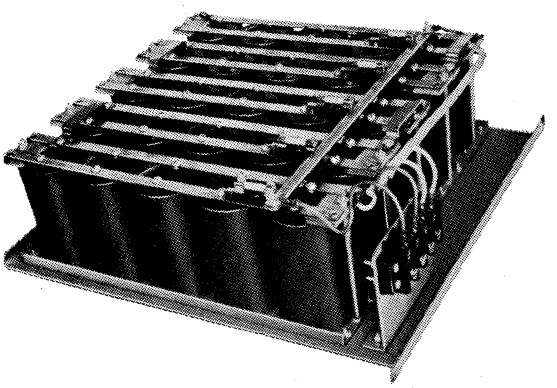
† Weight given is max. for highest-power supply in given cabinet size class. Check factory for exact weight.

†† Certain models have 2 cabinet which are stackable. The cabinet heights given are **total** height.

INPUT REQUIREMENTS

INPUT VOLTAGE REQUIRED	INPUT CIRCUIT	MODELS
115 Volts RMS nominal 60 cps.	single phase 2 wire or 2 wire plus ground	ET-10/20/30/40/50/11/21/31/41 Z-10/20/30/40/50/11/21/31/41
208 Volts RMS nominal 60 cps.	three phase 4-wire	All ET and Z models not listed above except ET-55 and Z-55.
440 Volts RMS nominal 60 cps.	three phase 3-wire	ET-55 Z-55

Typical capacitor bank assembly available as accessory to zero-lag supplies to extend transient response and reduce ripple.



NJE CORPORATION
Electronic Development & Manufacturing
Kenilworth, New Jersey • CHestnut 1-1500
TELEFAX: FFP • TWX: ROSELLE 51

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For Prices, See NJE Pages 938-939

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VACUUM-TUBE REGULATED DC Power Supplies

STANDARD GRADE

NOTES

METERS: Ammeter and voltmeter furnished as standard equipment on all models. 3" or 4½" rectangular (depending upon panel height), accuracy ±2% of full-scale, single range. Unmetered models available on S-1001 and S-1003. Other models can be furnished without meters on special order only.

POLARITY: All supplies can be floated up to 500V peak off ground. Either polarity may be grounded to chassis. Ground terminal provided.

DERATING: These supplies are rated for continuous duty at 45°C ambient temperature. Consult our engineering department for ratings at higher ambient temperatures.

TRANSIENT RESPONSE: These supplies exhibit zero-lag behavior for ±10% line transients and for ±20% load transients. By "zero-lag" we mean the output voltage never leaves the specified regulation region, even in response to instantaneous (square-wave) step loading or instantaneous (prolonged) step line voltage changes.

FINISH: Front panels are finished in light grey hammertone baked enamel. Frames and chassis have baked enamel or appropriately plated industrial finishes. Cabinets have contrasting dark-grey hammertone baked enamel finish. Other finishes on special order only.

INPUT-OUTPUT TERMINATION: All terminals at rear of chassis. Phenolic barrier strips employed throughout all models.

STATIC LOAD REGULATION: The static load regulation figures given in the charts to the right describe the behavior of the supply from no load to full load at constant nominal line voltage input. It is assumed that the load variation is slow. For transient response, see note above. When the load regulation is given as " % or MV" it is understood that the larger figure governs.

STATIC LINE REGULATION: The static regulation figures given in the charts to the right describe the behavior of the output voltage at any constant load within rating when the line voltage input is slowly varied over 115V ±10%. For transient behavior see note above. When the line regulation is given as " % or MV" it is understood that the larger figure governs. Line regulation holds over 55-420 cps input frequency range.

STANDARD — GRADE SINGLE SUPPLIES

Model	Output Voltage Range	Output Current Range	Static Load Reg'n.	Static Line Reg'n.	Ripple RMS Milli-volts	Rack Dimensions Depth	Panel Width	Height	Approx. Weight Lbs.
S-300-RM S-300-CM	200-500 0to—150	0-300MA 0-5MA	0.5% or 1 volt	0.5% or 1 volt	10	13"	19"	8¾"	50
S-400-RM S-400-CM	0-300 0to—150	0-300MA 0-5MA	0.5% or 1 volt	0.5% or 1 volt	10	13"	19"	8¾"	50
S-1001-R S-1001-RM	0-300	0-200MA	0.1% or 20 millivolts	±0.1% or ±20 millivolts	3	17½"	19"	3½"	40
S-1003-R S-1003-RM	0-300	0-400MA	0.1% or 20 millivolts	±0.1% or ±20 millivolts	3	14¾"	19"	5¼"	40
S-324-RM	800-2000	0-10MA	60 millivolts	±0.005%	25	11"	19"	5¼"	25
S-325-RM	500-2500	0-10MA	60 millivolts	±0.005%	5	12½"	19"	5¼"	30

Notes: All models except S-324 and S-325 have 6.35 volt CT, insulated (500 V) isolated unregulated 5A AC filament supplies. All units except S-300 and S-400 are equipped with dust covers, and may be used as bench supplies. All units may be stacked to conserve bench space.

STANDARD — GRADE DUAL SUPPLIES

Model	Series—Aiding Output Range VOLTS	MA	Series—Opposing* Output Range VOLTS	MA	Parallel Output Range VOLTS	MA
S-2300-RM	400-1000	0-300	200-0-200	0-300	200-500	0-600
S-2400-RM	0-600	0-300	150-0-150	0-300	0-300	0-600
S-21001-R S-21001-RM	0-600	0-200	150-0-150	0-200	0-300	0-400
S-21003-R S-21003-RM	0-600	0-400	150-0-150	0-400	0-300	0-800

DUAL SUPPLIES are furnished as three separate elements:
Two single supplies (see chart above) PLUS a dualling panel 7" high x 14¾" deep, x 19" wide. An interconnecting cable is furnished. Weight of dualling panel, 40 lbs. Cabinet versions are mounted in dark-grey bench cabinets 21¾" wide, 15" deep. Cabinet height = total panel height PLUS 1¾". For cabinet version, substitute "C" for "R" in model number.

* Models S-21001 and S-21003 have "commoned" negative terminal when placed in Series-Opposing mode, permitting current-sink operation.

Unique interconnection forces accurate load sharing.

PARALLEL

Generous insulation margins permit any ground and any polarity choice within single-supply ratings.

AIDING — **OPPOSING**

Permits operation down to zero without loss of regulation efficiency. Preload automatically connected to permit full current pumpback.

ISOLATED

Complete independence is achieved through circuit isolation of all elements of each single supply.

THE EXCLUSIVE NJE DUALLING CIRCUIT: 4 DISTINCT MODES OF OPERATION

FOR ECONOMY AND COMPACTNESS

STANDARD GRADE

Specifications held throughout normal tube life.

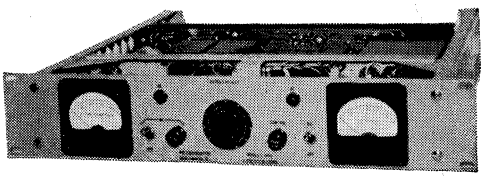
Generous safety-margins prevent self-damage due to overload. No electrolytics.

All components within manufacturer's ratings.

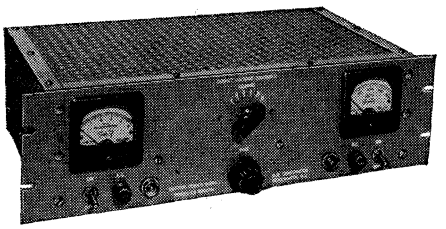
50°C maximum temperature-rise on all iron-core components. No "surplus" components.

Printed circuit technique permits mass production economy at no sacrifice in performance and appearance.

Clean, attractive panel layout.



Model S-1001-RM, 0-300V, 0-200MA.



Model S-324-RM, 800-2000V, 0-10MA.

See YELLOW SECTION for Local Offices, Telephones, etc.
For Prices, See NJE Pages 938-939

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SILICON BRUTE FORCE DC Power Supplies

with or without line regulators

NJE

NOTES

RIPPLE: Less than 1% RMS at any output voltage or current within rating.

STATIC LOAD REGULATION: Expressed as percentage of maximum rated voltage for 0-100% load change, at constant line voltage.

METERS: Ammeter and Voltmeter furnished as standard equipment on all models. 4½" rectangular, accuracy ±2% of full-scale, single range. Unmetered models and multiple ranges available on special order only.

POLARITY: All supplies can be floated up to 500V peak off ground. Either polarity may be grounded to chassis. Ground terminal provided.

FILTER: All models employ **choke-input** filter, heavily preloaded for best regulation.

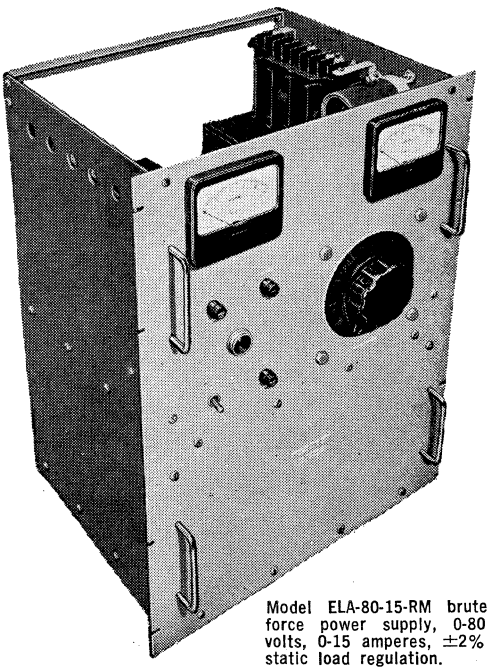
DERATING: All components are generously derated for long, trouble-free life at 35°C maximum ambient temperature. Further derating by the customer will result in tighter "apparent load regulation", since regulation curve is essentially linear with load current.

TRANSIENT RESPONSE: These supplies may be "zero-lagged" by the addition of appropriate capacitor banks. Capacitor banks listed on page 3 for TRM supplies may be conveniently added. Consult our engineering department for details. "Zero-lag" is defined in description of thyratron supplies, page 7.

LINE REGULATOR: All line-regulated equipment employs NJE's improved version of the well known ferro-resonant principle. Response time is less than 2 cycles of line, and regulator is adjusted for "constant-average" rather than "constant-RMS". Oversized magnetic components, high-temperature insulation, and conservative design of resonating capacitors insures longer life and less thermal drift than formerly possible. These line regulators **are** frequency sensitive. Check our engineering department for solution to variable frequency problems.

FINISH: Front panels are finished in light grey hammertone baked enamel. Frames and chassis have baked enamel or appropriately plated industrial finishes. Cabinets have contrasting dark-grey hammertone baked enamel finish. Other finishes on special order only.

INPUT-OUTPUT TERMINATION: All input terminals at rear of chassis. Output terminals available on front panel and at rear of chassis. Lower current models employ phenolic barrier terminals of appropriate size. Higher current models have threaded-stud output terminals.



Model ELA-80-15-RM brute force power supply, 0-80 volts, 0-15 amperes, ±2% static load regulation.

MODEL NUMBER	VOLTAGE RANGE (Volts)	CURRENT RANGE (Amperes)	INPUT	*RACK DIMENSIONS (Inches) HIGH*	WIDE*	DEEP†	Add Height with Line Regulator*	** WEIGHT (Lbs.)
32-10	0-32	0-10	115V 60 CY 1 PH 2-wire	12¼	19	14⅝	5¼	60
32-20	0-32	0-20	"	17½	19	16⅝	12¼	80
32-30	0-32	0-30	"	17½	19	16⅝	10½	120
80-4	0-80	0-4	"	12¼	19	14⅝	5¼	60
80-8	0-80	0-8	"	17½	19	16⅝	12¼	80
80-15	0-80	0-15	"	17½	19	16⅝	15¾	120
160-4	0-160	0-4	"	17½	19	16⅝	12¼	80
160-8	0-160	0-8	"	17½	19	16⅝	15¾	120

* Cabinet height is 1¾" additional, width approx. 3" additional.

† Measured **behind** panel. Cabinets are 15" or 18" deep.

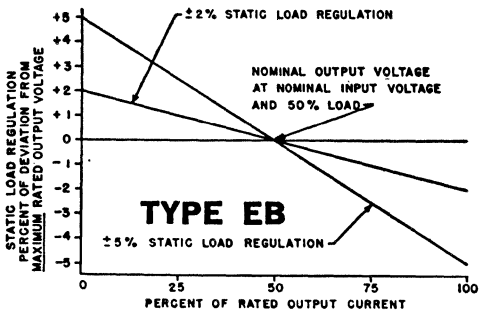
** Weight given is for rack model, without line regulator.

· Cabinet models with line regulators are 36¾" high (except 32-10 & 80-4 are 19¼") and 22" wide.

FIRST

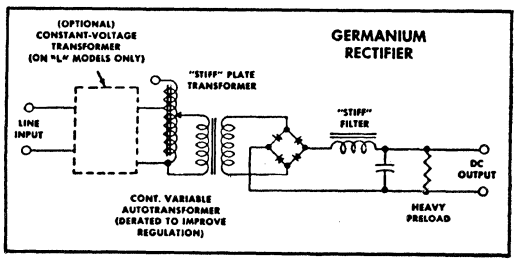
SELECT MODEL NUMBER FROM THIS VOLTAGE-CURRENT CHART.

TYPE EA



THEN

SELECT STATIC LOAD REGULATION CHARACTERISTIC FROM THIS GRAPH — ±5% OR ±2%.



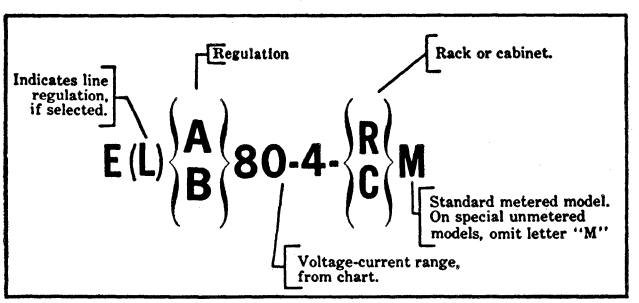
Optional line regulator reduces ±10% input voltage changes at any constant load to ±0.5% output voltage variations. Circuit shown is typical single-phase unit.

THEN

SELECT EITHER UNREGULATED TYPE OR "SEMI-REGULATED" WITH TUBELESS, FAST, FERRO-RESONANT LINE REGULATOR.

THEN

CONSTRUCT COMPLETE CATALOG NUMBER AS SHOWN.



See YELLOW SECTION for Local Offices, Telephones, etc.

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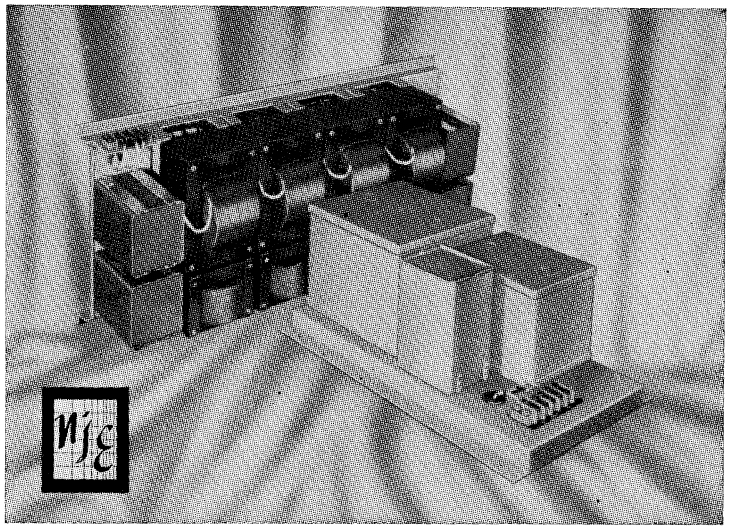
MILITARIZED AC Line Voltage Regulators

stock models.....

designed to meet military specifications



NOTES

INPUT: 100 to 130 volts, 60 cycles, single phase.

OUTPUT: 115 volts AC (nominal).

POWER FACTOR: (Wattmeter method) approximately 85%, full load, nominal input.

EFFICIENCY: Approximately 80%, full load, nominal input.

TRANSIENT RESPONSE: Recovery time to the regulation region (after 10% line step or 25% load step) is less than 35 milliseconds.

FREQUENCY: Designed for constant-frequency use, but will operate reasonably well over 58 to 62 cycles.

CONSTRUCTION: Tubeless. No moving parts. Quiet operation. Advanced form of proven resonant-saturation principle. Grade 1 is hermetically-sealed in steel can, per MIL-T-27A. Grade 3 is open core and coil construction per MIL-T-27A.

ALSO AVAILABLE: Commercial Models—
Featuring the same excellent performance characteristics, and manufactured under the same rigid quality control standards as the militarized regulators, these units offer the economy of commercial construction, for those applications where military characteristics are not needed or specified.

MODEL VR504 "Constant Average" performance, 500VA. Same specifications as model CAV-5-AA-3M, but utilizes commercial components.

MODEL VR505 "Constant RMS", 500VA. Same as model CRM-5-AA-3M, but utilizes commercial components.

Several modules of either the VR504 or VR505 can be operated in parallel for higher output ratings in multiples of 500VA.

MODEL CRM-20-AA-3M
Designed to conform to MIL-T-27A, Grade 3, Class T, Life Expectancy X.
Capacitor to JAN-C-25A.
Input 100-130V, 60 cps, output 115V ± 1%, 60 cps, "constant RMS", at 2000VA.

MODEL CAV-5-AA-1M
Designed to conform to MIL-T-27A, Grade 1, Class T, Life Expectancy X.
Capacitor to JAN-C-25A.
Input 100-130V, 60 cps, output 115V ± 1%, 60 cps, "constant average" at 500VA.

STANDARD MODELS:

MODEL NUMBER*	OUTPUT RATING	TOTAL STATIC† REGULATION
CAV-5-AA-1M or -3M	500VA	±1.5%
CRM-5-AA-1M or -3M	500VA	± 1 %
CAV-10-AA-1M or -3M	1000VA	±2.5%
CRM-10-AA-1M or -3M	1000VA	± 1 %
CAV-15-AA-1M or -3M	1500VA	±2.5%
CRM-15-AA-1M or -3M	1500VA	± 1 %
CAV-20-AA-1M or -3M	2000VA	±2.5%
CRM-20-AA-1M or -3M	2000VA	± 1 %

* CAV models are adjusted for "constant average" performance.
They are designed to function as the electrical source for a "brute-force" DC power supply; their constant-average waveform insures minimum regulation of the DC output voltage of the supply, regardless of variations in the voltage of the line feeding the regulator, and regardless of variations in the external load (additional to the normal bleeder load) on the power supply.
CRM models are adjusted for "constant RMS" performance.
They are designed for use with heater and lamp loads.
Models designated -1M are hermetically sealed in steel cans per MIL-T-27A.
Models designated -3M are open-core-and-coil construction per MIL-T-27A.

† For worst possible combination of: input variations from 100 to 130 volts, load variations from zero to full load (CRM), from bleeder load to full load (CAV).

NJE CORPORATION
Electronic Development & Manufacturing
Kenilworth, New Jersey • CHestnut 1-1500
TELEFAX: FFP • TWX: ROSELLE 51

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CUSTOM DC POWER SUPPLIES AND POWER SUPPLY SYSTEMS

NJE LEADS THE CUSTOM FIELD

COMPUTER POWER SUPPLIES: During the past two years, NJE has manufactured large power supply systems for 12 of the 14 major computer manufacturers in this country! We are proud that these "giants" of the industry have turned to us again and again for the specification, design, development, and construction of the power supply for some of their most important computers and data processing systems. We believe that our broad experience in the many specialized power supply, distribution, sequencing, protection, and marginal-checking problems associated with high-reliability computation systems justifies their choice of NJE.

MILITARY POWER SUPPLIES During the same period, we designed and built power supplies and power supply systems for 7 of the nation's 12 major missile programs. Our experience encompasses ground, air, and marine equipment to almost all the current military specifications. Many of our standard catalog items can be modified to military specifications on relatively short delivery cycles.

AUTOMATION POWER SUPPLIES Many of our stock model and custom power supplies, particularly the tubeless, high reliability equipment required for high current and power levels, have been successfully applied to industrial automation systems. From electrostatic spray processes to automatic programming of machine tools, our experience in the problems peculiar to industrial applications are at the disposal of automation system designers.

AMONG OUR MAJOR CUSTOM EFFORTS TO DATE:

LARC COMPUTER POWER SUPPLY
(Remington Rand Univac)

DATAMATIC "1000" POWER SUPPLIES
(Minneapolis Honeywell, Datamatic Division)

SAGE LABORATORY POWER SUPPLY SYSTEM
(International Business Machines Corporation)

"ERMA" COMPUTER POWER SUPPLY SYSTEM
(General Electric Company)

"DIANA" COMPUTER POWER SUPPLY SYSTEM
(International Computer Corporation)

FLAC POWER SUPPLY SYSTEM
(RCA - Patrick Air Force Base)

WS-107A GROUND SYSTEM POWER SUPPLY
(Arma Division of American Bosch Arma Corporation)

"HUSTLER" CHECK-OUT SYSTEM POWER SUPPLY
(Sperry Gyroscope, Division Sperry Rand Corporation)

LA CROSSE PRODUCTION CHECK-OUT POWER SUPPLY SYSTEM
(The Martin Company)

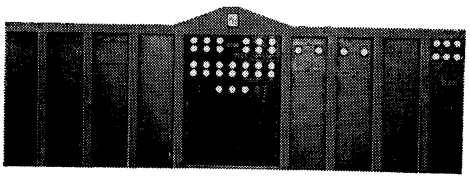
"HUSTLER" GROUND SUPPORT POWER SUPPLY SYSTEM
(Raytheon Manufacturing Company)

AUTOMATIC MILLING-MACHINE CONTROL POWER SUPPLY SYSTEM
(Cincinnati Milling Machine Company)

AUTOMATIC CROSS BAR REGISTER POWER SUPPLY SYSTEM
(Bell Telephone Laboratories)

FUEL VALVE PRODUCTON-CHECK POWER SUPPLY SYSTEM
(Bendix Products Corporation)

PROGRAMMED CAPACITOR-FORMING POWER SUPPLIES
(General Electric Company)



FLAC Power Supply System installed at Patrick Air Force Base, Cocoa Beach, Florida. 15 outputs totaling 55KVA of "zero-lagged" computer power supplies.

TITAN CHECK-OUT SYSTEM
(The Martin Company)

ATLAS TELEMETERING AIRBORNE POWER SUPPLY
(The Martin Company)

VACUUM TUBE AGEING POWER SUPPLY
(RCA Manufacturing Company)

ELECTROSTATIC PAINT-SPRAYING POWER SUPPLIES
(General Motors Corporation)

AMONG OUR CUSTOM DESIGNS ARE THE FOLLOWING, which have achieved popularity through their usefulness in a variety of applications:

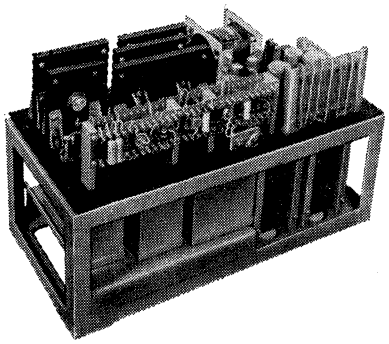
Model CS-52TR07B: 9-11 volts DC, 0 to 1 ampere. 115 volts, 60 to 400 cps input. 0.1% regulation **total** for line and load, 0° to 50°C.

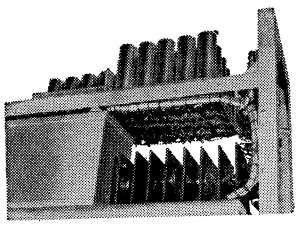
Model CS-51H34: 0-2500 volts DC, 0 to 50 milliamperes, 115 volts, 60 cycle input. Regulation: 200 millivolts total for line and load. Ripple: 5 millivolts RMS.

Model CS-51TR30B: 5 volts DC (adjustable ±10%), 0 to 1 ampere, 115 volts, 400 cycle input. 0.5% total regulation for line, load, —60°F to +160°F.

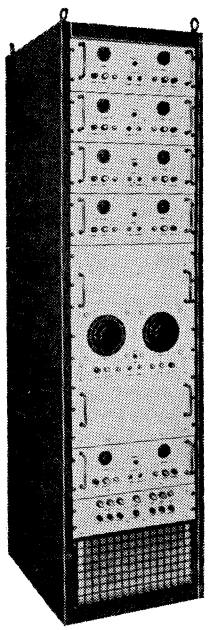
Model CS-50TRV07: 0-25 volts DC, 0-10 amperes, 0.01% stability, ripple: 1 millivolt peak-to-peak.

Transistor-regulated power supply for ground support system, to MIL-E-4158A.





Transistor-driven, magnetically-regulated, zero-lagged power supply for shipboard use to Bureau of Ships specification MIL F18870.



Complete power supply system based on line regulated brute force tubeless supplies, built to MIL-E-16400 for ground preflight check-out.

See YELLOW SECTION for Local Offices, Telephones, etc.

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For Prices, See NJE Pages 938-939

PRICE LIST

NJE POWER SUPPLIES

F.O.B. KENILWORTH, N. J.

PAGES 1 & 2
SOLID STATE SUPPLIES

Model	Price
SS-7-15	$700
SS-10-10	590
SS-10-50	1350
TR-18-2	250
SS-32-3	545
SS-32-10	750
SS-32-20	990
TR-36-1	250
SS-3600	2100
SS-1503	545
SS-1603	625
SS-3003	795
SS-1505	795
SS-1605	890

Prices listed above are for 55-65 cps operation.
Nominal additional charge for 380-420 cps operation.

PAGES 3 & 4
TRM SUPPLIES

Model	RM	CM
TRM-28-30	$725	$755
TRM-28-60	1090	1130
TRM-28-120	*	2200
TRM-40-15	765	795
TRM-40-30	940	975
TRM-40-60	1310	1355
TRM-40-120	*	2750
TRM-80-7.5	785	815
TRM-80-15	960	995
TRM-80-30	1330	1375
TRM-80-60	*	2800
TRM-160-7.5	990	1025
TRM-160-15	1370	1415
TRM-160-30	*	2850

*Not available in rack form.
Prices listed above are for 55-65 cps operation.

Cap. Bank	Rack	Cabinet
CB-15A	$200	$220
CB-25A	200	220
CB-50A	200	220
CB-125A	200	220
CB-200A	200	220
CB-15B	400	425
CB-25B	400	425
CB-50B	400	425
CB-125B	400	425
CB-200B	400	425
CB-15C	600	635
CB-25C	600	635
CB-50C	600	635
CB-125C	600	635
CB-200C	600	635
CB-15D	800	840
CB-25D	800	840
CB-50D	800	840
CB-125D	800	840
CB-200D	800	840

PAGES 5 & 6
HIGH VOLTAGE SUPPLIES

Model	Base Price	Add for AC/DC Output*	Add for Line Reg.*	Add for Casters*
H-15	$760	$50	$120	—
H-16	850	50	150	—
H-20	650	50	65	—
H-23	750	50	120	—
H-24	780	50	150	—
H-26	890	50	290	$50
H-27	1100	50	560	50
H-30	690	60	85	—
H-33	760	60	150	—
H-35	980	60	290	50
H-36	1200	60	560	50
H-40	780	90	85	—
H-41	830	90	150	—
H-43	990	90	290	50
H-45	1180	90	560	60
H-50	900	120	150	—
H-51	1040	120	290	60
H-54	1350	120	560	60

Model	Base Price	Add for AC/DC Output*	Add for Line Reg.*	Add for Casters*
H-60	$1300	$180	$120	$90
H-61	1480	180	290	90
H-62	1650	180	560	90
H-71	1700	190	560	90
H-80	1850	360	560	90
H-90	2400	—	560	90
HH-140	2000	—	600	120
HH-150	2450	—	850	180
HH-230	2180	—	600	120
HH-240	2670	—	850	180
HH-320	2300	—	600	120
HH-330	3000	—	850	180
HH-410	2500	—	600	120
HH-520	3250	—	850	180
HH-600	2690	—	600	120
HH-710	3440	—	850	180
HP-5***	430	—	**	

***For Rack Mounting add $20

*Optional Accessory
**Check with Factory

NJE CORPORATION
Electronic Development & Manufacturing
Kenilworth, New Jersey • CHestnut 1-1500
TELEFAX: FFP • TWX: ROSELLE 51

All prices are F.O.B. Kenilworth, N. J. and are subject to change without prior notice.

See YELLOW SECTION for Local Offices, Telephones, etc.
For Prices, See NJE Pages 938-939

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PRICE LIST

NJE POWER SUPPLIES

F.O.B. KENILWORTH, N. J.

PAGES 7 & 8
THYRATRON & ZERO-LAG SUPPLIES

Model	RM	CM
ET-10	$610	$640
ET-11	695	725
ET-12	1005	1035
ET-13	1280	1320
ET-14	1920	1970
ET-15	3010	3080
ET-20	615	645
ET-21	705	735
ET-22	1005	1040
ET-23	1320	1360
ET-24	1985	2035
ET-25	3130	3200
ET-30	620	650
ET-31	720	750
ET-32	1065	1100
ET-33	1475	1515
ET-34	2050	2100
ET-35	3230	3300
ET-40	640	670
ET-41	770	800
ET-42	1120	1155
ET-43	1530	1565
ET-44	2320	2370
ET-45	3580	3650
ET-50	665	695
ET-51	1130	1165
ET-52	1220	1255
ET-53	1600	1640
ET-54	2700	2750
ET-55	3930	4000
Z-10	810	845
Z-11	1195	1250
Z-12	1515	1580
Z-13	1985	2055
Z-14	3140	3220
Z-15	4230	4330
Z-20	815	850
Z-21	1205	1260
Z-22	1520	1585
Z-23	2025	2095
Z-24	3205	3285
Z-25	4350	4450
Z-30	820	855
Z-31	1220	1275
Z-32	1580	1645
Z-33	2180	2250
Z-34	3300	3350
Z-35	4450	4550
Z-40	840	875
Z-41	1270	1325
Z-42	1635	1700
Z-43	2230	2300
Z-44	2935	3015
Z-45	5290	5390
Z-50	865	900
Z-51	1655	1710
Z-52	1735	1800
Z-53	2305	2375
Z-54	3920	4000
Z-55	5750	5850

PAGE 9
VACUUM TUBE SUPPLIES

Model	R	RM	C	CM
S-300	S	$275	S	$295
S-400	S	275	S	295
S-1001	$210	230	NA	NA
S-1003	275	295	NA	NA
S-324		345	NA	NA
S-325		395	NA	NA
S-2300	S	585	S	625
S-2400	S	585	S	625
S-21001	560	600	$580	620
S-21003	690	730	710	750

S—Available on special order only.
NA—Not applicable. Unit can be used as rack or bench model, without alteration.

PAGE 10
BRUTE FORCE SUPPLIES

Model	RM	CM	Model	RM	CM
EA-32-10	$370	$390	EB-32-10	$320	$340
EA-32-20	480	510	EB-32-20	420	450
EA-32-30	610	640	EB-32-30	540	570
EA-80-4	360	380	EB-80-4	330	350
EA-80-8	470	500	EB-80-8	410	440
EA-80-15	590	620	EB-80-15	520	550
EA-160-4	490	520	EB-160-4	430	460
EA-160-8	590	620	EB-160-8	540	570
ELA-32-10	460	490	ELB-32-10	400	430
ELA-32-20	640	675	ELB-32-20	580	615
ELA-32-30	880	915	ELB-32-30	800	835
ELA-80-4	440	470	ELB-80-4	410	440
ELA-80-8	630	665	ELB-80-8	570	605
ELA-80-15	860	895	ELB-80-15	780	815
ELA-160-4	650	685	ELB-160-4	590	625
ELA-160-8	955	990	ELB-160-8	895	930

PAGE 11
LINE REGULATORS

Basic Model	-1M	-3M	Basic Model	-1M	-3M
CAV-5-AA	$255	$190	CRM-5-AA	$255	$190
CAV-10-AA	525	395	CRM-10-AA	525	395
CAV-15-AA	785	605	CRM-15-AA	785	605
CAV-20-AA	1035	780	CRM-20-AA	1035	780
VR504	$80		VR505	$80	

Generous quantity discounts available.

NJE CORPORATION
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TELEFAX: FFP • TWX: ROSELLE 51

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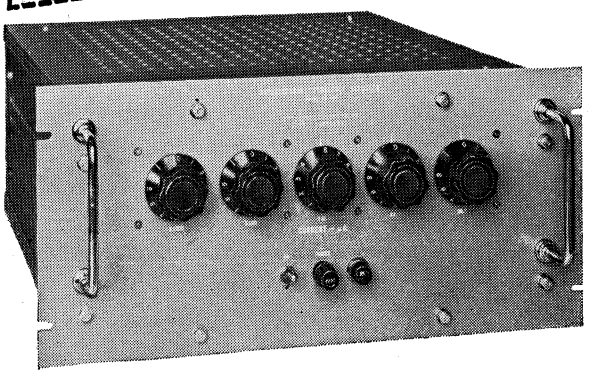
NORTH HILLS
ELECTRIC COMPANY, INC.

For Constant Current
0.01 μ amp. - 30 amp



- For diode aging and life test
- For diode PIV test
- For transistor avalanche test
- For gyro torquer supply
- For current sensitive devices

North Hills CURRENT GOVERNORS are widely used by manufacturers and users of current sensitive devices. Of particular interest is the programmable feature in all models, since the current may be electronically pulsed, modulated or programmed.

Features included are as follows: Constant current over wide voltage range, high accuracy and stability, rapid manual or automatic selection of desired current level, current may be electronically pulsed, modulated, and programmed, inline readout, chopper amplifier, temperature compensated sampling resistors and reference elements, oven controlled reference, and use of high quality components and workmanship throughout.

Applications include forward and reverse testing of diodes, measurement and testing of gyro torquers, transistors, clutches, solenoids, magnetic cores, batteries, fuses, meters, bolometers, thermistors, precision light filaments, transducers, potentiometers, relays and other current sensitive devices.

Our staff engineers are always available for consultation on any current control problems you may encounter. Why not call today?

Model No. (all units operate from 115 V AC ±10%)	Regulated Output Current	Output Voltage	Regulation Load and Line	Absolute Accuracy	Stability Short Term	Ripple (RMS)	Size Rack Mounted W"H"D"	Net Wgt	Typical Application
CG-1*	1-600 ma-dc	0—600	0.01%	1%	0.1%	0.1%	19x 8¾x14	30#	General
CG-12*	0.5-30 amp dc	0—15	0.05%	2%	0.1%	0.1%	19x14 x22	60#	Rectifier Test
CS-112	0.1μa-10 ma dc	0±100	0.008%	0.5%	0.05%	0.02%	19x 8¾x15	35#	Transistor Test
CS-120	0.1μa-10 ma dc	0—2000	0.1%	1%	0.1%	0.15%	19x 8¾x15	35#	PIV Test
CS-11	1μa-100 ma dc	0—50	0.002%	0.02%	0.001%	0.02%	19x10½x18	40#	Gyro Test
CS-117	0.1μa-150 ma	0±100	0.002%	0.005%	0.001%	0.02%	19x12¾x18	45#	Gyro Test
CS-12	10μa-1 amp dc	0—7	0.01%	0.1%	0.02%	0.05%	19x10½x15	35#	Meter Calibration
CS-1	1-10 amp dc	25—125	1%	2% F.S.	1.0%	2%	19x 8¾x15	60#	Magnetic Field Supply

*CG-1 and CG-12 require external unregulated power source to supply load power. Other units are completely self contained.

SOLIDCEL**—North Hills voltage reference standard is triple regulated ultra stable solid state temperature compensated oven controlled zener. Applications include replacement of standard cells, calibration, bias source, voltage reference, etc. **TM

See North Hills Coil Products in the Radio Electronic MASTER (23rd edition), page 769.

nh

NORTH HILLS
ELECTRIC COMPANY, INC.
402 SAGAMORE AVE., MINEOLA, N.Y. | Pioneer 7-0555

Order from Local Electronic Parts Distributors or Write for List.

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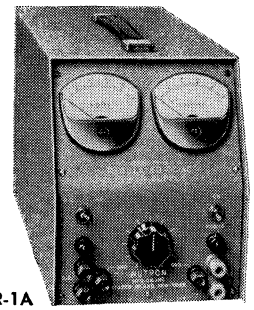
ELECTRONICS FOR INDUSTRY

NUTRON

Variable Power Supplies



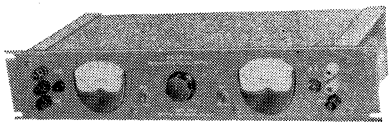
PR-1A

MODELS PR-1A & RM-1A FOR TRANSISTOR APPLICATIONS

Nutron's popular PR-1A (portable) and RM-1A (rack model) supply will solve 90% of all requirements for a versatile source of well filtered DC at high current. DC and AC outputs are isolated from line and are regulated against line voltage variations. Highly efficient, and short-circuit protected, these supplies require no warm-up time or internal adjustments.

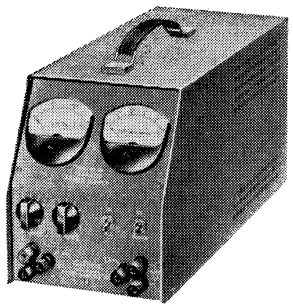
Input: 95-130v, 60 cycles (nominal 115 volts)
Output: DC-O-120v, 1 Ampere, AC-O-130v, 1 Ampere
Regulation: ± 1% for line variations from 95-130 volts.
Ripple: 0.02%.

RM-1A*



Model PR-1A (portable) $195.00
Model RM-1A (rack mount) only 3½" high 185.00
*Less meters 155.00

PORTABLE ELECTRONICALLY REGULATED SUPPLIES

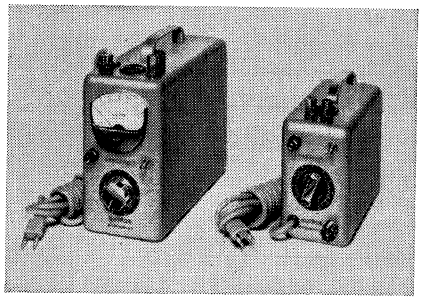


These lightweight, portable supplies are designed for lab and industrial use where precision voltage and regulation are required. All models feature extremely smooth voltage settings through the use of a step-type precision voltage divider plus a vernier control. Response to load changes is within a few microseconds All adjustments are manually operated on the front panel, no internal adjustments are required.

INPUT: 105-125V 50-60 CYCLES

Model	DC Output Volts	Current ma	Ripple	Regulation Line	Regulation Load	Int. Res. ohm	Response Time	AC Output (Unregulated)	Price
PR-100L	0-100	100	1mv	0.1 %	0.1%	1	25 u sec.	6.3V@3A	$225
PR-100	120-300	100	1mv	.05%	.05%	1	25 u sec.	6.3V@3A	225
PR-200	120-300	200	1mv	.05%	.05%	0.5	25 u sec.	6.3V@6A	255

NEW! HANDIVOLT . . . COMPACT DC/AC SUPPLIES

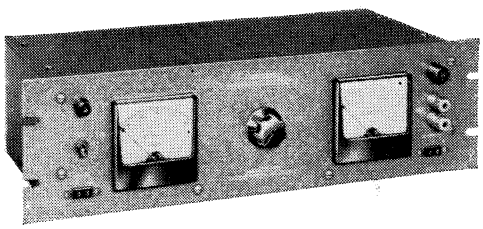


B Series A Series

Nutron's New HANDIVOLT—The outstanding utility supply for every laboratory. Smaller than a battery, never runs down. Features high power, small size, high efficiency at all voltage settings, smooth stepless control and choke type filter for low ripple content. Series B units are isolated from line and have a Voltmeter to monitor DC voltage output. All models rated for heavy duty. Variable AC output brought out to line receptacle. Low voltage models have 2 variable AC outputs. The finest "variable battery" available for any laboratory.

INPUT: A MODELS-115V, 50-400 CYCLES
B MODELS-115V, 50- 60 CYCLES

Model	DC OUTPUT Volts	Amps	Ripple (Full Load)	Isolated from Line	Volt-meter	AC OUTPUT Volts	Amps	Isolated from Line	Price
A-120-1	0-120	1	0.1%	No	No	0-130	1	No	$ 69.50
A-120-2	0-120	2	0.1%	No	No	0-130	3	No	139.00
B-120-1	0-120	1	0.1%	Yes	Yes	0-130	1	Yes	109.00
B-120-2	0-120	2	0.1%	Yes	Yes	0-130	3	Yes	179.50
B- 60-2	0- 60	2	0.2%	Yes	Yes	0-130	1	No	149.50
						0- 60	2	Yes	
B- 60-4	0- 60	4	0.2%	Yes	Yes	0-130	3	No	179.50
						0- 60	6	Yes	
B- 30-4	0- 30	4	0.4%	Yes	Yes	0-130	1	No	159.50
						0- 30	4	Yes	
B- 30-8	0- 30	8	0.4%	Yes	Yes	0-130	3	No	209.50
						0- 30	10	Yes	



*MVAU SERIES

7 Models . . . 3-20 Amperes

(*Maximum VA Utilization)

Nutron's MVAU series are variable regulated AC power supplies providing essentially distortion-free output waveform. They are particularly useful where output voltage must remain constant under varying line voltage conditions. Maximum VA output is obtained down to the lower voltage settings through the use of a high current capacity transformer. Additional line outlets are provided for regulated fixed 115V and variable regulated AC. Models are available with maximum current ratings from 3 to 20 amperes.

INPUT: 100-130V, 60 CYCLES

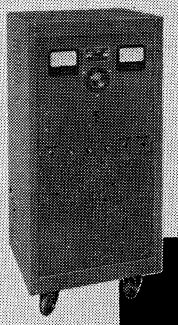
Model	VA Rating	Voltage	Current (Max)	Panel Height	Price
MVA 60-3	60	0-130	3 Amps.	5¼	$165.00
MVA120-3	120	0-130	3 Amps.	5¼	180.00
MVA120-8	120	0-130	7.5 Amps.	5¼	195.00
MVA250-3	250	0-130	3 Amps.	7	215.00
MVA250-8	250	0-130	7.5 Amps.	7	225.00
MVA500-8	500	0-130	7.5 Amps.	7	265.00
MVA500-20	500	0-130	20 Amps.	8¾	340.00

For custom requirements or further information on any Nutron model write:

NUTRON MFG. CO., INC.
67 MONROE AVE., STATEN ISLAND 1, N. Y., Gibraltar 7-3229

See YELLOW SECTION for Local Offices, Telephone, etc.

Opad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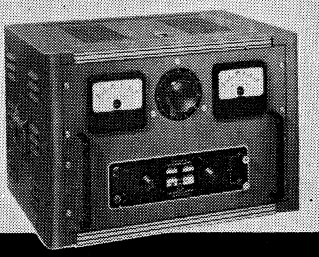
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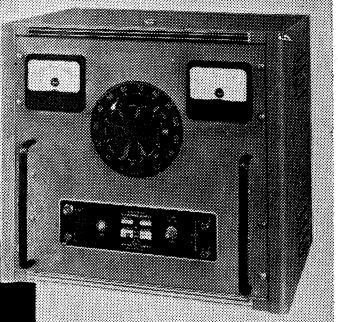
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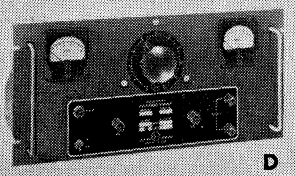
POWER SUPPLIES

IMMEDIATE DELIVERY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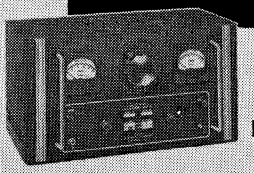
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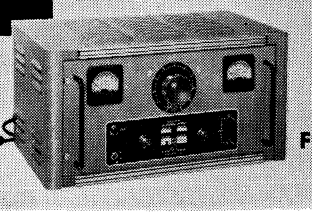

F

0-32 V.D.C. ½ % Ripple

Input: 115 V.A.C. 60 Cycles, Single Phase

Amps.	Model	Style	H	W	D	Fig.
5	KM75	Rack	8¾″	19″	9½″	D
	KM75B	Bench	9″	17″	9″	E
10	KM81	Rack	8¾″	19″	9½″	D
	KM81B	Bench	9″	17″	9″	E
20	KM87	Rack	8¾″	19″	9½″	D
	KM87B	Bench	10½″	22″	12″	F
40	KM93	Rack	12¼″	19″	13″	—
	KM93B	Bench	14″	22″	15″	B

FEATURES

- Vacuum Varnish Impregnated Magnetic Components.
- 4½″ Rectangular 2% Accuracy, D.C. Panel Meters (3½″ on small units).
- Controls include power switch, line and load fuses, pilot light, voltage control knob, output binding posts.
- Voltage Regulation: 1/10 Load 36 Volts
  Full Load 32 Volts
- Panel Type Carrying Handles.
- Convection Cooled Continuous Duty Ratings.

Bulletin No. 102

0-32 V.D.C. 4% Ripple

Input: 208 V.A.C. 60 Cycles, 3 Phase

Amps.	Model	Style	H	W	D	Fig.
100	FR100	Floor	46″	22″	18″	A
200	FR200	Floor	46″	22″	24″	A

FEATURES

- Fully Self-Protecting Circuit.
- Pushbutton Operated Magnetic Contactor.
- Indicating Type AC Input Fuses.
- Adjustable Overcurrent Control in D.C. Circuit.
- Thermal Overload Device on Rectifier.
- Overload Warning Light and Reset Button.
- 4½″ Rectangular, 2% Accuracy Panel Meters.
- Low Voltage Regulation: Approx. 5—8%
- Ball Bearing Type Casters.
- Input Receptacle and Mating Plug.
- All receptacles, terminals and controls clearly designated.
- Budget Priced.

Bulletin No. 155

0-110 V.D.C. 1% Ripple

Input: 115 V.A.C. 60 Cycles, Single Phase

Amps.	Model	Style	H	W	D	Fig.
2.5	RS10	Rack	8¾″	19″	9″	D
	RS10B	Bench	10½″	22″	12″	F
5	RS20	Rack	10½″	19″	13″	D
	RS20B	Bench	12¼″	22″	15″	F
10	RS30	Rack	12¼″	19″	13″	—
	RS30B	Bench	14″	22″	15″	B
20	RS40	Rack	17½″	19″	13″	—
	RS40B	Bench	19¼″	19″	15″	C

FEATURES

- Vacuum Varnish Impregnated Magnetic Components.
- Non-Aging Rectifiers (Germanium or Silicon).
- 4½″ Rectangular 2% Accuracy D.C. Panel Meters (3½″ on small units).
- Controls include Power Switch, Line and Load Fuses, Pilot Light, Voltage Control Knob and Output Binding Posts.
- Both D.C. Terminals above ground and isolated from A.C. Line.
- Panel Type Carrying Handles.
- Convection Cooled Continuous Duty Ratings.

Bulletin No. 204

TRANSISTOR REGULATED POWER SUPPLIES

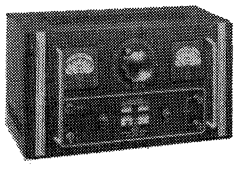
3-32 VOLTS D.C. ± ½% REGULATION* INPUT: 105-125 Volts A.C., 60-400 Cycles, Single Phase

Amps	Model	Style
1	TR10	Rack
1	TR10B	Bench
5	TR20	Rack
5	TR20B	Bench
10	TR30	Rack
10	TR30B	Bench
15	TR40	Rack
15	TR40B	Bench

*Line and Load

FEATURES

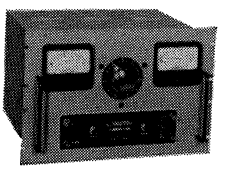
- Zener Diode Reference.
- Ripple less than 5 M.V.
- Vacuum varnish impregnated magnetic components.
- Short Circuit Protection.
- Controls include power switch, fuses, pilot light, voltage control knob and output binding posts.
- 2% Accuracy Panel Meters.
- Both output terminals above ground and isolated from A.C. line.
- Panel type carrying handles.
- Continuous duty ratings.
- High efficiency.



GENERAL PURPOSE UNITS

OUTPUT: 0-30 Volts D.C. Unfiltered Full Wave.
INPUT: 115 Volts A.C., 60 C.P.S., 1 Phase.
Model GM72 5 Amperes
Model GM78 10 Amperes
Model GM84 20 Amperes
Model GM90 50 Amperes
FEATURES: 2% accuracy Panel Meters, Line and Load Fues, Switch, Pilot Light, Binding Posts.

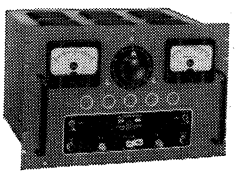
Bulletin No. 179



AIRCRAFT BATTERY SUBSTITUTE

OUTPUT: 0-30 V.D.C., 20 Amperes.
RIPPLE: Less than 1%.
INPUT: 115 V.A.C., 60 C.P.S., 1 Phase.
REGULATION: 1/10 Load, 35 Volts.
Full Load, 30 Volts.
FEATURES: Ammeter overcurrent protection circuit prevents needle 'slam' when starting inverters & motors.
MODEL KM88 ... Rack Mount
MODEL KM88B ... Bench

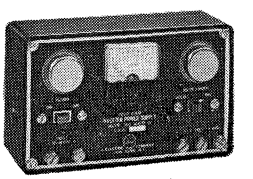
Bulletin No. 100



DUAL RANGE POWER SUPPLY

OUTPUT: 0-32/64 V.D.C., 40/20 Amps.
RIPPLE: Within 1% of average D.C.
INPUT: 115 V.A.C., 60 CPS, 1 phase.
FEATURES: Thermal overload protection, indicating line and load fuses, overload warning light, dual range voltmeter.
MODEL KM95 ... Rack Mount
MODEL KM95B ... Bench

Bulletin No. 103



D.C. TO D.C. INVERTER

INPUT: 12-14 V.D.C.
OUTPUT: Dual 225/450 55 Watts Filtered.
DIMENSIONS: 6¼″ x 3½″ x 2⅜″.
WEIGHT: 20 Ounces.
FEATURES: Dual Range Volt/Milliamp. Meter, On-Off Switch, Insulated Case, Binding Post Terminals, Silicon Rectifiers.

Model TA12

Other Ratings Available Including D.C. to A.C. Types.

Opad

OPAD ELECTRIC COMPANY

43-12 WALKER STREET • NEW YORK 13, N. Y.
Telephone: WOrth 6-0380

Opad

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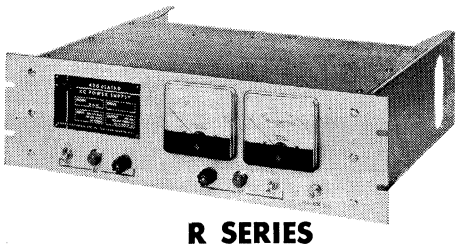
Oregon Electronics

VOLTAGE and CURRENT REGULATED POWER SUPPLIES



SIZE:
200 & 500 ma models
5¼" x 19" x 15" deep

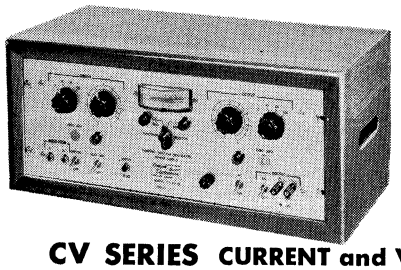
1.5 amp model
8¾" x 19" x 19½" deep

R SERIES

.05% Regulation 1 mv Ripple

THE NEW HIGH PERFORMANCE LINE

No current derating throughout full voltage range.
Excellent long term stability.

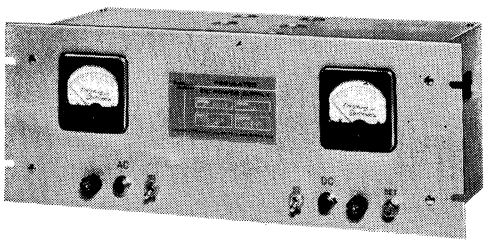


SIZE:
CV 10-10
7" x 19" x 12" deep

CV 15-50
7" x 9" x 15" deep

CV SERIES CURRENT and VOLTAGE REGULATION

with adjustable peak current and voltage limiting. ***Ideal for transistor work.***



SIZE:
7" x 19" x 8" deep

MODEL G.P. 32-30

.05% Regulation 0.5 mv Ripple

THE QUALITY ECONOMY UNIT

SINGLE and DUAL UNITS

GENERAL PURPOSE LABORATORY LINE

Outputs adjustable to zero and including a variable bias source.

CONSOLIDATED SPECIFICATIONS

VOLTAGE RANGE	CURRENT MA	MODEL	REGULATION ±10% Line	REGULATION 100% Load Change	RIPPLE MV RMS	6.3 V (UNREG.) AMPS	NEG. BIAS	PRICE WI/METERS	PRICE WO/METERS
195-325	200	GP32-20	.05	.05	0.5	10	. . .	128.00	100.00
195-510	200	RW51-20	.05	.05	1.0	10	. . .	225.00	197.00
195-375	250	RL37-25	.05	.05	1.0	10	. . .	193.00	165.00
325-510	250	RL51-25	.05	.05	1.0	10	. . .	195.00	167.00
195-510	400	RW51-40	.05	.05	1.0	10	. . .	285.00	257.00
195-375	500	RL37-50	.05	.05	1.0	10	. . .	268.00	240.00
325-510	500	RL51-50	.05	.05	1.0	10	. . .	278.00	250.00
195-375	1.5 Amp	RL37-150	.05	.05	1.0	2–10A	. . .	678.00	650.00
325-510	1.5 Amp	RL51-150	.05	.05	1.0	2–10A	. . .	678.00	650.00
0-350	200*	A3	.5	.5	10.	5	0-150	175.00	. . . .
0-350	200*	A3A	.5	.5	10.	5	0-300	185.00	. . . .
0-350	200*	A3S	.15	.3	2.	5	0-150	190.00	. . . .
0-350	200	B3	.15	.3	2.	5CT	0-150	200.00	. . . .
0-350	200	B3 Dual	.15	.3	2.	2–5A	0-150	425.00	. . . .
0-700†	200	B3 Dual	.15	.3	2.	2–5A	0-150	425.00	. . . .
0-600	200*	D6	.5	.5	10.	10CT	0-150	325.00	. . . .
0-600	400**	D6	.5	.5	10.	10CT	0-150	325.00	. . . .
0-500	200	5-2V	.15	.15	2.	10CT	0-150	240.00	. . . .
0-500	400*	5-3	.15	.3	1.5	10CT	0-150	275.00	. . . .
0-500	400	5-4V	.15	.3	2.	10CT	0-150	370.00	. . . .
0-100	0-100 Reg. CV10-10		Current and voltage regulated and					385.00	. . . .
0-150	0-500 Reg. CV15-50		including current and voltage limiting.					450.00	. . . .

†Outputs series connected by means of panel control. *Output current derated at top and bottom of voltage range. **Outputs parallel connected by means of panel control.

Detailed Specification Sheets available on all models on request.

Oregon Electronics
2105 S. E. 6th AVENUE
PORTLAND 14, OREGON
BElmont 6-9292

See YELLOW SECTION for Local Offices, Telephone, etc.

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PERKIN

6 TO 36 VOLTS @ 15 AMPS

THE NEW "TRANSIENT FREE"

PERKIN TRANSISTORIZED

MODEL MTR 636-15
D. C. POWER SUPPLY

NOW . . . from PERKIN - "TRANSIENT FREE" D. C. POWER IN A VERSATILE WIDE VOLTAGE RANGE D.C. POWER SUPPLY

OTHER STANDARD CATALOG UNITS AVAILABLE WITH COMPARABLE SPECIFICATIONS

MODEL NO.	D. C. OUTPUT VOLTS	AMPS
MTR060-1	0-60	1
MTR060-5	0-60	5
MTR615-5	6-15	5
MTR636-30	6-36	30
MTR28-2	24-32	2
MTR28-5	24-32	5
MTR28-10	24-32	10
MTR28-30	24-32	30
MTR28-100	24-32	100

FOR ADDITIONAL DATA AND PRICE INFORMATION, WIRE COLLECT TO:

PERKIN ENGINEERING CORPORATION
345 Kansas St. El Segundo, Calif.
ORegon 8-7215 EAstgate 2-1375

AT LAST!! — A POWER SUPPLY WITH PRECISE REGULATION THAT IS UNAFFECTED BY LINE AND LOAD TRANSIENTS . . . INSTANTANEOUS CHANGES IN LINE AND LOAD WILL NOT CAUSE TRANSIENT VOLTAGE "SPIKES" IN THE D. C. OUTPUT.

SPECIFICATIONS

D. C. OUTPUT:	6-36 Volts @ 15 Amperes
A. C. INPUT:	105-125 Volts, 1 phase, 60 cps
STATIC REGULATION:	Line — ±25 MV; Load — ±50 MV
DYNAMIC REGULATION:	Line: ±50MV; Load: ±.75 V. No Load to full load & FL to NL
RIPPLE:	5 MV RMS Maximum
DYNAMIC IMPEDANCE:	50 Milliohms (0 CPS to 20 KC)
PROTECTION:	Short Circuit Proof — Automatic Current Limiting at 18 Amperes. (Short Circuits and Overloads can be sustained indefinitely without damage to the power supply.)
WEIGHT:	Approximately 125 Lbs.
DIMENSIONS:	19" W x 15" D x 12¼" H (Rack panel mount) 20½" W x 16¼" D x 14" H (in cabinet)
SPECIAL FEATURE:	Through the use of a special combination magnetic amplifier-transistor circuit and conservative design techniques, this power supply provides full load output even in the case of a transistor failure.

REPRESENTATIVES IN PRINCIPAL CITIES

PERKIN

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NOW! TRANSISTORIZED 100-600 AMPERES DC POWER SUPPLY

by PERKIN!

Response time adjustable to 20 milliseconds . . .

Excellent dynamic load regulation . . . low ripple

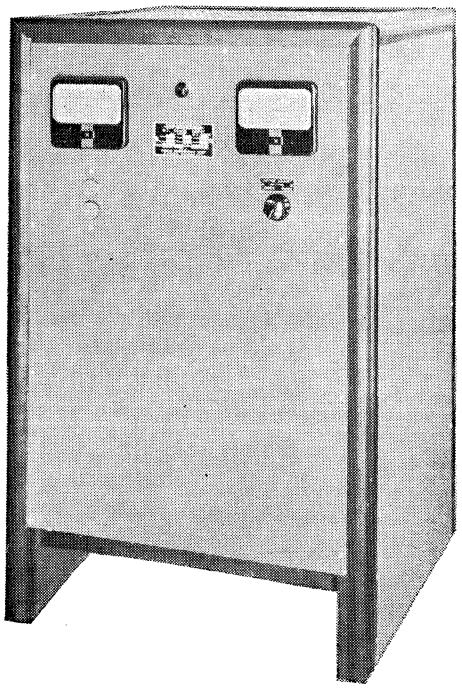
Proven in production use in the...

THOR... BOMARC... ATLAS...

JUPITER... POLARIS...

VANGUARD AND LA CROSSE

MISSILE PROGRAMS



SPECIFICATIONS

A.C. INPUT: 208/230/460 volt ±10%, 3 phase, 60 cycle.

RIPPLE: Less than 1% RMS.

RESPONSE TIME: A special control internally mounted in the Power Supplies handles adjustment of response time. The "load on" response time is adjustable from 20 to 200 milliseconds, and the "load off" from 40 to 400 milliseconds. An important advantage of this adjustable response is when used with inductive loads, such as inverters; recovery can be adjusted to avoid interaction between inductive load and power supply.

RATINGS AVAILABLE:

Model Number	D.C. Output		Regulation		Dimensions W" x H" x D"	Weight Lbs.
	Volts	Amps	Static-Line or Load	Dynamic-Load*		
MRST28-100	24-32	100	±0.1%	±6V	22"x36"x22"	430
MRST28-200	24-32	200	±0.1%	±6V	22"x36"x22"	550
MRST28-300	24-32	300	±0.1%	±6V	22"x46"x22"	700
MRST28-400	24-32	400	±0.1%	±6V	28"x58"x24"	1250
MRST28-500	24-32	500	±0.1%	±6V	26"x68½x32"	1650
MRST28-600	24-32	600	±0.1%	±6V	26"x68½x32"	1650
MRST2440-250	24-40†	250	±0.1%	±2V	26"x68½x32"	1650

TECHNICAL DESCRIPTION

These units use silicon power rectifiers for increased reliability and efficiency. Silicon rectifiers provide constant efficiency and exhibit no aging characteristics as is more common in other type rectifiers. Magnetic components utilize grain oriented silicon steel and Class B insulation for compact design and efficient operation. The power section consists of a 3 phase magnetic amplifier with extremely high gain. Preamplifier is fully transistorized and utilizes silicon zener diodes as a reference element.

ADDITIONAL FEATURES

Output of units can be shorted without damage to the silicon rectifiers.

Units can withstand 400% overload for periods up to 1 second without damage to Power Supply components.

Remote sensing
low output impedance

Militarized versions of above units are also available.

For additional data contact factory or sales offices below:

Agincourt, Ontario, Canada AXminster 3-7011
Albuquerque 8-1724
Atlanta CEdar 7-7801
Chicago JUniper 8-0905
Cleveland REdwood 2-7444
Dallas FL 7-7080
Dayton CHapel 4-5551
Denver ALpine 5-1196
Detroit HO 8-2461
Los Angeles HO 9-7294
Minneapolis MIdway 6-2621
New York DI 4-2997
Orlando CH 1-2128
Philadelphia WA 7-1820
San Diego ATwater 3-2081
San Francisco EMerson 9-3354
Seattle PArkway 3-9000.
Syracuse Gibson 6-0220
Tucson EAst 6-3543
Washington JUniper 5-7550

PERKIN

PERKIN ENGINEERING CORPORATION

345 KANSAS ST. • EL SEGUNDO, CALIF. • ORegon 8-7215
or EAstgate 2-1375.

New England Area Office: 46 Amesbury, Lawrence, Mass. • MUrdock 3-3252.

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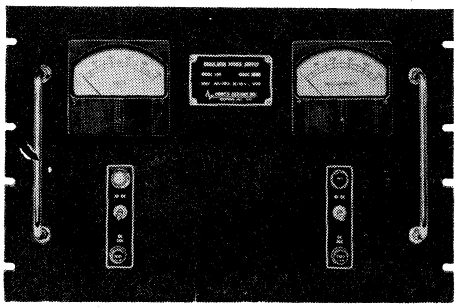
STABLE POWER SOURCES FOR

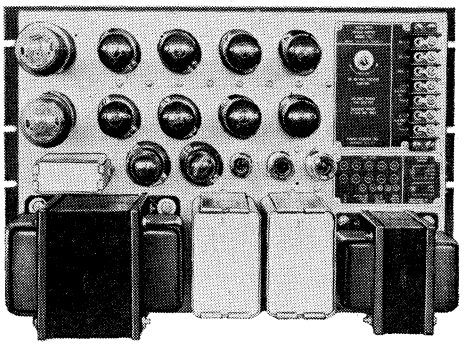


VOLTAGE REGULATED POWER SUPPLIES

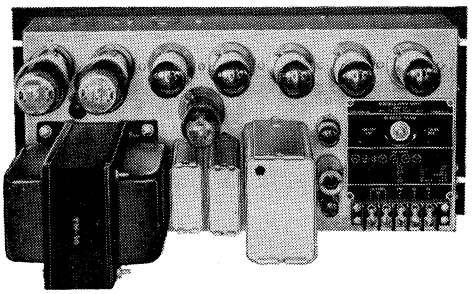
Featuring

- .05% regulation for load or line variations
- 500 microvolts ripple
- 50 microseconds response time
- 10-turn voltage controls for minimum noise
- Karma (20 PPM) wire wound, low t.c. error sensing resistors.
- 50 hour pre-aging
- Meters included in feed back loop for low output impedance
- Separately fused line and load circuits
- Separate AC and DC switches
- JAN quality components

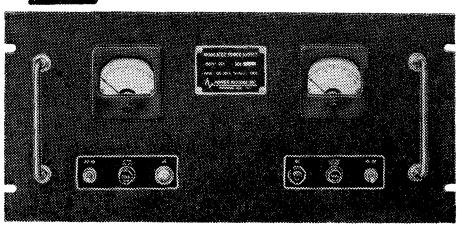
TYPE B PANEL VIEW
12¼" x 19" rack mounting
with Weston 4½" meters
black ripple enamel finish



TYPE B REAR VIEW
max. depth behind panel
mounting surface: 9¼"
cadmium/irridite chassis finish



TYPE A REAR VIEW
max. depth behind panel
mounting surface: 9¼"
cadmium/irridite chassis finish



TYPE A PANEL VIEW
8¾ ' x 19" rack mounting
with Weston 3½" meters
black ripple enamel finish

STOCK MODELS

MODEL [5]	D-C VOLTAGE RANGE [7]	D-C OUTPUT MA	SOURCE Z OHMS	A-C OUTPUT #1 [2]	A-C OUTPUT #2	TYPE	WEIGHT LBS.	PRICE [6] NON-METERED	PRICE [6] METERED
351	150-500	0-150 [3]	0.5	6.3V-6A	——	A	33	$139.50	$169.50
701	500-800	0-150	0.5	6.3V-6A	——	A	33	197.50	227.50
202A	100-200	0-200	0.25	6.3V-6A	——	A	35	149.50	179.50
322	200-325	0-200	0.5	6.3V-6A	——	A	33	149.50	179.50
502	300-500	0-200	0.5	6.3V-6A	——	A	35	169.50	199.50
203	100-200	0-300	0.2	6.3V-6A	——	A	33	189.50	219.50
323	200-325	0-300	0.35	6.3V-6A	——	A	35	169.50	199.50
353A	150-350 [4]	0-300	0.35	6.3V-5A	6.3V-5A	B	59	184.50	229.50
204	150-200	0-400	0.25	6.3V-5A	6.3V-5A	B	59	194.50	239.50
304	250-300	0-400	0.35	6.3V-5A	6.3V-5A	B	61	194.50	239.50
504	400-500	0-400	0.5	6.3V-5A	6.3V-5A	B	63	229.50	274.50
205A	100-200	0-500	0.1	6.3V-5A	6.3V-5A	B	63	254.50	299.50
305	250-350 [4]	0-500	0.25	6.3V-5A	6.3V-5A	B	63	254.50	299.50
306	280-320	0-600	0.25	6.3V-5A	6.3V-5A	B	63	285.00	330.00

NOTES:
1 All models except Models 205A, 305, 306 available for 400 ~ operation.
2 Dual A-C outputs may be operated in series for 12.6V or in parallel for 10.0 amp. output.
3 Derated to 100 ma from 350-425 volts and 50 ma from 425-500 volts output.
4 In two overlapping ranges.
5 Add suffix "M" to model number when ordering metered units, i.e., 351M.
6 F.O.B. Westbury, N. Y. Terms, ½% 10, net 30 days. Prices subject to change without notice.
7 Voltage range tolerance is at least 5 volts below min. and 5 volts above max. listed limits.

INPUT: 105-125 VOLTS
55-65 ~, 1φ

Recognized Reliability *Power Designs inc.*

EDgewood 4-6200

1700 SHAMES DRIVE
WESTBURY, L. I., N. Y.

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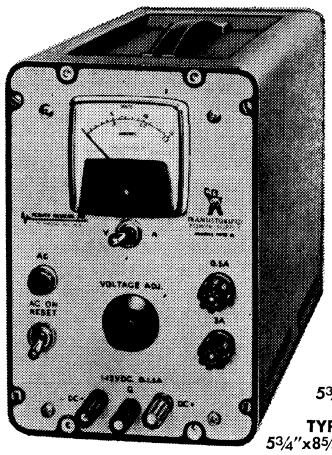
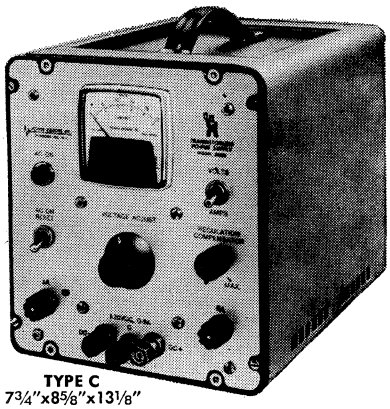
ELECTRONIC INSTRUMENTATION



TYPE A
5¾"x8⅝"x10"

TYPE B
5¾"x8⅝"x11¾"



TYPE C
7¾"x8⅝"x13⅛"

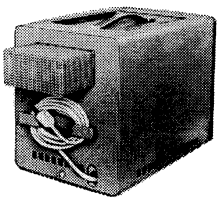
POWER DESIGNS INC.

presents

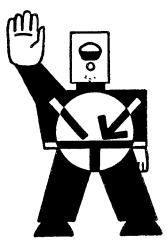
SEMICONDUCTORIZED POWER SUPPLIES

featuring

ROBOTEC • HEATRAN • VOLTRAN PROTECTION



Power Designs' *Semiconductorized* Power Supplies utilize the unique properties of semiconductor devices to create new circuit concepts achieving performance, efficiency and reliability hitherto unattainable. These instruments are NOT conventional transistorized versions of vacuum tube regulators.



ROBOTEC*

is an inherent electronic circuit producing simultaneous current and voltage cutoff upon external short circuit. The "ROBOTEC" circuit operates in 30 microseconds holding the power supply cut off until manually reset and reducing line input power to a negligible value. If an external short circuit exists the power supply cannot be turned on.

*U.S. Pat. Pending

HEATRAN†

is a transistorized circuit continuously monitoring dissipation in the series power transistors of the regulator system. Dissipation above a preset maximum value is automatically transferred into external vitreous enamel resistors extending from the rear of the equipment in a perforated metal cage. "HEATRAN" thus permits fewer transistors for a given power supply capacity, more compact equipment with increased reliability and practical convection cooling.

VOLTRAN†

is a transistorized circuit continuously monitoring the voltage drop in the series power transistors of the regulator system. Voltages above a preset maximum are instantaneously absorbed thus protecting these transistors against line and load transients and permitting more conservative voltage derating.

†U.S. Pat. Applied For

MODEL	DC Voltage Range	DC Output Amperes	RIPPLE Millivolts RMS	SOURCE IMPEDANCE OHMS	REG-ULATION	TYPE	WGT.	PRICE**
1515	1-15	0-1.5	0.250	.01	.05% or 7.5 mv	A	14	$159.50
1515A	1-15	0-1.5	0.250	.01	.05% or 7.5 mv	A	14	174.50
3206	1-32	0-0.6	0.500	.01	.05% or 15 mv	A	14	174.50
5015	1-50	0-1.5	0.500	.01	.05% or 15 mv	B	17	249.50
105TA	1-100	0-0.5	0.500	.025	.05% or 15 mv	B	16	239.50
1210	1-12	0-10.0	1.000	.005	.1% or 10 mv	C	32	349.50
2050	1-20	0-5.0	0.500	.005	.05% or 10 mv	C	32	289.50
3240	1-32	0-4.0	1.000	.01	.05% or 15 mv	C	32	349.50
1010T	1-100	0-1.0	1.000	.015	.05% or 15 mv	C	32	374.50

RACK PANEL ADAPTERS for Types A and B: Single Model RRA-15 $15.50, Dual Model RRB-15 $15.50.
RACK PANEL ADAPTERS for Type C: Single Model RRA-20 $17.50, Dual Model RRB-20 $17.50.
**F.O.B. Westbury, N. Y. Terms, ½% 10, Net 30 days. Prices subject to change without notice.

INPUT: 105-125 VOLTS
55-440 ~, 1φ

Recognized Reliability

Power Designs inc.

EDgewood 4-6200

1700 SHAMES DRIVE
WESTBURY, L. I., N. Y.

See YELLOW SECTION for Local Offices, Telephones, etc.

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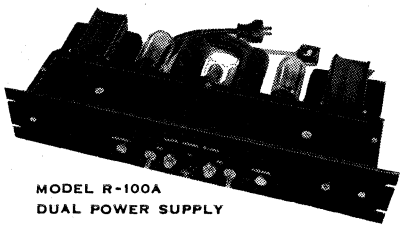
COMPUTOR QUALITY
DUAL REGULATED
POWER SUPPLIES



MODEL R-100A
DUAL POWER SUPPLY

For data sheets write for
ETB-R100A, ETB-RK200, or ETB-SR-400.

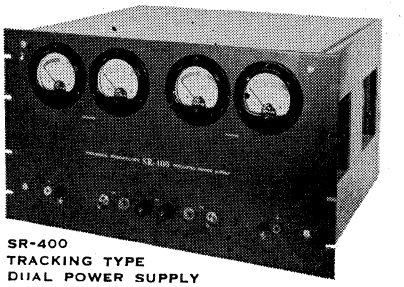
GEORGE A.
PHILBRICK
RESEARCHES, INC.
285 Columbus Ave., Boston 16, Mass.

MODEL R-100A . . .
and the RK-200 and SR-400 described below were originally designed for use with PHILBRICK Analog Computing instruments and are still the nucleus of many computing components. Their modest cost and excellent performance have led to widespread general application.

It is a rack mounted unit containing two separate, closely-tracking regulated power supplies in one chassis, each rated at ±300 vdc at 100 ma.

Brief specifications are:
INPUT: 5 amp max. at 108-125 vac
OUTPUT: 0-100 ma at ±300 vdc
REGULATION: ±60 mvdc (0.02%)
DIMENSIONS: 19"w x 3½"H x 7½"D
WEIGHT: 18 lb. PRICE: $165.00

MODEL SR-400 has:
INPUT: 15 amp. max. at 115 ±10 vac, 50-60 cps (Including 9 amp for external equipment.)
OUTPUT: 0-400 ma at ±300 vdc
SHORT TERM TRACKING ERROR: Less than 0.01%
LONG TERM TRACKING DRIFT: 200 mv
REGULATION: ±12 mv, 105-125 vac at input or 0-400 ma load
DIMENSIONS: 19" W x 10½" H x 14-7/16"D
WEIGHT: 75 lb PRICE: $875.00



SR-400
TRACKING TYPE
DUAL POWER SUPPLY

Philbrick offers dual regulated tracking power supplies ranging from 100 to 400 milliamperes at ±300 volts output.

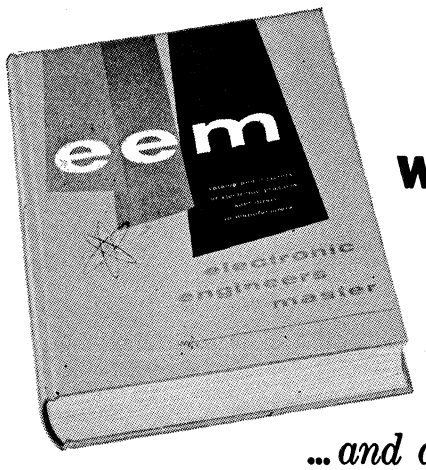
The SR-400, shown above, has built-in time delay of one minute to enable heaters to warm up. Stability of ±0.1%, long term, is available using an 85A2 reference; use of a mercury battery allows ±100 mv design center.

Superior design in construction and circuitry make this unit compatible with high-quality laboratory and computing equipment.

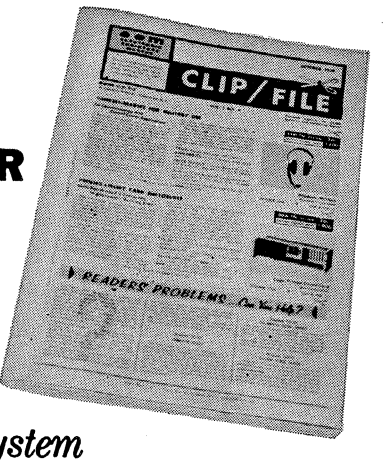
A 200 milliampere shelf or desk mounting supply, the RK-200 includes meters to read output current and voltage.

Price: $355.00.

See YELLOW SECTION for local offices, telephones, etc.



WORKING TOGETHER TO GIVE YOU COMPLETE PRODUCT INFORMATION



...and a self-indexing filing system

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FROM MILLIWATTS TO KILOWATTS

HIGH VOLTAGE POWER SUPPLIES AND EQUIPMENT

We have sold quantities of these power supplies to laboratories, industrial concerns, the government and universities. Only the best available selected material goes into these units, so that you will have many years of dependable service. Only a few of our standard models are shown below. Quotations on special supplies cheerfully given.

PRECISE MEASUREMENTS COMPANY

HIGH VOLTAGE POWER SUPPLIES

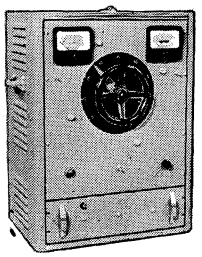
One of the most popular power supplies on the market. Completely redesigned for greater ruggedness and convenience of operation. Widely used for powering electronic equipment and for routine breakdown and insulation testing. Output voltage is well filtered D.C. which is adjustable with convenient front panel control. Input is 115 Volt, 60 cycle A.C. Equipment is available without meter, with one meter (4½"), with two meters, or with larger 6" precision 1% mirror scale movement. Regulated models offer closely stabilized output voltage regardless of line or load changes.

Model		Maximum Voltage	Price	Price Regulated Model
6001	With Kilovolt Meter	1,000	$ 75.00	
6000		2,500	60.00	
6000-A	With Kilovolt Meter	2,500	80.00	$120.00
6005		5,000	75.00	
6005-A	With Kilovolt Meter	5,000	95.00	135.00
6010		10,000	85.00	
6010-A	With Kilovolt Meter	10,000	105.00	145.00
6015		15,000	95.00	
6015-A	With Kilovolt Meter	15,000	115.00	155.00
6025		25,000	115.00	
6025-A	With Kilovolt Meter	25,000	175.00	205.00

MIRROR SCALE HIGHER ACCURACY METERS: Recommended where more exact settings or measurements are needed. Meter size has been increased to 6 inches for easier reading. Price $35.00 additional on any meter equipped model.

TWO METER MODEL ..... ADD $35.00

INDUSTRIAL POWER SUPPLIES



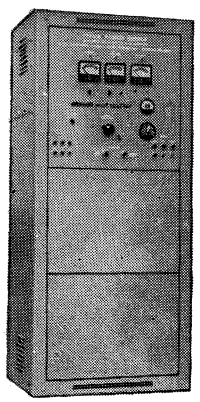
Regulated Types Available

Standard hum level 5% or less. .01% to 1% ripple available. All power supplies have automatic overload cutout control circuits. Regulated models available.

These industrial type power supplies are built for service and efficiency. All are of the transformer type and employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is greatly simplified and a number of safety features are built in for maximum protection of personnel and equipment. Output is continuously variable from zero to full rated value. Polarity reversing models (as illustrated) can be had at additional cost.

Model	Voltage	Current	Price
F-500V	0-500	3 Amp	$800.00
F-6001	0-1000	2 Amp	975.00
F-6002	0-2000	1 Amp	985.00
F-6003-A1	0-3000	100 MA	375.00
F-6003-AV	0-3000	500 MA	550.00
F-6003-AK	0-3000	1 Amp	1100.00
F-6005-A1-H	0-5000	100 MA	550.00
F-6005-AV	0-5000	500 MA	750.00
F-6005-A1K	0-5000	1 Amp	1200.00
F-6010-A1	0-10,000	100 MA	800.00
F-6020-A05	0-20,000	50 MA	975.00
F-6050-T	0-50,000	½ MA	600.00
F-6100-T	0-100,000	½ MA	1100.00

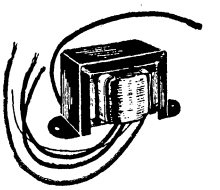
HEAVY DUTY POWER SUPPLIES



For use in applications where high voltages at extra high currents are required. Illustrated is our 100 KW Model, rated for 0 to 7,000 Volts at 14 Amperes DC. This unit is housed in a single convenient cabinet. Output voltage is regulated against line and load changes. Voltage is smoothly adjustable from zero to full output. Automatic circuits protect against overvoltage or over current conditions, turning off main power in a split second. Use of special transformer construction allows constant load drain at full rated output. All power supplies in this series are available with fixed or adjustable output and with or without regulation.

Model	Voltage	Current
A-10	0-1000	5 amperes
A-30	0-3000	5 amperes
A-31	0-3000	10 amperes
A-32	0-3000	20 amperes
A-50	0-5000	5 amperes
A-51	0-5000	10 amperes
A-72	0-7000	15 amperes
A-100	0-10,000	5 amperes
A-110	0-10,000	10 amperes
A-300	0-30,000	5 amperes

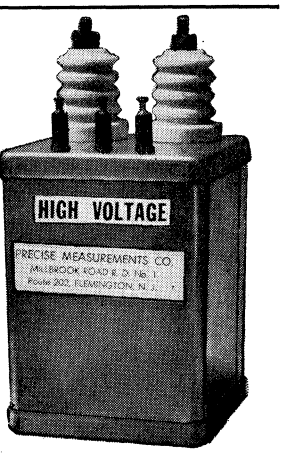
TRANSFORMERS, HIGH VOLTAGE



For experimental, industrial or production applications. These units are small and compact and rated for constant service. Primary designed for 105/115/125 Volts 60 Cycle. Secondary winding has half voltage tap. Only standard models are listed, other voltages and currents available on order.

Model	Voltage	Model	Voltage
1 KVT	1 KV	10 KVT	10 KV
2 KVT	2 KV	15 KVT	15 KV
3 KVT	3 KV	25 KVT	25 KV
5 KVT	5 KV	50 KVT	50 KV

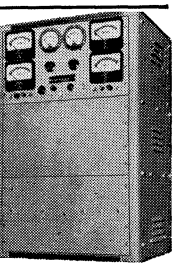
PACKAGED POWER SUPPLIES



These conveniently packaged power units will be found ideal for applications requiring minimum size and weight. Features isolated high voltage terminals permitting either the positive or negative side to be grounded. Rectifier tubes are operated from separate filament transformers so that DC output voltage can be varied from zero to full rated value. Selenium rectifier types have extra cells to assure operation under high line voltage or light loading. All standard units have well filtered DC output. Power packs with AC output available on order.

Model	Output Voltage	Current	Model	Output Voltage	Current
05-KV-5MA	500 Volts DC	5 Ma.	20-KV-1MA	20 KV DC	1 Ma.
1-KV-5MA	1 KV DC	5 Ma.	20-KV-5MA	20 KV DC	5 Ma.
2-KV-5MA	2 KV DC	5 Ma.	30-KV-1MA	30 KV DC	1 Ma.
5-KV-1MA	5 KV DC	1 Ma.	30-KV-5MA	30 KV DC	5 Ma.
5-KV-5MA	5 KV DC	5 Ma.	50-KV-1MA	50 KV DC	1 Ma.
10-KV-1MA	10 KV DC	1 Ma.	50-KV-5MA	50 KV DC	5 Ma.
10-KV-5MA	10 KV DC	5 Ma.	75-KV-1MA	75 KV DC	1 Ma.
15-KV-1MA	15 KV DC	1 Ma.	100-KV-1MA	100 KV DC	1 Ma.
15-KV-5MA	15 KV DC	5 Ma.			

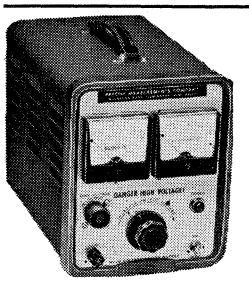
CONSTANT CURRENT POWER SUPPLIES



Designed for application where output current must remain constant regardless of loading resistance changes. Used for magnet fields, plating applications, gaseous lamps. Dependable magnetic current stabilizer has no moving parts, no tubes, no transistors to replace. Simply set current to desired level, no balancing or other adjustments needed. Ideal for lamp operation since operating state ionizing voltage in no way affects lamp current. Standard hum level 5%. Lower hum levels available on order.

Model	Maximum Voltage	Maximum Current
C-25-700	25 Volts	700 Amperes
C-70-70	70 Volts	70 Amperes
C-500-10	500 Volts	10 Amperes
C-Duel 500-10	500 or 1,000 Volts	10 or 20 Amperes
C-800-2	800 Volts	2 Amperes
C-1000-100	1000 Volts	100 Amperes

Duel 500 V - 500 V, 10 Ampere Power Supply. Isolated outputs may be seried or paralleled.



AC INSULATION AND BREAKDOWN TESTERS

Used in testing insulation where AC voltages are desired. Dual instruments are also available which provide choice of AC or DC output with simple toggle switch selection. Units include kilovoltmeter, current meter and automatic overload cutout circuits.

Model	Voltage	VA	AC	AC and DC Price
3000	0 to 3,000	75	$150.00	$ 250.00
3010	0 to 3,000	300	250.00	400.00
3050	0 to 3,000	1,500	500.00	650.00
3100	0 to 6,000	3,000	700.00	1,100.00
5000	0 to 5,000	75	175.00	275.00
10K	0 to 10,000	75	200.00	300.00

PRECISE MEASUREMENTS COMPANY

MILLBROOK PLACE • R. D. 1 • FLEMINGTON, NEW JERSEY • TEL. FLEMINGTON 900

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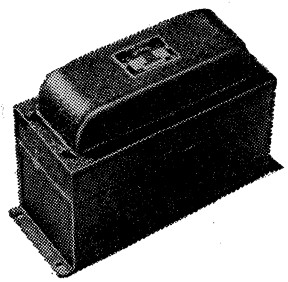
RAYTHEON
VOLTAGE STABILIZERS

Standard Catalog Models

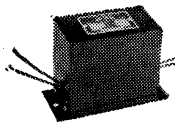
Catalog No.	Output Capacity Watts	Style	Dimensions in Inches: Overall L	Overall W	Overall H	Mounting L	Mounting W	Voltages: Input	Voltages: Output	Net Wt. Lbs.
VR-6110	15	F	6¼	2⁵⁄₁₆	3	5¹¹⁄₁₆	5⁷⁄₁₆	95-130	115	4
VR-61F0**	15	F	5¾	2⅝	4⁷⁄₁₆	5³⁄₆₄	4¹¹⁄₁₆	95-130	6.3	4
VR-61D0**	15	D	3⁷⁄₁₆	2⅝	4¹¹⁄₁₆	2¹³⁄₆₄	1⁵⁵⁄₆₄	95-130	6.3	6
VR-6710**	25	W	7⅝	3⅛	3⅜	7³⁄₁₆	1½	95-130	6.0	4
VR-6101	30	E	7½	3⅜	4⅛	6⅞	2¼	95-130	6.0/7.5	5
VR-6111	30	E	7½	3⅜	4⅛	6⅞	2¼	95-130	115	5
VR-6111-CP	30	E	7½	3⅜	4⅛	6⅞	2¼	95-130	115	5
VR-6221	30	E	7½	3⅜	4⅛	6⅞	2¼	190-260	230	5
VR-6112***	60	E	7½	3⅜	4⁷⁄₁₆	6⅞	2¼	95-130	115	8
VR-6112CP†	60	E	7½	3⅜	4⁷⁄₁₆	6⅞	2¼	95-130	115	8
VR-6222	60	E	7½	3⅜	4⁷⁄₁₆	6⅞	2¼	190-260	230	8
VR-6113***	120	E	7½	3⅝	5¹⁵⁄₁₆	6⅞	2¼	95-130	115	14
VR-6113CP†	120	E	7½	3⅜	5¹⁵⁄₁₆	6⅞	2¼	95-130	115	14
VR-6223	120	E	7½	3⅜	5¹⁵⁄₁₆	6⅞	2¼	190-260	230	14
VR-6114	250	E	12⅜	5	7⅝	11⁵⁄₁₆	3½	95-130	115	25
VR-6224	250	E	12⅜	5	7⅝	11⁵⁄₁₆	3½	190-260	230	25
VR-6115	500	E	12⅜	5	7⅝	11⁵⁄₁₆	3½	95-130	115	45
VR-6225	500	E	12⅜	5	7⅝	11⁵⁄₁₆	3½	190-260	230	45
VR-6116	1000	H	13⁵⁄₁₆	14⅛	9⅝	11⁵⁄₁₆	12⅞	95-130	115	92
VR-6226	1000	H	13⁵⁄₁₆	14⅛	9⅝	11⁵⁄₁₆	12⅞	190-260	230	92
VR-6117	2000	H	36¼	14⅝	10⅛	34	12⁷⁄₁₆	95-130	115	185
VR-6227	2000	H	36¼	14⅝	10⅛	34	12⁷⁄₁₆	190-260	230	185
VR-7B	2000	C	16¼	14¾	11³⁄₁₆	9⅛	13⅝	115/230	115/230	200
VHF-6114*	250	E	14⅛	13³⁄₁₆	9⅝	12⅞	11⁵⁄₁₆	95-130	115	49
VHF-6115*	500	E	14⅛	13³⁄₁₆	9⅝	12⅞	11⁵⁄₁₆	95-130	115	75
VHF-6116*	1000	E	29¼	14⅜	10¼	27⅛	12⁵⁄₁₆	95-130	115	150

*Harmonic filtered models. Harmonic content less than 3%.
**Isolated secondary units.
***Available with isolated secondary if desired.
†Portable models, supplied with cord and plug and output receptacle.

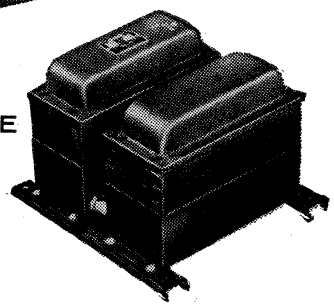
STYLE D



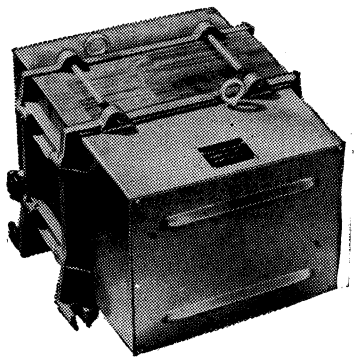
STYLE E



STYLE F



STYLE H



STYLE C

FEATURES

1. Deliver accurate AC voltage within ±½%
2. Stabilize output with more precision
3. Regulate better at full load
4. Hold up better under overload
5. Better no-load to full-load regulation
6. Accept wider input voltage range
7. Less voltage change as units heat up
8. Less change in output as frequencies fluctuate
9. Smaller, lighter, more compact; no moving parts
10. Cost less to operate

The complete line of Raytheon Voltage Stabilizers is available through 155 authorized distributors. Special custom-built units, ranging from 5 to 10,000 watts are also available to meet special needs. 50 cycle units also available in most models. Write for complete information.

RAYTHEON

Excellence in Electronics

RAYTHEON MANUFACTURING COMPANY
Industrial Apparatus Division, Dept. 6120 MP • Waltham 54, Mass.
REGIONAL OFFICES: Baltimore, Boston, Chicago, Cleveland, Los Angeles, New York
BRANCH OFFICES AND REPRESENTATIVES: Atlanta, Camden, Dallas, Kansas City, San Diego, San Francisco, Syracuse

Order from Local Electronic Parts Distributor or Write for List.

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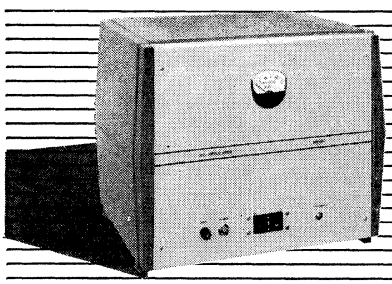
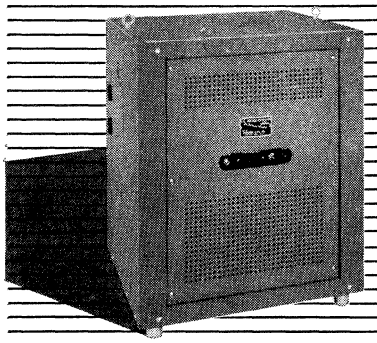
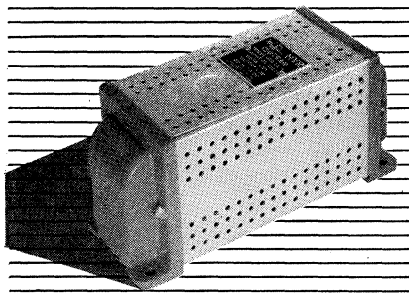
Check Sorensen . . . for your power supply requirements



New tubeless 0.1% a-c line regulators give up to 5kva out. High output and fast response result from a unique combination of semi-conductor and magnetic amplifier principles in the new Sorensen Model R3010 and R5010 a-c line regulators. Model R5010 (left) puts out up to 5kva and Model R3010, 3kva. Provision for remote sensing allows you to hold regulation accuracy **at the load** despite length of output leads, and, with an external transformer, permits regulation of any a-c voltage.



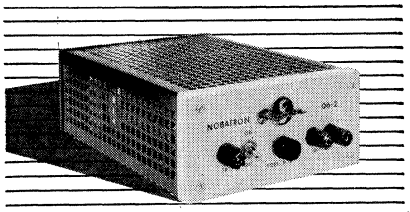
Broadest line of a-c regulators. A complete line of electronic a-c regulating equipment, supplying powers as high as 15kva, is manufactured by Sorensen. Single phase and 3 phase, 50, 60, 400 cps, 115 and 230 vac models are available. Good example of these is the 10kva Model 10000S supply (left). Others: Precision a-c regulators (±0.01%) for labs or meter calibration; and fast-response low-distortion a-c regulators where line transients must be reduced to a minimum.



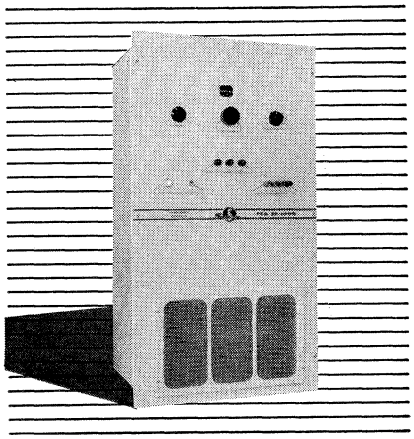
. . . and rugged, economical MVR's. Low cost, low distortion, long life and a broad selection of models are outstanding features of Sorensen MVR's (Magnetic Voltage Regulators). Capacities range from 30 to 2000 va. Regulation is on the order of ±0.5%. Both harmonic-filtered and unfiltered models are available with 115vac out. Models for 6.3 and 12.6 out, unfiltered, also available.

Sorensen makes a complete line of packaged power equipment—including regulated d-c supplies, inverters, converters and frequency changers. Despite the breadth of the standard Sorensen line, our engineers are always ready to discuss your specialized power requirements up to complete power systems for complex computers or other critical equipment. Write for complete data.

Make sure you have on file the latest catalogues and data sheets on Sorensen's controlled power equipment. Only a few examples from the wide Sorensen line are shown here.



Transistorized regulated d-c supplies. The most complete line of transistorized low-voltage d-c power supplies on the market is offered by Sorensen. Regulation accuracy is ±0.25% (line and load combined). Models for ±0.05% regulation also available. They come with output voltages of 6, 12, 28 vdc (2:1 adjustable), capacities to 200 watts; also in 0-36, or 0-75 vdc, continuously adjustable units of 150-watt capacity and above.



New 3-phase frequency changer Latest Sorensen frequency changer, the 1 kva, Model FCD-3P-1000 (above) can replace motor generator for supplying 3-phase, 115V, 400 cps, ac. And it has no moving parts, no brushes, no slip rings. Frequency regulation (±1%) and drift (less than 1% in 24 hours). Frequency adjustable, 360-440 cps. Sorensen also makes a complete line of single-phase frequency changers. Input: 60 cps single phase. 9.4

Sorensen

SORENSEN & COMPANY, INC.

Richards Avenue, South Norwalk, Connecticut

WIDEST LINE OF CONTROLLED-POWER EQUIPMENT FOR RESEARCH AND INDUSTRY

IN EUROPE, contact Sorensen-Ardag, Zurich, Switzerland. **IN WESTERN CANADA,** ARVA. **IN EASTERN CANADA,** Bayly Engineering, Ltd. **IN MEXICO,** Electro Labs, S. A., Mexico City.

See YELLOW SECTION for Local Offices, Telephone, etc.

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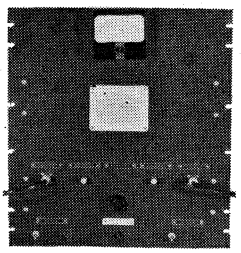
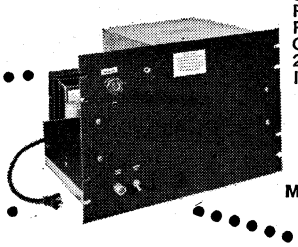
Continuously Variable — Reversible Polarity
0-60 KV DC Regulated POWER SUPPLY.
Current output 1 ma. at 60 KV
2 ma. at 50 KV down at 1% regulation.
Input: 110 V-60 cycles



Model LAB-60PN
$745.00 Net

Model LAB-60
Single Polarity
$695.00 Net

Continuously Variable — Reversible Polarity 1-30 KV Unregulated DC POWER SUPPLY.
Current output approx. 2 ma. at 20 KV; 250 microamperes at 30 KV
Input: 110 V-60 cycles



Model PN-30R
$205.00 Net

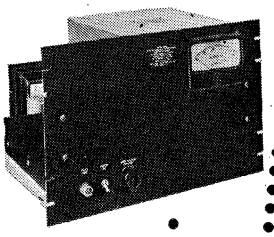
With HV Meter
$255.00 Net

SPELLMAN
HIGH VOLTAGE RF TYPE POWER SUPPLIES AND COILS

SEE PAGES M-708 through M-711 IN The *Radio-Electronic* MASTER or SEND FOR COMPLETE CATALOG EM

SPELLMAN HIGH VOLTAGE CO.
3029 WEBSTER AVE. NEW YORK 67, N. Y.
KIngsbridge 7-0306

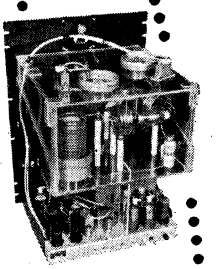
40 KV DC
POWER SUPPLY



Model 2040
$150.00 Net

With HV Meter
$200.00 Net

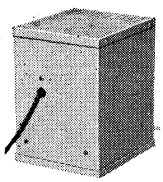
Voltage Range variable 12 to 40 KV (Approx.) Current output 1 ma. at 30 KV. Input: 110 V-60 cycles.



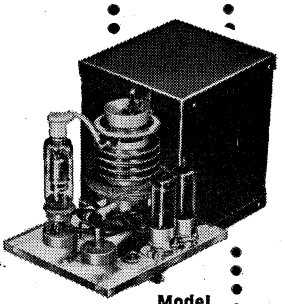
Model LAB-80 $900.00 Net

CONTINUOUSLY VARIABLE 0-90 KV POWER SUPPLY. Output current: 1 ma. at 80 KV. 2 ma. from 40 KV down. Voltage regulations better than 1% throughout range. With HV Meter. Input: 110 V-60 cycles

7½ to 12 KV at 1 ma. DC
Input: 425V DC 100 ma.



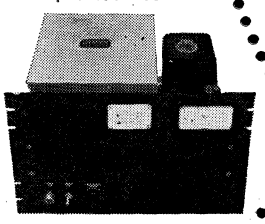
Model 7512
$42.50 Net



Model 4575
$32.50 Net

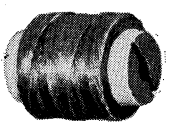
5 KV 1 ma. DC
Input: 250 V DC 80 ma.

Model RG-30....$295.00 Net
Model RG-40 (40 KV)
$295.00 Net



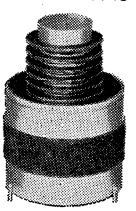
Continuously Variable 15-30 KV Regulated DC POWER SUPPLY with regulated focus voltage tap. 4-6 KV Regulations ½% at 1 ma. Input: 110 V-60 cycles

RF FILAMENT TRANSFORMERS



Self-resonant auto transformer for use with 1B3 Rectifier Tube, complete with instructions ..**$1.50**
Tuning Padder for above ..... .58

HIGH VOLTAGE RF STEP-UP COILS



25 KV
$36.00 Net

35 KV
$42.00 Net

10-15 KV
$12 Net

5 KV
$7 Net

70 KV
$75.00 Net

Order from Local Electronic Parts Distributors or Write for List.

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Trans Electronics, Inc.

7349 CANOGA AVENUE
CANOGA PARK, CALIFORNIA
Diamond 0-3334

DESIGNERS AND MANUFACTURERS OF POWER SUPPLIES AND SEMI-CONDUCTOR TEST EQUIPMENT

REGULATED POWER SUPPLIES

Transistor or Hard Tube

AC or DC | Regulated or Unregulated | Voltage Regulated or Current Regulated | Variable or Fixed

model *	voltage range	current ma	filament volts/amps	meters	weight	dimensions h" w" d"**	price
RS 205				No		5 x 4⅛ x 6½	$ 49.50
RM 205	150-225	0-50	6.3/3	3½"	6½ lbs	3½ x 19 x 8⅝	99.50
RR 205				No		3½ x 19 x 8⅝	69.50
RS 305				No		5 x 4⅛ x 6½	49.50
RM 305	225-325	0-50	6.3/3	3½"	6½ lbs	3½ x 19 x 8⅝	99.50
RR 305				No		3½ x 19 x 8⅝	69.50
RS 217A				No		6½ x 5½ x 7¼	79.50
RM 217A	150-225	0-175	6.3/8	4½"	12½ lbs	5¼ x 19 x 9¾	134.50
RR 217A				No		5¼ x 19 x 9¾	99.50
RS 317				No		6½ x 5½ x 7¼	79.50
RM 317	225-325	0-175	6.3/8	4½"	12½ lbs	5¼ x 19 x 9¾	134.50
RR 317				No		5¼ x 19 x 9¾	99.50
RS 410A				No		6½ x 5½ x 7¼	105.00
RM 410A	400-550	0-100	6.3/8	4½"	12½ lbs	5¼ x 19 x 9¾	158.00
RR 410A				No		5¼ x 19 x 9¾	130.00
RS 110				No		5¾ x 5¼ x 7¼	103.00
RM 110	0-110	0-100	6.3/3	4½"	7½ lbs	5¼ x 19 x 9	156.00
RR 110				No		5¼ x 19 x 9	128.00

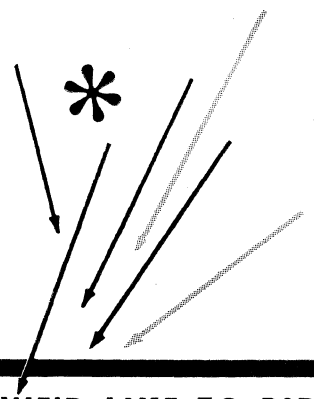
**RS Modular construction *RM Rack mounted/meters *RR Rack mounted*
***Barrier strip extends ½ inch on all models*

ALL UNITS: Polarity: Either positive or negative terminal may be grounded.
Input Voltage: 105-125 VAC 55 to 400 CPS • Internal Impedance: Less than 1 ohm.
Output Terminals: Barrier strip • Regulation: Line 0.1%; load 0.1%.
Ripple & Noise: 7 MV PP except Model 110 units which are 3MV PP.
Recovery Time: Less than 25 microseconds except Model 110 units which have transient response less than 50MV no load to full load.

SEMI-CONDUCTOR TEST EQUIPMENT

Transistor Testers and Diode Testers

	output voltage	ripple & noise	load reg.	line reg.	metering	price
Forward Current Tester Model FT1	0-1 VDC 0-3 VDC	2 MVPPP	10 MV	10 MV	0-1-3V, 0-10-30-100-1000-3000 MA	$600.00
Back Current Tester Model BT1	0-100 V, 0-300 V 0-300 V, 0-1000 V	0.1%	0.1%	0.1%	0-10-30-100-300-1000 V UA, MUA	575.00
Back Current Tester Model BT-2	0-100 V, 0-300 V 0-300 V, 0-1000 V 0-3000 V	0.1%	0.1%	0.1%	0-10-30-100-300-1000V UA, MUA	$800.00
Combination Back-Forward Tester Model 997	0-5 VDC 0-1000 VDC	2 MVPP	10 MV	10 MV	0-10-30-100-300-1000 V, MA UA, MUA	910.00
Forward Current Tester Model FT-2	Output current ranges: Five ranges to 3000 MADC Voltmeter—five ranges to 100 volts					765.00
Saturation Tester Model ST-1	Four current ranges to 300 UA @1000 volts max One current range to 1000 UA @ 250 volts max Meter ranges: Five ranges to 1000 volts, Five ranges to 1000 UA					625.00
Saturation Tester Model ST-2	Two current ranges to 10 UA at 3000 volts max One current range to 30 UA at 2000 volts max Two current ranges to 300 UA at 1000 volts max One current range to 1000 UA at 250 volts max Meter ranges: Five ranges to 3000 volts; Six ranges to 1000 UA					795.00



WE'D LIKE TO BID ON YOUR "SPECIAL" TRANSISTORIZED OR HARD TUBE POWER SUPPLIES *AND* YOUR "SPECIAL" SEMICONDUCTOR TESTER REQUIREMENTS

See YELLOW SECTION for Local Offices, Telephone, etc.

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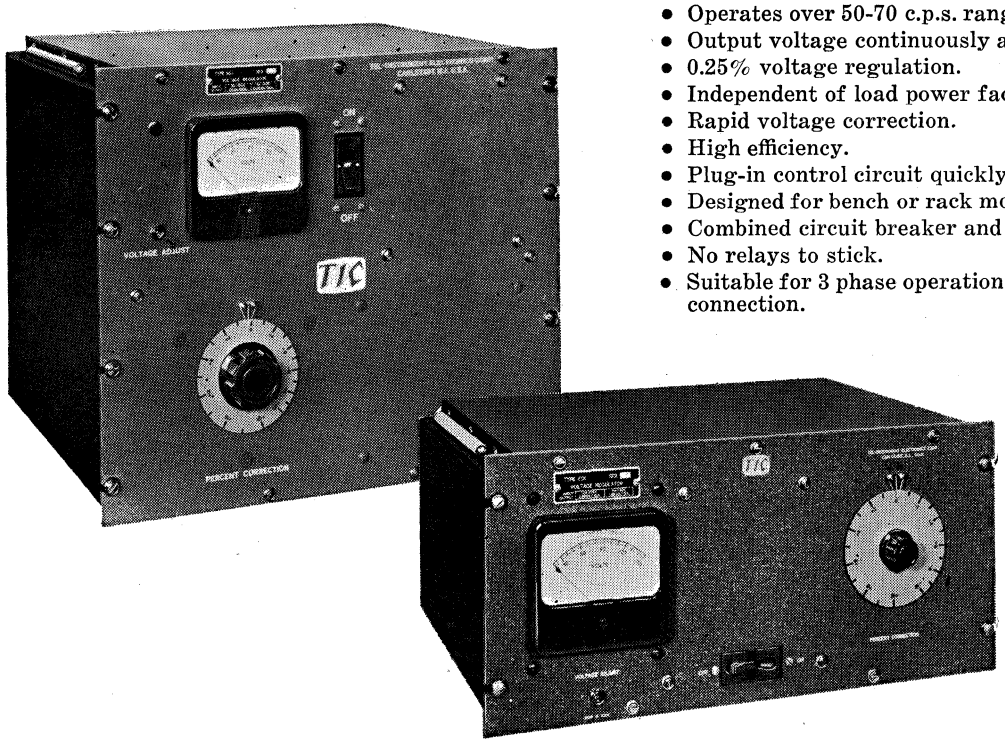
TIC Automatic VOLTAGE REGULATORS

600 SERIES

Tel-Instrument ELECTRONICS CORP., 728 Garden St., Carlstadt, N. J.



- True RMS voltage regulation.
- No waveform distortion.
- Operates over 50-70 c.p.s. range.
- Output voltage continuously adjustable.
- 0.25% voltage regulation.
- Independent of load power factor.
- Rapid voltage correction.
- High efficiency.
- Plug-in control circuit quickly replaceable.
- Designed for bench or rack mounting.
- Combined circuit breaker and line switch.
- No relays to stick.
- Suitable for 3 phase operation, delta or wye connection.

Designed specifically for unrestricted industrial or laboratory use in the control of power line voltage variations, TIC's low cost Series 600 Voltage Regulators are capable of absorbing high overload surges while delivering undistorted ¼% true RMS voltage regulation. Fast, accurate response is assured, and the control assembly (common to all models in the line) is a quickly replaceable plug-in unit. All TIC Series 600 models are portable and feature a unique cabinet permitting either bench or relay rack mounting. Units are suitable for single phase or delta or wye connected three phase operation.

TYPICAL SPECIFICATIONS AND PRICES

MODEL #	601		602		603		604		605		606	
FREQUENCY RANGE	50 to 70 cps		50 to 70 cps		50 to 70 cps		50 to 70 cps		50 to 70 cps		50 to 70 cps	
KVA RATING	3.6	1.8	2.4	1.2	6	3	5	2.5	12	6	10	5
OUTPUT CURRENT (AMPS)	30A	15A	10A	5A	50A	25A	20A	10A	100A	50A	40A	20A
OUTPUT VOLTAGE (Adjustable ±10%)	115V		208/230V		115V		208/230V		115V		208/230V	
CORRECTABLE INPUT VARIATION	±10%	±20%	±10%	±20%	±10%	±20%	±10%	±20%	±10%	±20%	±10%	±20%
RESPONSE SPEED (V/Sec.)	10	20	20	40	10	20	20	40	5	10	10	20
WEIGHT	45 lbs.		45 lbs.		68 lbs.		68 lbs.		110 lbs.		110 lbs.	
PRICE	$370.00		$385.00		$405.00		$430.00		$495.00		$525.00	

More complete information sent on request. Ask about our new "ECONOMY LINE" of Automatic Line Voltage Regulators.

See YELLOW SECTION for Local Offices, Telephones, etc.

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4000 SERIES FREQUENCY CONVERTERS

TIC

Tel-Instrument ELECTRONICS CORP., 728 Garden St., Carlstadt, N. J.

- Unique all-modular construction permits economical conversion to higher power.
- New smaller, lightweight design.
- Power output from 100 to 3000 VA one, two or three phase.
- Output 90 to 130 volts. (Single Phase.)
- No output voltage change with load.
- Frequencies from 50 to 4000 cps.
- 0.00001% frequency accuracy available.
- Designed for resistive or reactive loads, to 0.7 power factor.
- Zero output impedance.
- Low harmonic distortion.
- Zero recovery time.
- Ungrounded output.

TIC's 4000 Series Frequency Converters are assembled with "building block" units to give you flexibility never before possible. Interchangeable modules allow stocking of a wide range of frequency and power outputs in one, two or three-phase units. The new design is remarkably small, as much as one-half the size and one-fourth the weight of other units of equal power. Highly accurate, the 4000 Series is particularly well suited for guided missile checkout systems, magamp testing, servo systems, aircraft instrumentation, other applications requiring variable or fixed frequency power from 50 to 4000 cps.

BASIC POWER UNITS — PRICES, SIZES, WEIGHTS

Output VA	No. Phase	Model No.	Price A, B & J	Price C to H	Height	Width	Depth	Weight
100	1	4010-1	$ 475.00	$ 450.00	12¼"	22"	18"	90 lbs.
250	1	4025-1	820.00	775.00	17½"	22"	18"	115 lbs.
500	1	4050-1	1190.00	1145.00	17½"	22"	18"	140 lbs.
1000	1	4100-1	1930.00	1850.00	23¾"	22"	18"	225 lbs.
2500	1	4250-1	3900.00	3650.00	47"	22"	18"	515 lbs.
300	3	4030-3	1340.00	1240.00	35"	22"	18"	150 lbs.
750	3	4075-3	2300.00	2175.00	43½"	22"	18"	240 lbs.
1500	3	4150-3	3300.00	3200.00	48¾"	22"	18"	355 lbs.
3000	3	4300-3	5400.00	5200.00	59¼"	22"	18"	575 lbs.

Two phase models also available.
Type number is made of Model No. + Letter Designation + Code No.
Price is computed by adding price shown for Model No. in column A, B, J or C to H to the basic oscillator unit price.

EXAMPLE: Model 4050-1-E-12 specifies a 500 VA unit, single phase output, frequency variable from 350 to 450 cps, 3% accuracy, 0.1% stability, price $1255.00.

PERFORMANCE SPECIFICATIONS

FREQUENCY RANGES:
50 to 4000 cps., accuracies and stabilities up to 0.001% or better. Refer to table of basic oscillator units.

OUTPUT VOLTAGE:
Single phase, continuously variable from 90 to 130 volts. Three phase models continuously variable, line to line, by means of internal transformer taps: 90 to 130 volts; 155 to 225 volts; 180 to 260 volts. Maximum phase angle error between phases ±2°.

VOLTAGE REGULATION:
Adjustable to zero against load variations for a given line voltage. 0.5% change for 5% line change. Max. output voltage transient less than 1% no load to full load OR full load to no load.

DISTORTION:
Less than 2%. Lower on special order.

ENVELOPE MODULATION:
Less than 0.5%.

POWER OUTPUT:
Single phase, 100 to 2500 VA. Three phase, 300 to 3000 VA.

INPUT VOLTAGE:
All models up to 500 VA output, 115V, 50-60 cps. Larger sizes 208 or 230 V, 3 wire, 50-60 cps.

INPUT POWER:
Approx. three times rated power output.

BASIC OSCILLATORS — UNITS AND PRICES

LETTER CODE	CODE NO.	11	12	21	32	43	54	65
	PERCENT ACCURACY	3	3	1	¼	0.05	0.01	0.001
	PERCENT STABILITY	½	0.1	½	0.1	0.05	0.01	0.001
A	50 Cycles Fixed			$100		$315	$355	*
B	60 Cycles Fixed			$100		$315	$355	*
C	400 Cycles Fixed				$95	$180	$220	*
D	1600 Cycles Fixed				$80	$180	$210	*
E	350—450 Cycles Variable		$110					
F	1400—1600 Cycles Variable		$85					
G	350—2000 Cycles Variable	$110						
H	350—3760 Cycles Variable	$150						
J	50—70 Cycles Variable	$120						

*Available Special Quotation.
Also other frequency ranges and accuracies, from 20 cycles to 10KC.

See YELLOW SECTION for Local Offices, Telephones, etc.

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CHATHAM

AIRCRAFT POWER SUPPLIES

AC-DC, DC-DC, DC-AC
SILICON, GERMANIUM, SELENIUM

Chatham — world's leading supplier of airborne power conversion equipment

Preference of aircraft designers has made Chatham the world's number one supplier of power conversion equipment for missiles . . . jets . . . airliners. Here's how Chatham earned and maintains this position.

Custom manufacture: Chatham tailors each unit to supply maximum performance under all environmental conditions with minimum size and weight.

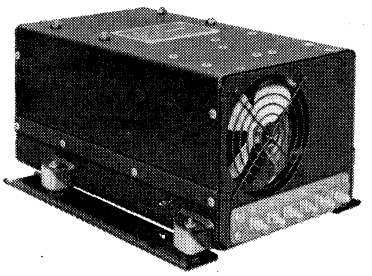
Components control: All solid-state components are made right at the Chatham plant. Thus, Chatham power supplies are never limited by "specs" of commercially available components.

Any requirement met: Many Chatham units are immediately available. To meet extraordinary demands, Chatham will design and produce an original unit to any specifications you outline without delay.

When specifying power conversion equipment, think of Chatham first because Chatham is first. For specific data, contact: Chatham Electronics, Division of Tung-Sol Electric Inc., Livingston, New Jersey. Sales Offices: Culver City, Cal., Dallas, Texas.

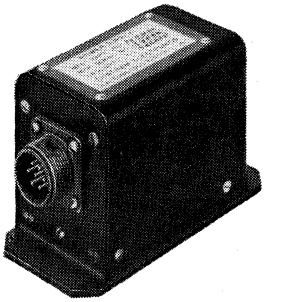
FREE FOLDER

For descriptive data on these and other Chatham airborne power supplies, send for Chatham's descriptive "Power Conversion Equipment" brochure. Ask for Form T-26.



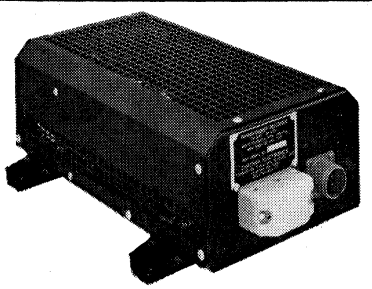
SELENIUM TR UNIT 28V100-5

Input	115/200 volts, 3 ø, 400 c.p.s.
Output	100 amp @ 28 VDC
Regulation	24-31 volts, 0 to 100 amp @ 195 to 210 volts
Cooling	Fan
Weight	Less than 17 lbs.
Dimensions	6⅞" H x 9½" W x 13⅜" D
Feature	Shock mounted



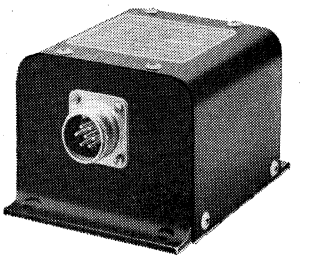
DC-DC CONVERTER 75D2D50

Input	28 volts DC
Output	50 ma @ ± 75 VDC
Regulation	± 1%
Cooling	Conduction
Weight	Less than 1.5 lbs.
Dimensions	3" H x 2½" W x 5" D
Feature	Dual output



SILICON TR UNIT 28VS100C

Input	115/200 volts, 3 ø, 400 c.p.s.
Output	100 amp @ 28 VDC
Regulation	25-30.5 volts DC from 5 to 100 amp @ 195 to 210 volts
Cooling	Convection
Weight	Less than 17 lbs.
Dimensions	5" H x 10½" W x 13" D
Feature	Designed to MIL-P-7212B



STATIC DC-AC INVERTER 283I50

Input	28 volts DC
Output	50va 115/200 VAC 3 ø, 400 c.p.s. sine
Regulation	5% with load
Cooling	Convection/Conduction
Weight	Less than 5 lbs.
Dimensions	3" H x 4" W x 5" D
Feature	High efficiency and high temperature operation

CHATHAM ELECTRONICS

division of

TUNG-SOL ELECTRIC INC.

See YELLOW SECTION for Local Offices, Telephone, etc.

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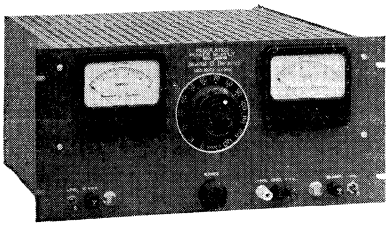
UNIVERSAL ELECTRONICS COMPANY
REGULATED D.C. POWER SUPPLIES
TRANSISTORIZED • INTERMEDIATE • WIDE RANGE • TWIN

REGULATED TO ±.1V, 0 to full load, or 10% line change

KEY TO OUTPUT RANGES: For models with fixed voltage ranges, first two figures indicate voltage and final figure indicates amperes; for example, Model Q26-30-10 is a 26-20V unit at 10 Amps. In variable voltage models, first figure indicates maximum voltage, second figure indicates amperes; for example, Model LQ36-6 is a 0-36V unit at 6 Amps. Twin models combine two identical supplies in one cabinet.



Model LQ36-15

TWIN MODELS

Model No.	Voltage Range	Price
TQ36-1	5-36V	$495.00 ea.
TQ36-2	5-36V	695.00 ea.
TQ10-1	0-10V	550.00 ea.
TQ10-2	0-10V	650.00 ea.

INTERMEDIATE RANGE

Model No.	Price	Model No.	Price
Q5-8-1	$225.00	Q10-14-6	$375.00
Q5-8-2	250.00	Q10-14-10	415.00
Q5-8-4	295.00	Q10-14-15	515.00
Q5-8-6	345.00	Q10-14-25	615.00
Q5-8-10	395.00	Q26-30-1	275.00
Q5-8-15	495.00	Q26-30-2	295.00
Q5-8-25	595.00	Q26-30-4	350.00
Q10-14-1	250.00	Q26-30-6	400.00
Q10-14-2	275.00	Q26-30-10	450.00
Q10-14-4	325.00	Q26-30-15	550.00
		Q26-30-25	650.00

WIDE RANGE

Model No.	Price	Model No.	Price
LQ10-1	$275.00	LQ5-32-6	$450.00
LQ10-2	325.00	LQ5-32-10	550.00
LQ10-4	375.00	LQ5-32-15	650.00
LQ10-6	425.00	LQ5-32-25	750.00
LQ10-10	465.00	LQ36-1	345.00
LQ10-15	565.00	LQ36-2	395.00
LQ10-25	665.00	LQ36-4	450.00
LQ5-32-1	295.00	LQ36-6	525.00
LQ5-32-2	350.00	LQ36-10	625.00
LQ5-32-4	395.00	LQ36-15	725.00
		LQ36-25	825.00

Note on Meters, Transistorized Series: LQ and TQ models available only with meters. Metered Q models, $30.00 additional.

ELECTRONICALLY REGULATED • STANDARD • PRECISION • TWIN

PRECISION — 0.1% REGULATION

STANDARD — 0.5% REGULATION

PRECISION, ULTRA-PRECISION, TRANSISTOR DEVELOPMENT MODELS

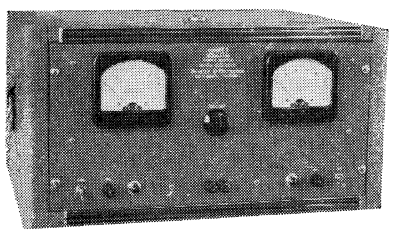
Single Units Model No.	Output Ranges	Price
200B	0-300V, D.C. 0-200 Ma.	$320.00
300B	0-500V, D.C. 0-300 Ma.	420.00
1000B	0-1000V, D.C. 0-500 Ma.	750.00
UP520B (Ultra-Precision)	0-500V, D.C. 0-200 Ma.	410.00
*C22	0-50V, D.C. 0-1 Amp.	395.00
*C22-2	0-30V, D.C. 0-2 Amps.	445.00
Twin Units		
200AT	Each, 0-300V, D.C. 0-200 Ma.	590.00
*TR200AT	Each 0-10V, 0-100V, D.C. 0-200 Ma.	650.00

STANDARD MODELS

Single Units Model No.	Output Ranges	Price
32A	160-300V, D.C. 0-200 Ma.	$195.00
425A	0-400V, D.C. 0-250 Ma., Max.	235.00
520A	0-500V, D.C. 0-200 Ma.	290.00
Twin Units		
425AT	Each, 0-400V, D.C. 0-250 Ma., Max.	445.00
520AT	Each, 0-500V, D.C. 0-200 Ma., Max.	520.00

* Especially designed for development of transistor circuits.

UNIREG MAGNETIC AMPLIFIER CONTROLLED POWER SUPPLIES



Model C22-32-10

SPECIFICATIONS

Regulation: Nominal ±1% from 0-full load for line input from 105-125 VAC. Special load compensation feedback network achieves positive or negative output impedance, giving 0% load regulation or even rising output with load to compensate for lead length losses.

Ripple: Less than 1% for all load or line conditions.

Response: Faster than 0.2 second.

Input Frequency: 50-60 cycles.

MODELS AVAILABLE

Model No.	Voltage Range	Current Range	Price
C4-7-3	4-7V	0-3 Amps.	$275.00
C4-7-5	4-7V	0-5 Amps.	325.00
C4-7-10	4-7V	0-10 Amps.	375.00
C10-14-3	10-14V	0-3 Amps.	300.00
C10-14-5	10-14V	0-5 Amps.	350.00
C10-14-10	10-14V	0-10 Amps.	410.00
C22-32-3	22-32V	0-3 Amps.	320.00
C22-32-5	22-32V	0-5 Amps.	375.00
C22-32-10	22-32V	0-10 Amps.	425.00
*U32-10	0-32V	0-10 Amps.	525.00
*C169	0-150V	0-1.5 Amps.	550.00

* 60 cycles only

FOR COMPLETE SPECIFICATIONS AND DETAILS ON 200 OTHER MODELS, WRITE TO

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1720 TWENTY-SECOND STREET, SANTA MONICA, CALIFORNIA • Telephone: EXbrook 3-7707

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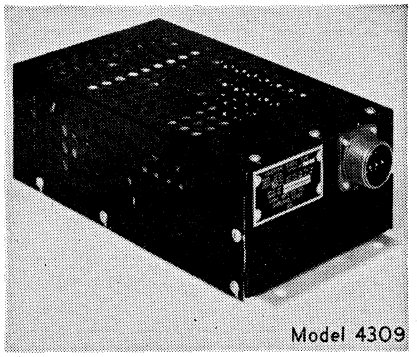
VARO

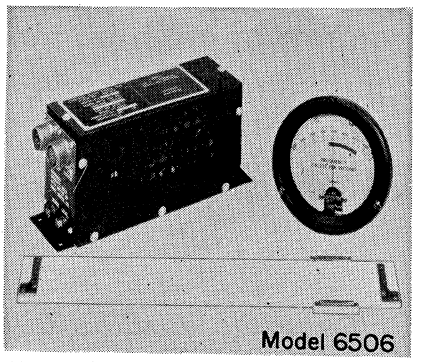
PRECISION Electronic Equipment Airborne & Ground

TRANSISTOR INVERTERS



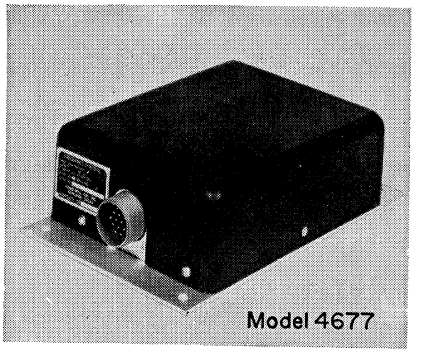
250 VA, 400 cps. Available at other ratings. Also electronic and rotary inverters.

FREQUENCY METERS



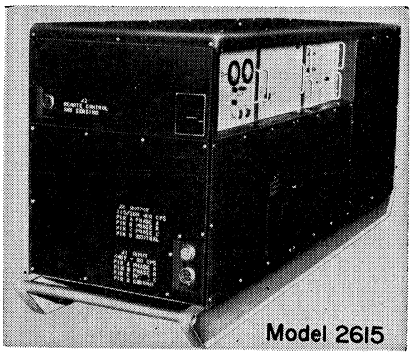
400 cycle, direct reading, .05% accuracy. Other models for use in laboratories, ground power units.

FREQUENCY CONTROLS



400 cycle phase lock design. Regulates constant speed drives to .1%.

GROUND SUPPORT SYSTEMS



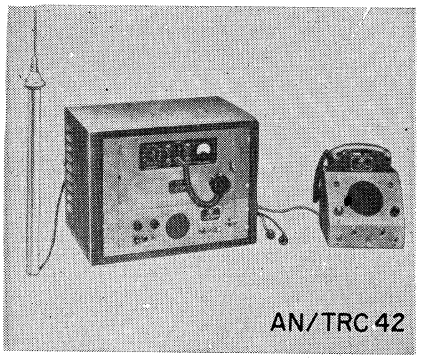
15 KW 400 cycle ±.1% motor-clutch-generator with automatic tracking and load transfer. Other models 1.5 to 18 KVA.

OTHER EQUIPMENT

Measuring-Protection

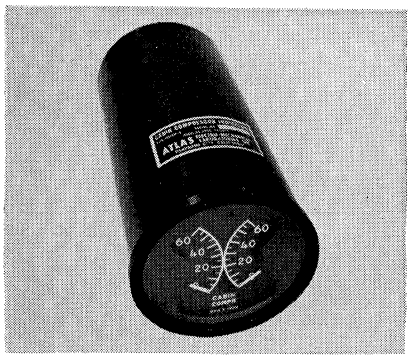
- **Frequency**
- **Speed**
- **Voltage**
- **Current**

COMMUNICATIONS SYSTEMS



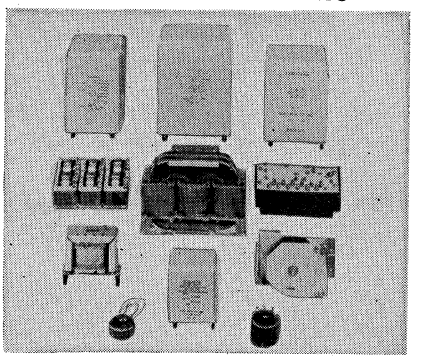
Complete VHF radio-telephone for ground-air communications. Remote tone control, electronic hybrid among other units.

TACHOMETERS



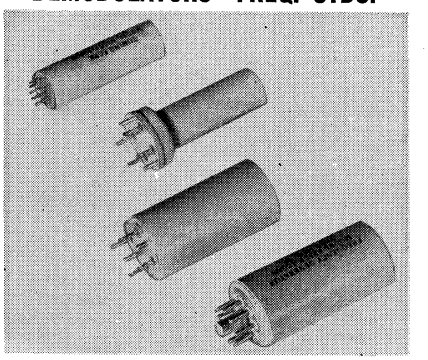
Electronic-transistorized. Magnetic pickup. For high temperature and extreme vibration applications. No brushes or slip rings.

MAGNETIC COMPONENTS



Magnetic amplifiers, toroids, reactors and transformers. Potted, canned or open.

DEMODULATORS - FREQ. STDS.



Transistorized modulators and demodulators. Bi-metal tuning forks and frequency generators, 350-4000 cps.

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THE VICTOREEN INSTRUMENT COMPANY

5806 HOUGH AVENUE • CLEVELAND 3, OHIO

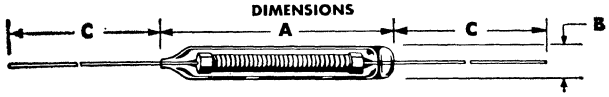
GLASS-SEALED DEPOSITED CARBON RESISTORS

RESISTOR DATA CHART

TYPE	RESISTANCE	TOLERANCE	VOLTAGE COEF. % / V	TEMP. COEF. % / °C	MAX. W.V.	WATTAGE	MAX. TEMP. °C	DIMENSIONS A (MAX)	B (MAX)	C (MIN)
RX2	1 Meg to 50 Meg	1,2,5,10,20 Note 1	—.0002	—0.08	3000	1	125	2	.413	1½
RX3	1 Meg to 200 Meg	1,2,5,10,20 Note 2	—.0002	—0.08	10,000	3	125	3⅛	.413	1½
RX4	200 ohm to 50 Meg	1,2,5	—.0002	—0.05	800	5	200	2	.413	1½
RX5	200 ohm to 200 Meg	1,2,5 Note 3	—.0002	—0.05	2000	10	200	3⅛	.413	1½
RX8	100 ohm to 10 Meg	1,2,5	—.0002	—0.05	750	2	200	1½	.240	1¾

NOTE: 1: 1% and 2% tolerance available only below 20 meg.
2: 1%, 2% and 5% tolerance available only below 100 meg.
3: 1% and 2% tolerance available only below 100 meg.

DIMENSIONS



HI-MEG RESISTORS

GLASS SEAL: HI-MEGS are vacuum sealed in a glass envelope which is treated with a special silicone varnish which keeps the resistor relatively free from the effects of moisture.

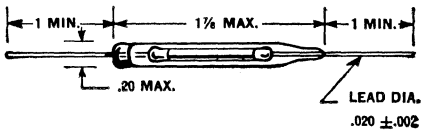
RESISTANCE: HI-MEG resistors are available in values from 10^8 to 10^{14} ohms.

TOLERANCE: HI-MEG resistors can be supplied in the following tolerances: 1% below 10^{12} ohms, 2% and 5% below 10^{13} ohms, and 10% over the entire range.

MAXIMUM WORKING VOLTAGE: 1000 volts.

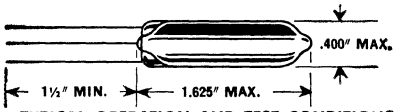
MAXIMUM OPERATING AMBIENT TEMPERATURE: 100° C.

POWER RATING: The power rating for any HI-MEG resistor is equal to one divided by the resistance in megohms.



ELECTROMETER TRIODE

VX-55



TYPICAL OPERATION AND TEST CONDITIONS

E_f	1.25	Volts	I_p	95	μa
I_f	10.0	ma	G_m	110	μmho
E_p	7.5	Volts	I_g	5×10^{-14}	amp
E_g	—2.2	Volts	M_u	2.1	

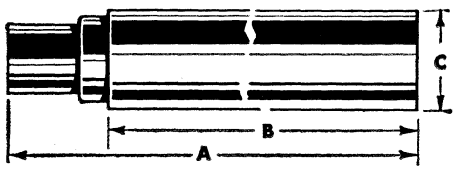
ELECTROMETER TETRODE

5800/VX-41A

AS A TETRODE ELECTROMETER

Plate Voltage	+4.5	Volts	Transconductance	15	μmhos
Accelerator Grid Voltage (g_1)	+3.4	Volts	Plate Current	12	μa
Control Grid Voltage (g_2)	—3	Volts	Accelerator Grid Current	300	μa
Amplification Factor	1		Control Grid Current	10^{-13}	Amp

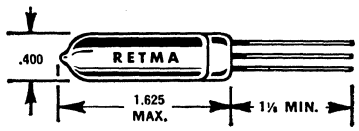
CORONA TYPE VOLTAGE REGULATORS



Commonly Used Metal Regulators*

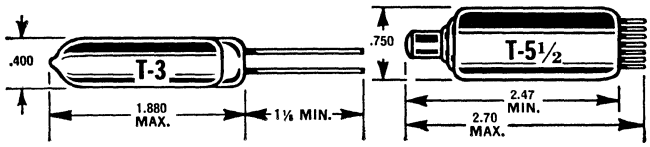
TYPE	VOLTAGE RANGE	TOLERANCE	NOM. TEST POINT	CURRENT MAX.	CURRENT MIN.	REGULATION 100-1000μa	DIMENSIONS A	B	C
M105B	6 KV-10 KV	±500V	500μa	1000μa	50μa	7½%	6½	5	1¼
M105	10 KV-20 KV	±500V	500μa	1000μa	100μa	10%	6½	5	1¼
M108	10 KV-20 KV	±500V	500μa	1000μa	100μa	7%	9½	8	1¼
M126	20 KV-25 KV	±500V	500μa	1000μa	100μa	10%	7½	6	1½
M128	20 KV-27 KV	±500V	500μa	1000μa	100μa	7%	9½	8	1½

CORONA TYPE VOLTAGE REGULATORS



R. E. T. M. A. Types

TYPE	NOM.	TOLERANCE	NOM. TEST PT.	CURRENT IN μa MIN.	MAX.	PEAK	REGULATION VOLTS	CURRENT RANGE
5950	700V	± 15V	25μa	5	100	150	14V	5-100μa
5841	900V	± 18V	25μa	5	100	150	18V	5-100μa
6143	1200V	± 24V	25μa	10	100	150	24V	5-100μa
6119	2000V	±100V	25μa	15	100	150	40V	5-100μa

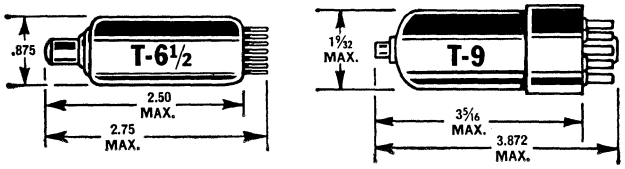


Commonly Used Models in T-3 Size*

TYPE	NOM. TEST PT.	TOLERANCE	NOM.	CURRENT IN μa MIN.	MAX.	PEAK	REGULATION VOLTS	CURRENT RANGE
GV3B-400	50μa	±10V	400V	5	150	300	15V	5-150μa
GV3B-600	50μa	±10V	600V	5	150	300	20V	5-150μa
GV3A-900	50μa	±15V	900V	10	250	350	25V	10-250μa
GV3A-1200	50μa	±30V	1200V	10	250	400	40V	10-250μa
GV3A-1500	50μa	±30V	1500V	15	300	500	50V	15-300μa
GV3A-2000	50μa	±50V	2000V	15	300	500	75V	15-300μa

Commonly Used Models in T-5½ Size*

TYPE	NOM.	TOLERANCE	NOM. TEST PT.	CURRENT IN μa MIN.	MAX.	PEAK	REGULATION VOLTS	CURRENT RANGE
GV5B-700	700V	±20V	100μa	10	250	350	25V	10-250μa
GV5B-900	900V	±25V	100μa	10	300	500	30V	10-300μa
GV5B-1000	1000V	±30V	100μa	10	300	500	35V	10-300μa
GV5A-1200	1200V	±36V	100μa	10	400	600	40V	10-400μa
GV5A-2200	2200V	±65V	100μa	20	800	1000	50V	20-800μa
GV5A-3000	3000V	±90V	100μa	30	1000	1200	75V	30-1000μa



Commonly Used Models in T-6½ Size

TYPE	NOM. VOLTAGE	TOLERANCE	NOM. TEST PT.	CURRENT IN μa MIN.	MAX.	PEAK	REGULATION**
GV6A-450	450	±11V	500μa	20	1000	1300	30V
GV6A-1000	1000	±25V	500μa	30	1000	1500	42V
GV6A-2500	2500	±65V	500μa	50	1500	3500	100V
GV6A-3000	3000	±75V	500μa	50	1000	3500	70V

**This regulation is the change in voltage over the useful range of current from MIN. to MAX.

Commonly Used Models in T-9 Size

TYPE	NOM. VOLTAGE	TOLERANCE	NOM. TEST PT.	CURRENT IN μa MIN.	MAX.	PEAK	REGULATION**
GV9A-600	600	±15V	1000μa	50	1500	2000	25V
GV9A-1000	1000	±25V	1000μa	50	1750	2200	45V
GV9A-2000	2000	±50V	1000μa	50	3500	4200	80V
GV9A-3000	3000	±75V	1000μa	50	2700	7000	110V

**This regulation is the change in voltage over the useful range of current from MIN. to MAX.

*T-3 size voltage regulators are available in any desired nominal voltage ±2% from 400 volts to 2000 volts at the customary test point of 50 ua. T-5½ size voltage regulators are available in any desired nominal voltage ±3% from 400 volts to 6000 volts at the nominal test point at 100 ua. Metal regulators are available in any desired voltage ±500 volts from 7½ KV. to 27½ KV. at the customary test point of 500 ua. All other characteristics such as maximum and minimum currents, regulation, etc., may be interpolated from the table.

See YELLOW SECTION for Local Offices, Telephone, etc.

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ARNOLD / TOROIDAL COIL WINDER

sets up quickly...easy to operate... takes wide range of wire sizes

SPECIFICATIONS:

- Min. finished hole size: .18 in.
- Max. finished toroid O.D.: 4.0 in.
- Winding speed: 1500 turns/min.
- Wire range: AWG 44 to AWG 26
- Dual, self-checking turns counting system
- Loading (wire length) counter
- Core range: ¼" I.D. to 4" O.D. to 1½" high

LABORATORY USE

- Change wire and core size in 45 sec.

PRODUCTION USE

- 1500 turns per minute
- Insert core and load in 20 sec.

immediate delivery. literature on request

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includes all rings, counters and accessories

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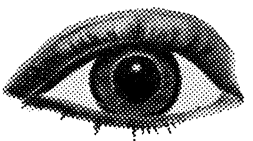
NEW INFRA-RED HIGH SPEED DETECTION DEVICES



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Response down to 1 microsecond with photo-multipliers ...down to 10 microseconds with germanium cells.

Temperature detection and measurements down to 200 degrees Centigrade at high speeds. Miniaturization accomplished by transistorized circuits.

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Cut Winding Costs *automatically*

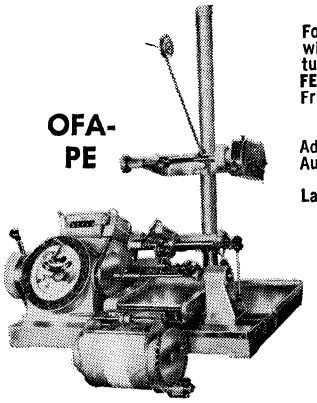
WITH THE MOST COMPLETE LINE OF AUTOMATIC COIL WINDING EQUIPMENT EVER OFFERED TO THE ELECTRICAL/ELECTRONICS INDUSTRIES

MICAFIL

OFA-PE

For automatic or semi-automatic winding of multi-layered coils requiring paper interleaving.

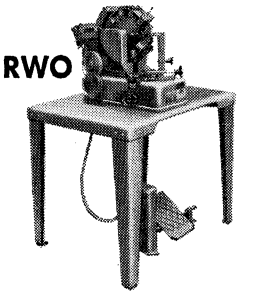
FEATURES:
- Can be set for automatic and semi-automatic interleaving of insulating paper
- Stepless adjustment of wire guide even when machine is winding
- Automatic paper length control as diameter increases
- Automatic cut-off at pre-set number of turns with accurate 5 figure turn counter and zero set-back
- Winds up to 4 flangeless coils simultaneously



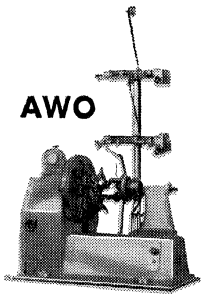
RWO

For continuous and sector winding of regular and miniature (narrow opening) toroids.

FEATURES:
- Friction driven shuttle and wire guiding for controlled winding tension
- Adjustable winding speed
- Automatic cut-off, pedal on-off
- Large magazine storage — holds enough 32-44 A.W.G. for winding several toroids



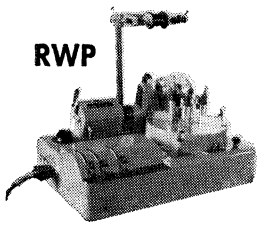
AWO



Semi-automatic for winding 2, 4 or 6 pole straight or skewed slot armatures.

FEATURES:
- Quick set-up and change-over
- Adustable wire guide blades
- Automatic cut-out at pre-set number of turns
- Hand controlled starting and automatic slot to slot advance
- Provisions for V-winding

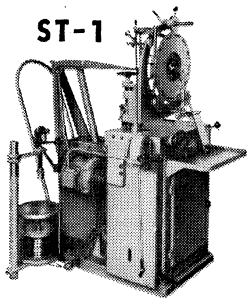
RWP



For automatic winding of high precision sine-cosine and linear potentiometers.

FEATURES:
- Automatic shut-off
- Adjustable wire tension
- Winding speeds adjustable 0—250 R.P.M.
- Core feed adjustable in increments from .00004" to .024" per revolution
- Provisions for sector winding to 300°, or continuous

ST-1



ST-I Stator Winding Machine ...for the automatic winding of 4, 6 or 8 pole single or 2 poles with reduced pitch.

FEATURES:
- Winds stators directly into slots for 1/6 to 2 h.p. motors.
- Adjustable for number of turns per coil, pitch, length of stroke, wire tension and winding speed.
- Automatic cut-off when pre-set number of turns is reached.

There is a MICAFIL winder for every winding job.

MICAFIL, fully and semi-automatic winding machines

OFA: Fine Wire Layer Winder

OFA-P: Low Impedance Layer Winder

OFA-TS: High Speed Layer Winder (18,000 r.p.m.)

OGA: Fine to Medium Wire Layer Winder

Type II: Medium to Heavy Wire Layer Winder

Type III to VIII: Very Heavy Wire Layer Winders

RW-I to III: Toroidal Winders

RWO: Toroidal (see listing above)

RWP: Precision Potentiometer Winder

ST-I: Stator Winder

AWO: Small Armature Winder

AWO-A: Fully Automatic Armature Winder

AWO-3000: High Speed Armature Winder (3,000 r.p.m.)

HWB: Strip-on-edge Winder

WBD: Universal Rotor Treating Lathe

hirschmann

Swiss precision with American service

CARL HIRSCHMANN COMPANY, INC.
30 PARK AVENUE MANHASSET, N. Y.

Branches: 6015 N. Cicero Ave., Chicago 46, Ill. • 5124 Pacific Blvd., Los Angeles 58, Calif. • Carl Hirschmann Co. of Canada Ltd., 3112 Dundas St. West, Toronto, Canada.

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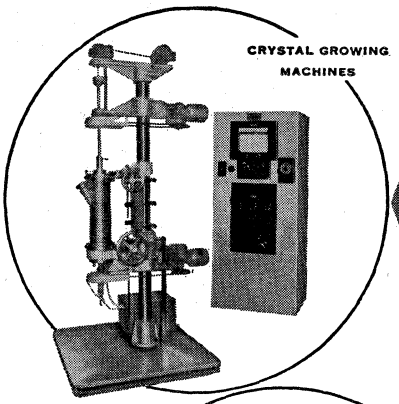
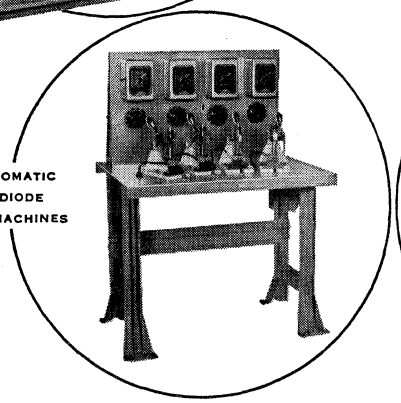
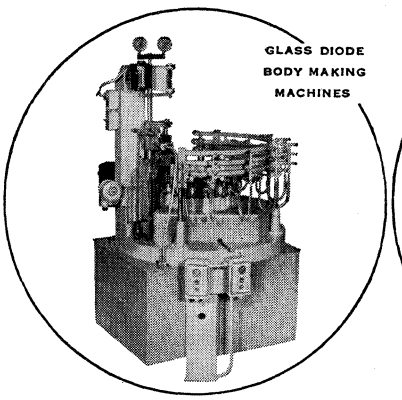


CRYSTAL GROWING MACHINES

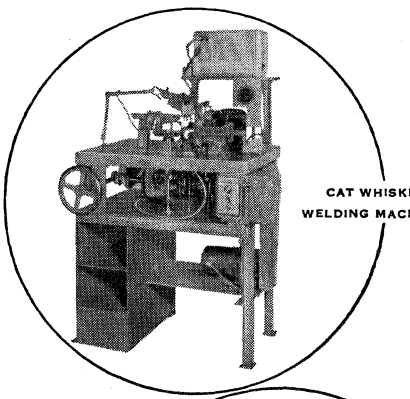
We have created over one thousand DIFFERENT KINDS of electronic production machines!



SEMIAUTOMATIC GLASS DIODE SEALING MACHINES

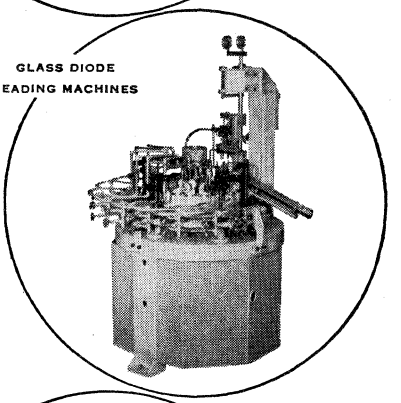


GLASS DIODE BODY MAKING MACHINES

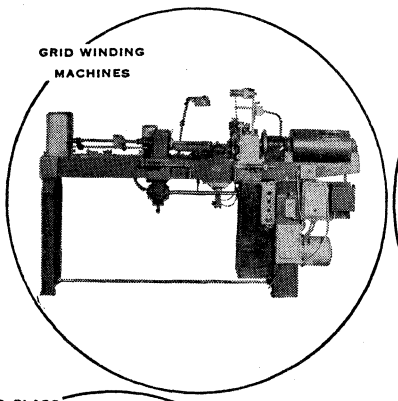


CAT WHISKER WELDING MACHINES

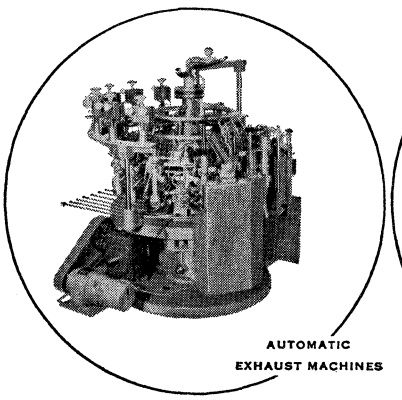
Whether for semiconductor or electronic tube production, each has exceeded customers' specifications. And each was tested under actual operating conditions before shipment.



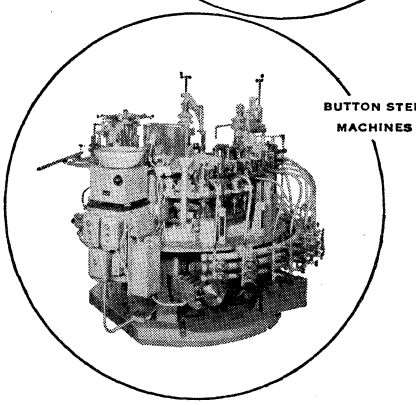
GLASS DIODE BEADING MACHINES



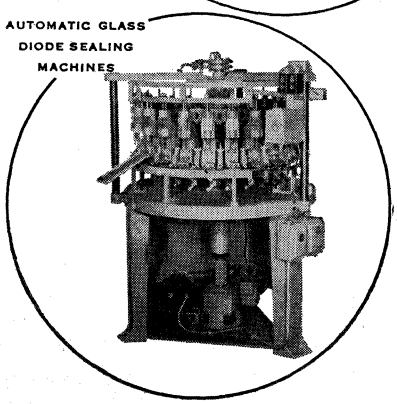
GRID WINDING MACHINES



AUTOMATIC EXHAUST MACHINES



BUTTON STEM MACHINES



AUTOMATIC GLASS DIODE SEALING MACHINES

Can you use this kind of engineering service and cost saving automation in YOUR *business? CALL OR WRITE US.*

KÄHLE

ENGINEERING COMPANY

WORLD'S LARGEST EXCLUSIVE BUILDER
OF MACHINERY FOR THE ELECTRONIC INDUSTRY

GENERAL OFFICES: *3326 Hudson Ave., Union City, New Jersey*

See YELLOW SECTION for Local Offices, Telephone, etc.

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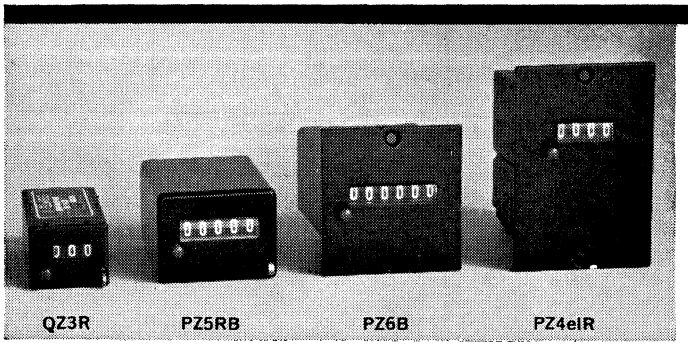
PRESIN CO.

a single source for every type of electrical and mechanical counter



QZ & PZ Series — the most compact on the market, specifically designed, both physically and electrically, for electronics applications. They require no lubrication. All counters with rates 25 per sec. or below can be used directly in vacuum tube circuits.

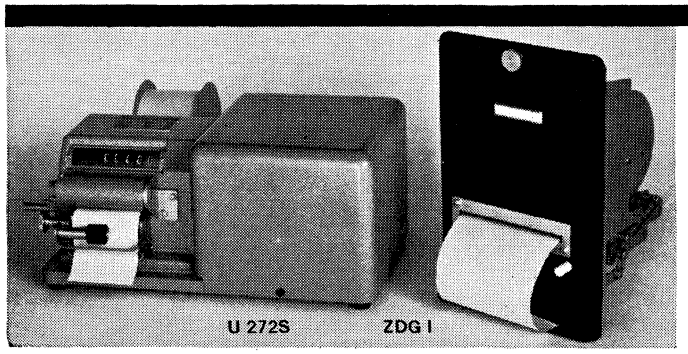
QZ3R—Smallest Available Resettable Counter

Number of digits: 2 or 3
Digit height: 11/64″
Count rate: 25 per sec.
Operating voltage: 6-60 V DC
Dimensions: 1/16″ wide x 1-3/16″ high x 2-1/4″ deep
Typical coil: 24 V DC, 16 MA, 0.384 W, 1500 ohms
Mounting: Flush to panel, 4 tapped holes in back (2 & 3 digit electrically reset models also available)

PZ Series

Number of digits: 4, 5, 6 or 7 (PZ5RB for 5 digit counter)
Count rate: 10, 25 or 50 per sec.
Operating voltage: 6-220 V, DC or AC
Typical coil: 110 V DC; 12,000 ohms; 1 W; 9.2 MA
Mounting: Flush panel (PZ6RA) or back mount (PZ6RB)
Reset: Non-reset (PZ6B) Push Button Reset (PZ6RB) Electrical Reset (PZ4elR)
Body dimensions — push button & non reset models: 2-1/8″ deep x 1-15/16″ high x 1-7/16″ (4 digits) to 2-1/16″ (7 digits wide)
Body dimensions—electrical reset: As above for depth & width, but 1-15/16″ high

The above data represent normally stocked variations. Non-stock variations include special coils, armature contacts, periodic wheel contacts, etc.



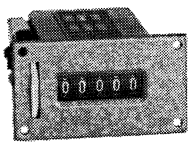
Illustrated above are two of our many and unique printing counters — essential wherever an unambiguous permanent count record is demanded. We especially urge you to write us about your requirements since many new models will be forthcoming during the year.

U 272S Revolution Printing Counter for servo drives. Input shaft protrudes into right hand box for servo motor mounting.

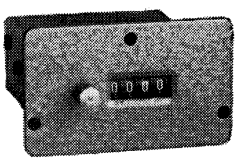
Shaft: mounted in ball bearings 4 mm. dia.
Torque: Max. 3 in. oz.
Gearing: 1 rev. of shaft = 10 counts (standard)
Speed: 6000 counts per min. (forward or back)
Method of operation: Adding in one direction, subtracting in opposite
Dimensions of baseplate: 10-53/64″ x 5-29/32″
Printing figures: 1/8″ high (6 digits max. with reset) (7 digits without reset) (5 digits count—2 digits index)
Zero reset: electrical, lever, or non-reset
Print: 12 & 24 V DC, or 110 V AC

ZDG I Panel Mounting Electrical Printing Counters incorporating up to 4 separate independent non-reset or 3 electrically reset 5-digit printing heads printing on one tape. 24 hour time printer heads also insertable.

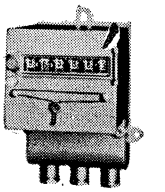
Size: 8-9/16″ height, 5-1/2″ width, 7-1/2″ depth (panel cut-out 6-3/8″ x 4-3/4″)
Tape: 3-7/16″ wide
Counter speed: 25 per sec.
Counter reset: 1/2 sec.
Print time: 70 millisecs.
Operating voltage: 24, 48, or 60 V DC



F 106HD—Heavy Duty Counter
Recommended for the heaviest duty. This counter was designed for IBM and is standard equipment on their Model 083 card sorters, guaranteed for 180,000,000 counts minimum. Top speed 32 counts per sec. For DC-AC operation. Digit height 3/16″.
New! F 108 lever or electrical reset, 60 counts per sec., 300,000,000 steps life.



F 160—Bidirectional Counter
To the same life and speed specifications as F 106HD, the F 160 is a bidirectional counter with push button reset. Also available with contacts operating at zero and at any preselectable point up to 9999. By automatically oscillating between these two points, it functions either as a digital controller or batching counter.



VWZelR—Electrical Predetermining
One of two new predetermining electrical counters with push button or electrical reset. Numbers are set into the wheels, counter proceeds to zero, where switch closure is given. Recycling to preset number is electrical or mechanical. Above illustrated model has 9/32″ digits; a small unit for panel mounting with 5/32″ digits is also available.

Write for complete catalog information.

PRESIN CO. 2014 Broadway
Santa Monica, Calif. • Phone: EXbrook 3-9738

See YELLOW SECTION for Local Offices, Telephone, etc.

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RAMYR PLATING EQUIPMENT

FOR ELECTRONIC COMPONENTS — PRINTED CIRCUITS

BENCH PLATERS for Your Every Plating Requirement . . .

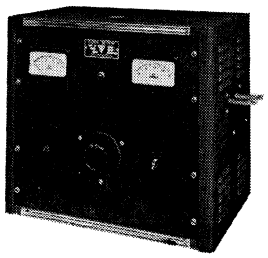
SINGLE PHASE UNITS

Model A10
Input: 115 volts, 50-60 cycles
Output: 10 amps, 0-8 volts D.C.
Meters: 2" volt meter, 2" ammeter
Cabinet: 14x10x10" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat

Model A30
Input: 115 volts, 50-60 cycles
Output: 30 amps, 0-8 volts D.C.
Meters: 2" volt meter, 2" ammeter
Cabinet: 17x10x11" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat

Model A50
Input: 115 volts, 50-60 cycles
Output: 50 amps, 0-8 volts D.C.
Meters: 3" volt meter, 3" ammeter
Cabinet: 21½x11x10" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat

Model A100
Input: 115 volts, 50-60 cycles
Output: 100 amps, 0-8 volts D.C.
Meters: 4½" volt meter, 4½" ammeter
Cabinet: 21½x14¼x14¾" wrinkle finish
Rectifier: Full wave selenium
Cooling: Fan
Voltage Control: Powerstat



Model A200
Input: 115 volts, 50-60 cycles
Output: 200 amps, 0-6 volts D.C.
Meters: 4½" volt meter, 4½" ammeter
Cabinet: 21½x19½x14¾" wrinkle finish
Rectifier: Full wave selenium
Cooling: Fan
Voltage Control: Powerstat

Model B30
Input: 115 volts, 50-60 cycles
Output: 30 amps, 0-15 volts D.C.
Meters: 3" volt meter, 3" ammeter
Cabinet: 17x10x11" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat

Model B50
Input: 115 volts, 50-60 cycles
Output: 50 amps, 0-15 volts D.C.
Meters: 3" volt meter, 3" ammeter
Cabinet: 21½x11x10" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat

Single Phase Units with Filtered DC Output

Model AF10
Input: 115 volts, 50-60 cycles
Output: 10 amps. 0-8 volts D.C.
Meters: 2" volt meter, 2" ammeter
Cabinet: 14x10x10" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat
Ripple: 1 per cent

Model AF50
Input: 115 volts, 50-60 cycles
Output: 50 amps, 0-8 volts D.C.
Meters: 3" volt meter, 3" ammeter
Cabinet: 21½x11x10" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat
Ripple: 2 per cent

Model AF30
Input: 115 volts, 50-60 cycles
Output: 30 amps, 0-8 volts D.C.
Meters: 2" volt meter, 2" ammeter
Cabinet: 17x10x11" wrinkle finish
Rectifier: Full wave selenium
Cooling: Convection
Voltage Control: Powerstat
Ripple: 1 per cent

Model AF100
Input: 115 volts, 50-60 cycles
Output: 100 amps, 0-8 volts D.C.
Meters: 4½" volt meter, 4½" ammeter
Cabinet: 21½x14½x14¾" wrinkle finish
Rectifier: Full wave selenium
Cooling: Fan
Voltage Control: Powerstat
Ripple: 3 per cent

Other size Bench Platers, including 3-Phase models are available from our complete catalog.

All units are equipped with powerstat stepless voltage control, continuously variable from 0 to full scale. They are completely enclosed in a black baked enamel heavy gauge steel cabinet.

We carry a complete line of

STEEL and STAINLESS STEEL TANKS

in all sizes with and without accessories for Plating, Rinsing, Electro Cleaning and Many Other Operations. Write for illustrated literature.

RHODIUM PLATING TANK ASEMBLY

The outside tank is sturdily constructed of 12 gauge steel and is coated with acid and alkali resistant paint. The inner tank is made of 12 gauge steel and is lined with 3/32" white Polyvinyl Chloride. The double boiler principle is used to provide uniform heating of solution so essential for precision rhodium plating.

STOCK SIZES AVAILABLE

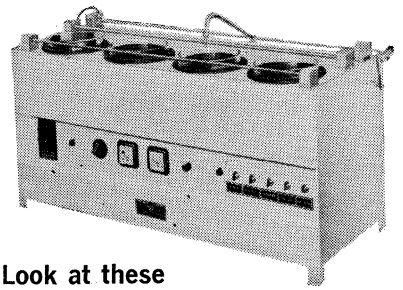
Notable Features:
ON-OFF SWITCH
PILOT LIGHT
DIAL THERMOMETER
THERMOSTAT CONTROL
ELECTRIC CONTACT HEATERS

Model	Outside Tank	Inside Tank	Heater 1 phase
R-4	17x12x12"	14x8x8"	1000W — 115V
R-5	22x12x12"	18x8x8"	1500W — 115V or 230V
R-6	27x12x14"	22x8x10"	2000W — 115V or 230V

Special sizes made to your specifications.

LABORATORY PLATER

Versatility in ONE Complete Unit



Look at these OUTSTANDING FEATURES —

- Agitation motor to operate cathode rod.
- Adjustable cathode rod arm for instantaneous placement to any of the four tanks.
- Stainless steel tank with contact heater for use as electrocleaner.
- Pyrex tanks for any type plating solutions.
- Protective rubber edging for all tanks.
- Baked white enamel finish — acid and alkali resistant.
- Built-in DC power supply has continuous variable voltage control. Includes: voltmeter, ammeter, powerstat and selenium rectifier.
- Immersion heaters with thermostat control on all Pyrex tanks.

3 SIZES AVAILABLE WITH BUILT-IN POWER SUPPLY

LP 10 — 10 Amp. — 0-8 Volts
Measures 14" deep x 17" high x 36" long
Has 3 ½-gallon Pyrex tanks, 6" x 6"

LP 12 — 10 Amp. — 0-8 Volts
Measures 16" deep x 22" high x 40" long
Has 3 2-gallon Pyrex tanks, 10" x 10"

LP 14 — 30 Amp. — 0-8 Volts
Measures 16" deep x 22" high x 48" long
Has 3 2-gallon Pyrex tanks, 10" x 10"

Complete stock of Bench Platers — 10 amps to 200 amps.

Heavy duty units to 2000 amps.

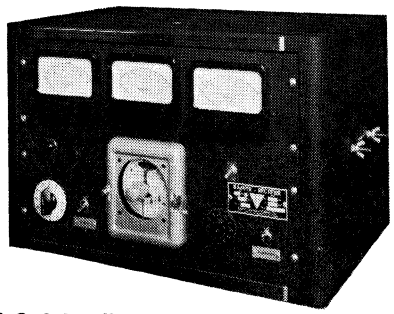
Tank units from 2 gallon to 500 gallon capacity. Stainless steel, PVC lined and Spray Rinse.

Special units designed and engineered to your specification.

COMPLETE CATALOG ON REQUEST

ELECTRONIC PLATER

Precise plating of electronic parts requires filtered DC current, perfect measuring of metal deposition, proper replacement of solutions and accurate timing. The Ramyr Electronic Plater gives you all of these and more. The most exacting requirements have been met in engineering this equipment.



4 Outstanding Features Make this Plater a MUST —

1. A Sangamo Ampere Hour Meter* to accurately measure deposition of metal and to determine amount of metallic content to be replaced.

2. A 0 to 1 Ampere Meter. This 4½" rectangular meter with its 20 milliampere graduations assures accurate reading for plating of minute parts. It is easily switched into the circuit by a toggle switch. There is a separate fuse on the meter which protects against overload.

3. An Automatic Timer ** to regulate plating interval. Set the timer for required plating time, and it will automatically shut off unit at pre-set time. Includes a toggle switch to by-pass timer unit when long plating cycle is desired.

4. Buzzer Alarm which operates from the ampere hour meter and/or the timer.

The usual quality Ramyr built-in features are also incorporated in the Electronic Plater. They include:

0-10, 0-20 or 0-50 ampere meter for normal operation (to fit model no.)

0-10 volt meter.

Stepless voltage control from 0-8 volts.

Full wave selenium rectifier, convection cooled.

Input current, 115 volt, single phase, 60 cycles.

Filtered DC output, 0-8 volts, 10 amps with less than 1% ripple.

The Electronic Plater is available in 3 sizes:
Model EP-10 — 0 to 10 amps
Model EP-20 — 0 to 20 amps
Model EP-50 — 0 to 50 amps

SPECIFY AMPERE HOUR DIAL AND TIMER RANGE

★ Sangamo Ampere Hour Meters Available:
1000 minute dial
10 ampere hour dial
20 ampere hour dial
40 ampere hour dial

**Timers Available:
0-15 minute dial
0-30 minute dial
0-1 hour dial

GOLD PLATING UNIT

A complete self-contained unit that will give lasting and dependable performance, independent of other DC power, leaving plating equipment free for production work.

Has built-in Selenium Rectifier, Voltmeter, Ammeter, Variable 0-8 Volt Powerstat Conrol, On-Off Switch and Pilot Light. Also has Dial Thermometer, Timer, Agitation Motor and Cathode Bar. Capacity of tank is 10 gallons. **Send for illustrated literature.**

Ramyr MANUFACTURING CO.

1781 No. Main Street
Los Angeles 31, California

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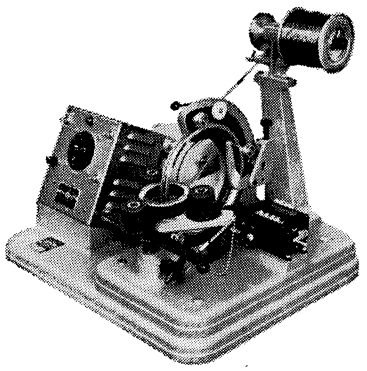
FOR ACCURACY USE TOROYD

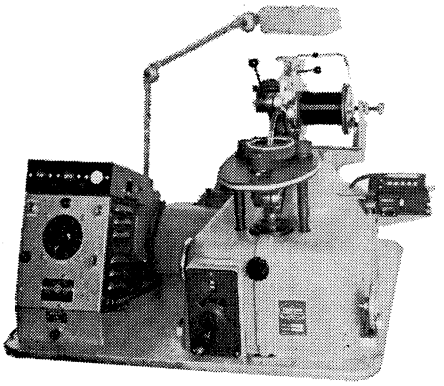
- Specializing in the tightest and most precise 360° continuous or 270° segmental traversing toroidal windings, the UNIVERSAL machines have proven to be the finest in the field.
- For the same hole size, "TOROYD" models will wind heavier wire than other machines presently on the market.
- UNIVERSAL "TOROYD" positive-drive toroidal coil winding and taping machines can be designed and custom-manufactured for your special requirements.
- All precision-cut shuttles, magazines and roller assemblies are of Molybdenum alloy steel with a Wear-Resistant Hard Chrome Finish.
- The machines and parts are designed and manufactured to jig-borer accuracy by UNIVERSAL.
- All models equipped with VARIAC's for speed control.
- Ask to be included on our mailing list so as to receive important latest releases.

L 7



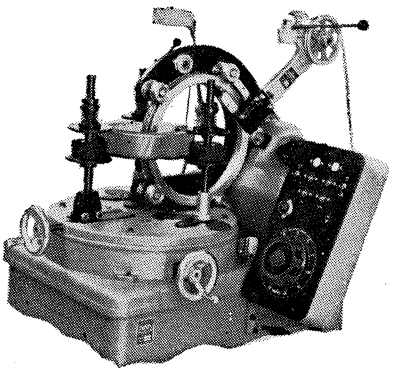
New economy model. Winds fin. coils up to 9½" O.D. and 3" high. #20 — #40 AWG. Price $1250.00 Complete.

U 6



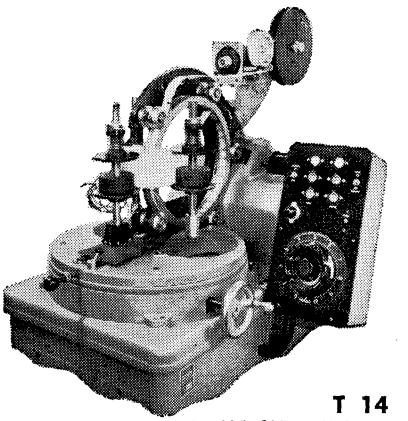
Bench models. For highly accurate fine wire winding. #23 — #38 AWG. Also available in Model U 4 (#25 — #40 AWG) and Model U 2 (#28 — #41 AWG, Min. Fin. I.D. 9/32").

U 14



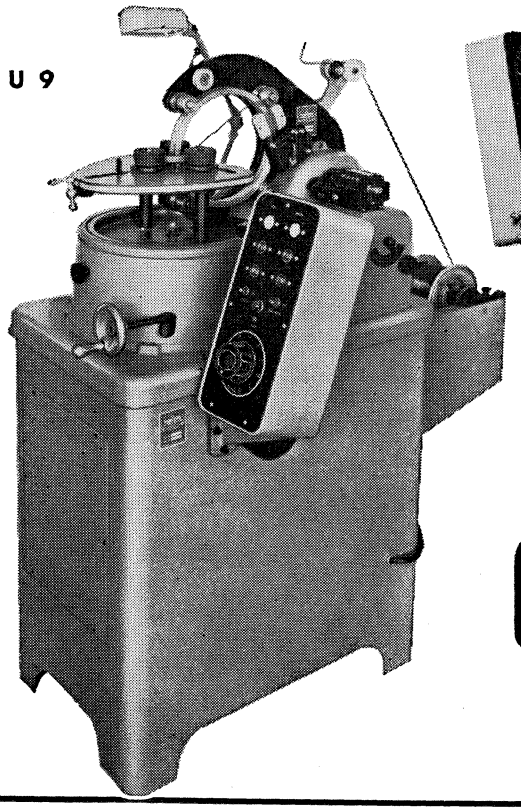
For heavy duty winding #7 — #28 AWG (Min. Fin. I.D. ¾", Max. Fin. O.D. 14"). Inquire about Models U 20 and U 28 for heavier requirements.

T 14

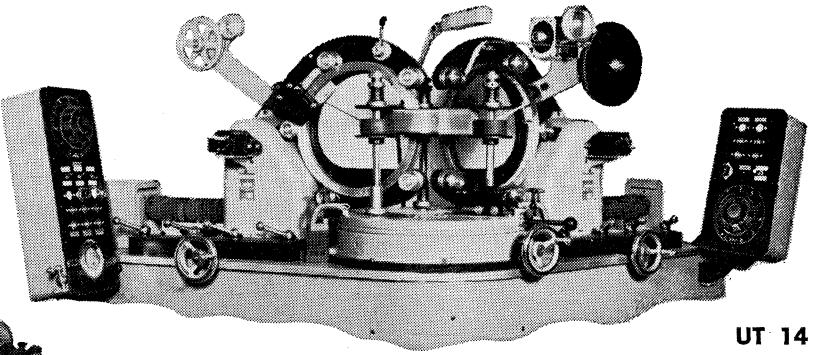


Toroidal taping model for ½", ¾" or 1" tapes. Also available in Models T 9 for ¼", ⅜" or ½" tapes and T 20 for 1" heavy duty taping (Max. Fin. O.D. 23" and 10" Fin. Ht.)

U 9



Popular model covers #16—#33 AWG (Min. Fin. I.D. 5/8", Max. Fin. O.D. 6").



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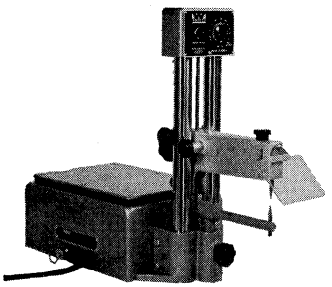

Model 1015 self-contained bench welder
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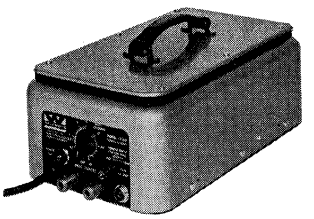
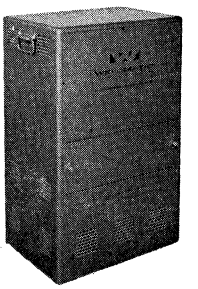
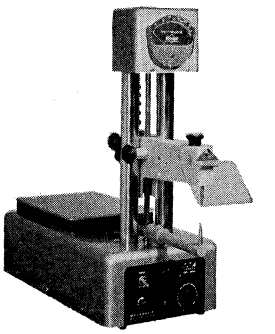


Model 1016 portable power supply
0.1 to 40 watt-seconds. Compact, lightweight. Four types of handpiece available. Model 1026 80 watt-second power supply also available.

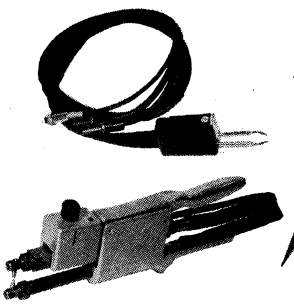


Model 1024 power supply
2 to 500 watt-seconds. Takes Model 1023 welding head, or Model 1028 Control Unit. Model 1027 250 watt-second power supply also available.



Model 1023 heavy-duty welding head
Contains transformer, watt-second meter and controls for 1027 and 1024 power supplies. 500 watt-second capacity

ACCESSORY HANDPIECES



Heavy-duty type
Welds wire to 12 gauge, materials to .070". Pressure adjustable from 1 to 25 pounds. 500 watt-second capacity.

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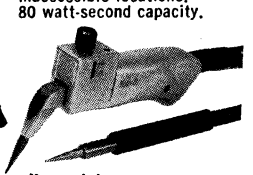
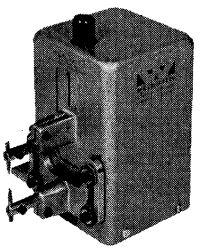


Heavy-duty Pressure-probe type
Fires at pre-set pressure for welds from one side of surface only. 500 watt-second capacity. 100 watt-second manually fired probe type also available.



Model 1032 miniature welding head
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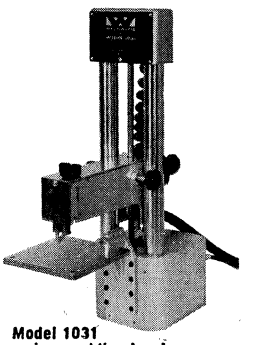

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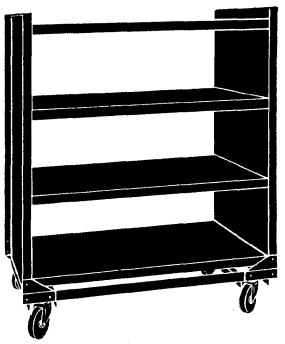

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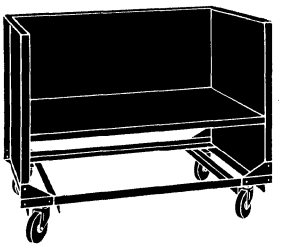

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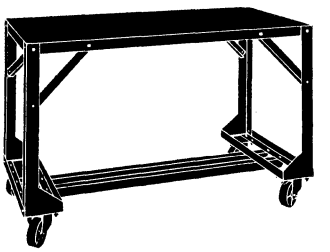

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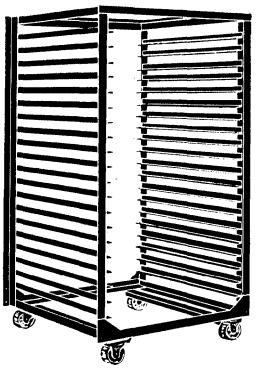

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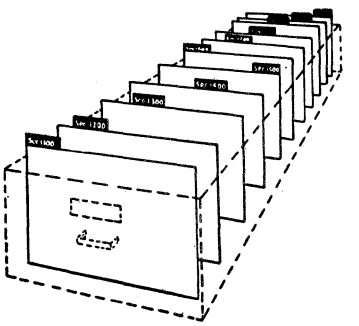

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A simple open-loop tape mechanism on the Ampex FR-1100 and the accessibility of components for replacement or service make this model well suited for general-purpose laboratory use in spectrum analysis, vibration testing and comparable applications. Multi-range versions offer very wide speed ratios for time-base expansion.

Cyclic repetition for analysis, continuous time delay, and endless calamity-anticipation monitoring are three capabilities of the FL-100 loop recorder. Various speed and loop-length options permit cycling times from 0.733 seconds to 8 minutes.

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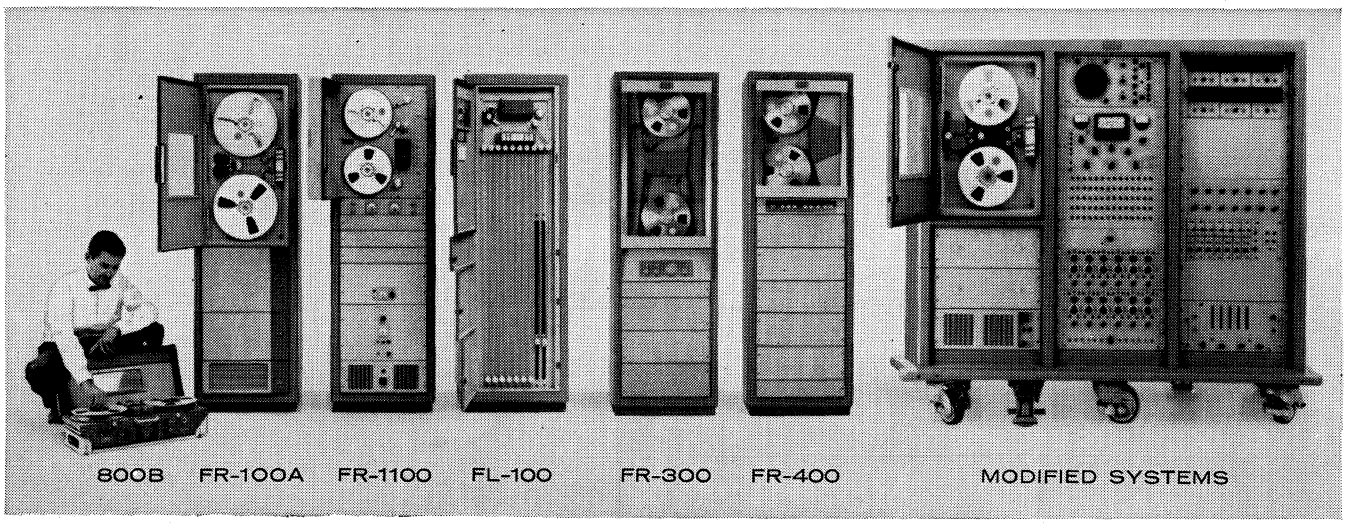
Ampex furnishes complete digital tape systems, including tape handler, magnetic heads, amplifiers and special Ampex tapes. Handlers fit 19-inch rack cabinets.



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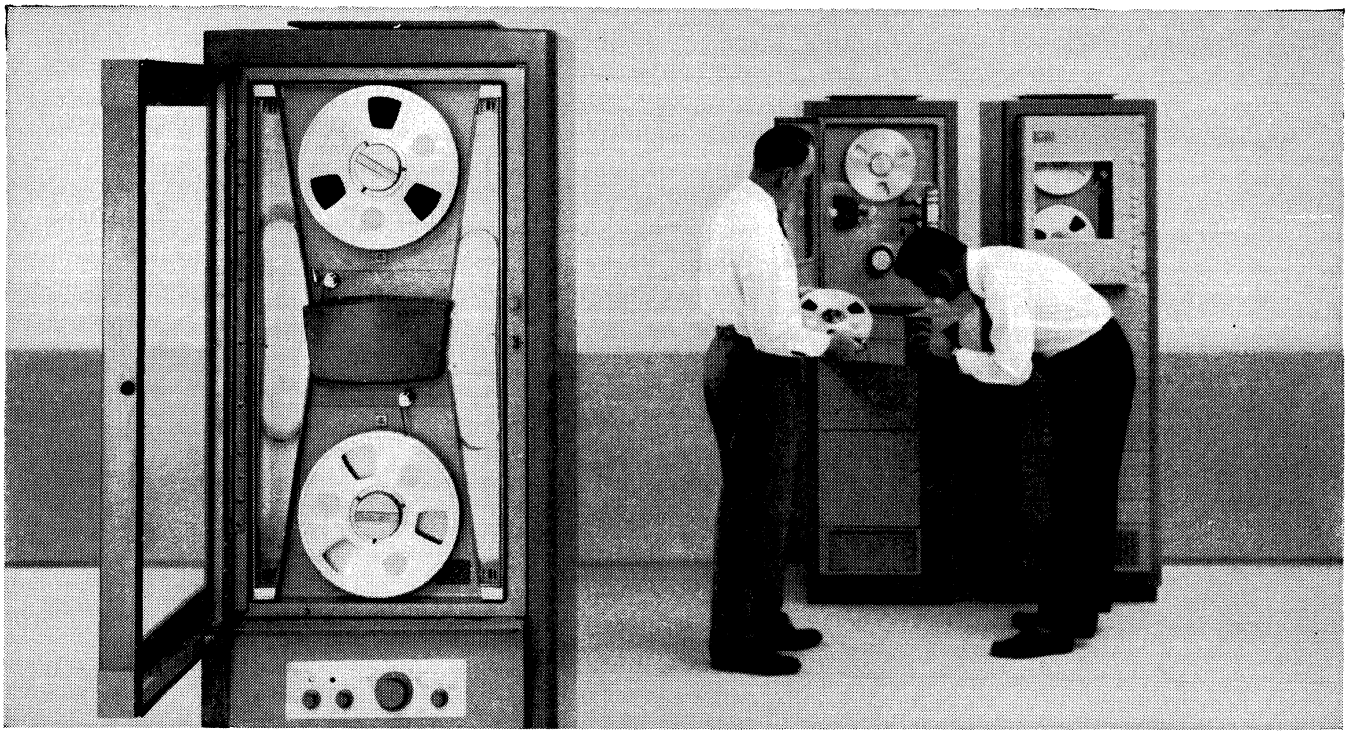

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The jet-engine test dolly shown below typifies Ampex experience in modification engineering. Mounted with an FR-100 recorder are preamplifiers, monitoring scopes and calibration equipment for rolling or trucking anywhere in a widespread facility. For your particular needs many Ampex models can be furnished with special tape speeds, larger reel sizes, front access mounting, system buildups, etc.

Writing or calling an Ampex data specialist will give you access to *the greatest total experience in magnetic tape instrumentation.*

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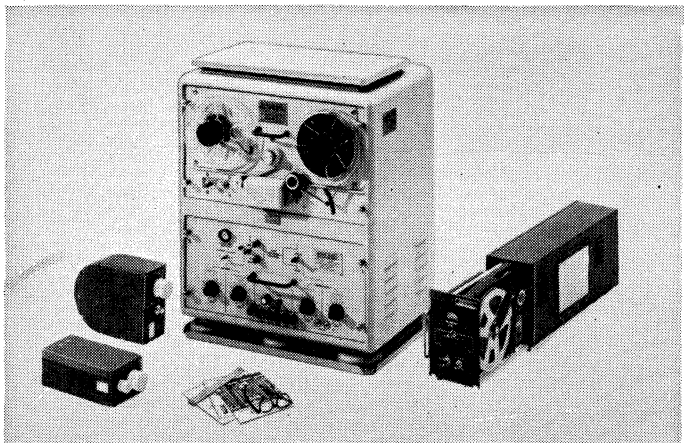

Ampex can send you comprehensive literature and specifications on the various models shown and also a 16-page brochure on principles and applications of magnetic tape instrumentation. For any of these items, write Dept. EM.

AMPEX INSTRUMENTATION DIVISION
934 CHARTER ST., REDWOOD CITY, CALIF.
EMerson 9-1481, TWX Redwood City Cal 41
Cable address: Ampex, Redwood City
Engineering representatives cover the free world

See YELLOW SECTION for Local Offices, Telephone, etc.

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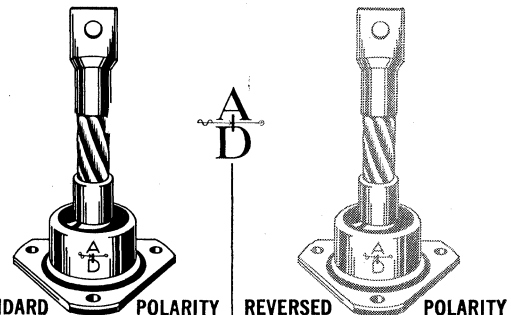
SILICON RECTIFIERS

AUDIO DEVICES, INC.

Audio Devices has available a complete line of Silicon Rectifiers having DC current ratings from .5 to 200 amperes with the peak inverse voltage ranging from 100 to 400 volts (500v in the A,B series). Audio's rectifiers in the A and F series have great versatility due to the threaded-end construction which allows them to be either plugged into a fuse-type holder or screwed down in a heat sink mounting for higher current ratings. The threading also makes it possible to couple the rectifiers together in series for high voltage applications. All units of this universal line of Silicon Rectifiers are hermetically sealed and offer all-metal construction for greater efficiency, reliability and long life.

THE POWER TWINS
(high current types)

Audio Devices' *Power* Silicon Rectifiers are available with either positive or negative base connections. These "opposite polarity" units have the same operating characteristics and mechanical dimensions. They are distinguishable by case color, model number and Jetec number. Through the use of opposite polarity units bridge circuits can be assembled with greater ease and simplicity.

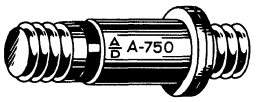


STANDARD POLARITY
POSITIVE BASE
(BLUE)

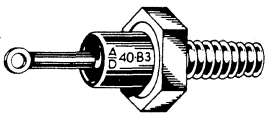
REVERSED POLARITY
NEGATIVE BASE
(GOLD)

RECTIFIER ACCESSORIES AVAILABLE

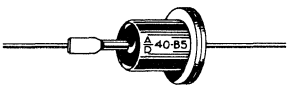
Single Holders • Grid Caps • Double Holders
Series Couplings • Power Bridge Holders
Series Cooling Fins • Wire Leads • Rectifier Handbook



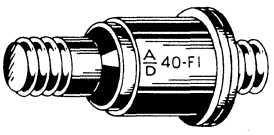
A SERIES



B3 SERIES



B5 SERIES



F SERIES

Low Current Types

Series	Model No.	Max. PIV	DC Amps (Holder)	DC Amps *Heat Sink
A	10A1	100	.5	.75
A	20A1	200	.5	.75
A	30A1	300	.5	.75
A	A750	400	.5	.75
A	50A1	500	.5	.75
B3	10B3	100	....	.75
B3	20B3	200	....	.75
B3	30B3	300	....	.75
B3	40B3	400	....	.75
B3	50B3	500	....	.75
B5	10B5	100	.5	....
B5	20B5	200	.5	....
B5	30B5	300	.5	....
B5	40B5	400	.5	....
B5	50B5	500	.5	....
F	10F1	100	1.5	5
F	20F1	200	1.5	5
F	30F1	300	1.5	5
F	40F1	400	1.5	5

(B5 requires no heat sink or holder—pigtail leads)

High Current (Power) Types

Series	Pos. Base Model No.	Neg. Base Model No.	Max. PIV	*DC Amps	Base Diam.	Height
K	10K7	10K7R	100	25	1⅝"	3¼"
K	20K7	20K7R	200	25	1⅝"	3¼"
K	30K7	30K7R	300	25	1⅝"	3¼"
K	40K7	40K7R	400	25	1⅝"	3¼"
M	10M7	10M7R	100	35	1⅝"	3¼"
M	20M7	20M7R	200	35	1⅝"	3¼"
M	30M7	30M7R	300	35	1⅝"	3¼"
M	40M7	40M7R	400	35	1⅝"	3¼"
P	10P7	10P7R	100	50	2¼"	3⅝"
P	20P7	20P7R	200	50	2¼"	3⅝"
P	30P7	30P7R	300	50	2¼"	3⅝"
P	40P7	40P7R	400	50	2¼"	3⅝"
R	10R7	10R7R	100	75	2¼"	3⅝"
R	20R7	20R7R	200	75	2¼"	3⅝"
R	30R7	30R7R	300	75	2¼"	3⅝"
R	40R7	40R7R	400	75	2¼"	3⅝"
T	10T7	10T7R	100	100	2¾"	5¼"
T	20T7	20T7R	200	100	2¾"	5¼"
T	30T7	30T7R	300	100	2¾"	5¼"
T	40T7	40T7R	400	100	2¾"	5¼"
V	10V7	10V7R	100	150	2¾"	5¼"
V	20V7	20V7R	200	150	2¾"	5¼"
V	30V7	30V7R	300	150	2¾"	5¼"
V	40V7	40V7R	400	150	2¾"	5¼"
X	10X7	10X7R	100	200	2¾"	5¼"
X	20X7	20X7R	200	200	2¾"	5¼"
X	30X7	30X7R	300	200	2¾"	5¼"
X	40X7	40X7R	400	200	2¾"	5¼"

*Based on use of adequate heat sink or cooling.
Ratings at 190°C. junction and/or 100°C. case temperature.

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RECTIFIER DIVISION

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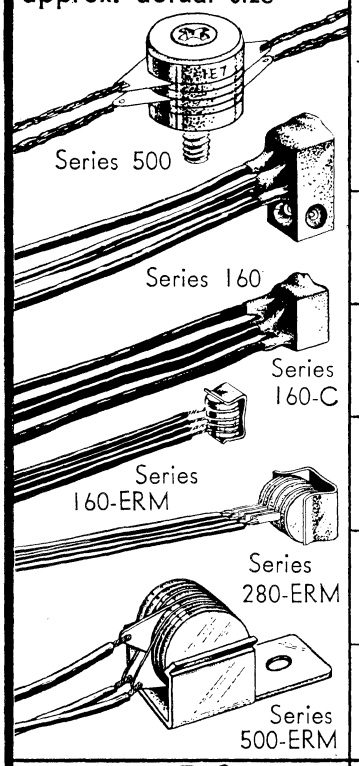
CONANT Miniature Metallic Rectifiers

STANDARD SINCE 1933

Illustrations approx. actual size



CONANT MINIATURE METALLIC RECTIFIERS

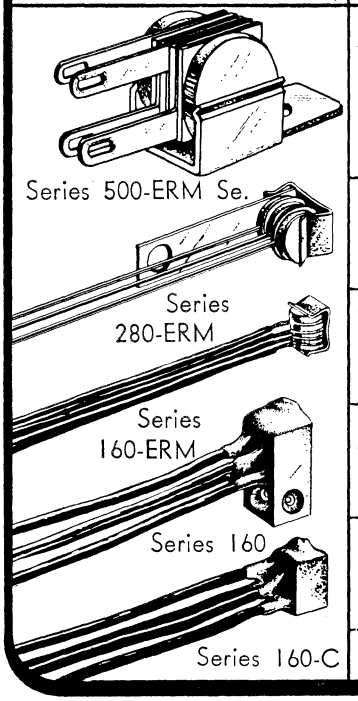
All Conant rectifiers are manufactured to the highest quality standards from individually tested and graded cells. Copper oxide cells are produced by the exclusive Conant Process and have 24K gold contacts applied in high vacuum.

The Conant Complete Color Code permits identification of rectifier type by color and physical form.

Only basic standard rectifier types are listed below. Many other standard catalog items are available and we are prepared to produce special items to meet customers' special requirements.

COPPER OXIDE TYPES WITH INSULATED LEAD WIRES

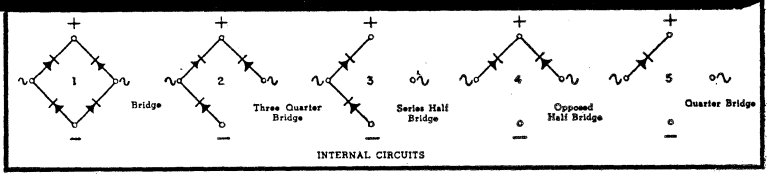
TYPE	CIRCUIT		CELL SIZE	ACTIVE AREA	INPUT	OUTPUT	MOUNTING	FINISH	PRICE
M		1	.500"	.125 sq. in.	5V	100 ma.	6-32 stud	Lacquer	$2.10
TH	Series	2	"	" "	"	75 ma.	" "	"	1.86
HS	500	3	"	" "	"	50 ma.	" "	"	1.53
T		4	"	" "	"	100 ma.	" "	"	1.53
H		5	"	" "	"	50 ma.	" "	"	1.20
B		1	.166"	.012 sq. in.	"	10 ma.	#2 screw	Solid fill	2.10
BTH	Series	2	"	" "	"	7 ma.	" "	"	1.86
BHS	160	3	"	" "	"	5 ma.	" "	"	1.53
BT		4	"	" "	"	10 ma.	" "	"	1.53
BH		5	"	" "	"	5 ma.	" "	"	1.20
B-C		1	"	" "	"	10 ma.	Fuse clip	"	2.10
BTH-C	Series	2	"	" "	"	7 ma.	" "	"	1.86
BHS-C	160-C	3	"	" "	"	5 ma.	" "	"	1.53
BT-C		4	"	" "	"	10 ma.	" "	"	1.53
BH-C		5	"	" "	"	5 ma.	" "	"	1.20
B-ERM*		1	"	" "	"	10 ma.	Leads	Lacquer	1.59
BTH-ERM*	Series	2	"	" "	"	7 ma.	" "	"	1.35
BHS-ERM*	160-	3	"	" "	"	5 ma.	" "	"	1.05
BT-ERM*	ERM	4	"	" "	"	10 ma.	" "	"	1.05
BH-ERM*		5	"	" "	"	5 ma.	" "	"	.75
I-ERM*		1	.280"	.035 sq. in.	"	30 ma.	" "	"	1.59
ITH-ERM*	Series	2	"	" "	"	20 ma.	" "	"	1.35
IHS-ERM*	280	3	"	" "	"	15 ma.	" "	"	1.05
IT-ERM*	ERM	4	"	" "	"	30 ma.	" "	"	1.05
IH-ERM*		5	"	" "	"	15 ma.	" "	"	.75
M-ERM*		1	.500"	.123 sq. in.	"	100 ma.	#6 screw	"	1.59
TH-ERM*	Series	2	"	" "	"	75 ma.	" "	"	1.35
HS-ERM*	500	3	"	" "	"	50 ma.	" "	"	1.05
T-ERM*	ERM	4	"	" "	"	100 ma.	" "	"	1.05
H-ERM*		5	"	" "	"	50 ma.	" "	"	.75



SELENIUM TYPES, wire leads or lugs as shown

TYPE	CIRCUIT		CELL SIZE	ACTIVE AREA	INPUT	OUTPUT	MOUNTING	FINISH	PRICE
SeM-ERM*	Series	1	.500"	.15 sq. in.	25V	60 ma.	#6 screw	Lacquer	$1.23
SeTH-ERM*	500	2	"	" "	"	40 ma.	" "	"	1.08
SeHS-ERM*	ERM	3	"	" "	"	30 ma.	" "	"	.87
SeT-ERM*	Se.	4	"	" "	"	60 ma.	" "	"	.87
SeH-ERM*		5	"	" "	"	30 ma.	" "	"	.66
SeI*		1	.280"	.06 sq. in.	"	20 ma.	Bracketerminal	"	.66
SeITH*	Series	2	"	" "	"	15 ma.	" "	"	.60
SeIHS*	280	3	"	" "	"	10 ma.	" "	"	.51
SeIT*	ERM	4	"	" "	"	20 ma.	" "	"	.51
SeIH*		5	"	" "	"	10 ma.	" "	"	.42
SeB-ERM*		1	.166"	.02 sq. in.	"	10 ma.	Leads	"	.87
SeBTH-ERM*	Series	2	"	" "	"	7 ma.	" "	"	.81
SeBHS-ERM*	160	3	"	" "	"	5 ma.	" "	"	.69
SeBT-ERM*	ERM	4	"	" "	"	10 ma.	" "	"	.69
SeBH-ERM*		5	"	" "	"	5 ma.	" "	"	.57
SeB		1	"	" "	"	10 ma.	#2 screw	Solid fill	2.10
SeBTH	Series	2	"	" "	"	7 ma.	" "	"	1.86
SeBHS	160	3	"	" "	"	5 ma.	" "	"	1.53
SeBT		4	"	" "	"	10 ma.	" "	"	1.53
SeBH		5	"	" "	"	5 ma.	" "	"	1.20
SeB-C		1	"	" "	"	10 ma.	Fuse clip	"	2.10
SeBTH-C	Series	2	"	" "	"	7 ma.	" "	"	1.86
Se-BHS-C	160-C	3	"	" "	"	5 ma.	" "	"	1.53
SeBT-C		4	"	" "	"	10 ma.	" "	"	1.53
SeBH-C		5	"	" "	"	5 ma.	" "	"	1.20

*Resilient structure (U. S. Pat No. 2,656,493) maintains optimum stack pressure independent of temperature changes, as well as providing the lowest price and smallest size.



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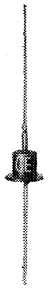
SILICON
GERMANIUM
SELENIUM

General Electric rectifiers are

	FEATURES	JEDEC or G-E TYPE NO.	PIV.	MAXIMUM Idc at T°C	MAXIMUM 1 Cycle (60 cps) Surge	MAXIMUM Storage TEMP. °C
GERMANIUM LOW CURRENT 	Alloyed junction type combining very low forward resistance with high back resistance	1N91	100	150ma at 55°amb.	25A	85°
		1N92	200	100ma at 55°amb.	25A	85°
		1N93	300	75ma at 55°amb.	25A	85°
		USN1N93	300	75ma at 55°amb.	25A	85°
	Single and double-fin units	1N151	100	500ma at 55°amb.	25A	85°
		1N152	200	500ma at 55°amb.	25A	85°
		1N153	300	500ma at 55°amb.	25A	85°
		1N158	380	500ma at 55°amb.	25A	85°
	Designed for high operating temperatures and low reverse current	1N315	100	100ma at 85°amb.	5A	95°
		USAFIN315	100	100ma at 85°amb.	5A	100°
		1N368	200	100ma at 85°amb.	10A	85°
SILICON LOW CURRENT	Designed for maximum forward conductance at high operating temperatures (165°C)	1N536	50	500ma at 100°amb.	15A	175°
		1N537	100	500ma at 100°amb.	15A	175°
		1N538	200	500ma at 100°amb.	15A	175°
		USAFIN538	200	500ma at 100°amb.	15A	175°
		1N539	300	500ma at 100°amb.	15A	175°
		1N540	400	500ma at 100°amb.	15A	175°
		USAFIN540	400	500ma at 100°amb.	15A	175°
		1N547	600	500ma at 100°amb.	15A	175°
		1N1095	500	425ma at 100°amb.	15A	175°
		1N1096	600	350ma at 100°amb.	15A	175°
	Similar to 1N536 series but with very low reverse current. Ideal for magnetic amplifier applications.	1N440	100	300ma at 100°amb.	15A	175°
		1N440B	100	500ma at 100°amb.	15A	175°
		1N441	200	300ma at 100°amb.	15A	175°
		1N441B	200	500ma at 100°amb.	15A	175°
		1N442	300	300ma at 100°amb.	15A	175°
		1N442B	300	500ma at 100°amb.	15A	175°
		1N443	400	300ma at 100°amb.	15A	175°
		1N443B	400	500ma at 100°amb.	15A	175°
		1N444	500	300ma at 100°amb.	15A	175°
		1N444B	500	425ma at 100°amb.	15A	175°
		1N445	600	300ma at 100°amb.	15A	175°
		1N445B	600	350ma at 100°amb.	15A	175°
	Less expensive versions of 1N536 series for lower temperatures (140°C)	1N1487	100	370ma at 100°amb.	15A	150°
		1N1488	200	370ma at 100°amb.	15A	150°
		1N1489	300	370ma at 100°amb.	15A	150°
		1N1490	400	370ma at 100°amb.	15A	150°
		1N1491	500	300ma at 100°amb.	15A	150°
		1N1492	600	250ma at 95°amb.	15A	150°
	Lower current and temperature operation (100°C) than any of above series; very economical	1N1692	100	600ma at 100°C amb.	20A	125°
		1N1693	200	600ma at 100°C amb.	20A	125°
		1N1694	300	600ma at 100°C amb.	20A	125°
		1N1695	400	600ma at 100°C amb.	20A	125°
	Similar to 1N440B series	1N1100	100	500ma at 100°amb.	15A	175°
		1N1101	200	500ma at 100°amb.	15A	175°
		1N1102	300	500ma at 100°amb.	15A	175°
		1N1103	400	500ma at 100°amb.	15A	175°
	1N599 series similar to 1N540 series; 1N599A series similar to 1N440B series. Forward current ratings are somewhat lower.	1N599(A)	50	400ma at 100°amb.	10A	175°
		1N600(A)	100	400ma at 100°amb.	10A	175°
		1N601(A)	150	400ma at 100°amb.	10A	175°
		1N602(A)	200	400ma at 100°amb.	10A	175°
		1N603(A)	300	400ma at 100°amb.	10A	175°
		1N604(A)	400	400ma at 100°amb.	10A	175°
		1N605(A)	500	400ma at 100°amb.	10A	175°
		1N606(A)	600	400ma at 100°amb.	10A	175°
SILICON LOW CURRENT	Same as 1N540 series except stud mounted; maximum forward conductance at high operating temperatures	1N1115	100	1.5A at 85°stud.	15A	175°
		1N1116	200	1.5A at 85°stud.	15A	175°
		1N1117	300	1.5A at 85°stud.	15A	175°
		1N1118	400	1.5A at 85°stud.	15A	175°
		1N1119	500	1.5A at 85°stud.	15A	175°
		1N1120	600	1.5A at 85°stud.	15A	175°
	One of the first stud series, JAN1N256 units available	1N253	95	1000ma at 135°stud.	4A	150°
		1N254	190	400ma at 135°stud.	1.5A	150°
		1N255	380	400ma at 135°stud.	1.5A	150°
		1N256	570	200ma at 135°stud.	1.5A	150°
	Same as 1N440B series, except stud mounted; extremely low reverse current; well suited for magnetic amplifiers	1N550	100	800ma at 135°stud.	15A	175°
		1N551	200	800ma at 135°stud.	15A	175°
		1N552	300	800ma at 135°stud.	15A	175°
		1N553	400	800ma at 135°stud.	15A	175°
		1N554	500	600ma at 135°stud.	15A	175°
		1N555	600	600ma at 135°stud.	15A	175°

This chart is designed to give you a brief, compact guide to General Electric's comprehensive line of silicon, germanium and selenium rectifiers. For more detailed data on any of the devices listed above, see your local G-E Tube Distributor, or write General Electric Company, Semiconductor Products Dept., Section EEM29, Electronics Park, Syracuse, N. Y.

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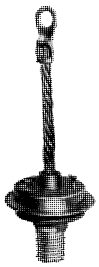
the largest selling line in the industry!

	FEATURES	JEDEC or G-E TYPE NO.	PIV.	MAXIMUM Idc at T°C	MAXIMUM 1 Cycle (60 cps) Surge	MAXIMUM Storage TEMP. °C
SILICON LOW CURRENT	A widely used line similar in most respects to 1N1115 series	1N332	400	400ma at 150°stud.	15A	170°
		1N333	400	200ma at 150°stud.	10A	170°
		1N334	300	400ma at 150°stud.	15A	170°
		1N335	300	200ma at 150°stud.	10A	170°
		1N336	200	400ma at 150°stud.	15A	170°
		1N337	200	200ma at 150°stud.	10A	170°
		1N339	100	400ma at 150°stud.	15A	170°
		1N340	100	200ma at 150°stud.	10A	170°
		1N341	400	400ma at 150°stud.	15A	170°
		1N342	400	200ma at 150°stud.	10A	170°
		1N343	300	400ma at 150°stud.	15A	170°
		1N344	300	200ma at 150°stud.	10A	170°
		1N345	200	400ma at 150°stud.	15A	170°
		1N346	200	200ma at 150°stud.	10A	170°
		1N348	100	400ma at 150°stud.	15A	170°
		1N349	100	200ma at 150°stud.	10A	170°
	1N607 series similar to 1N115 series; 1N607A series similar to 1N550 series	1N607(A)	50	800ma at 135°stud.	15A	170°
		1N608(A)	100	800ma at 135°stud.	15A	170°
		1N609(A)	150	800ma at 135°stud.	15A	170°
		1N610(A)	200	800ma at 135°stud.	15A	170°
		1N611(A)	300	800ma at 135°stud.	15A	170°
		1N612(A)	400	800ma at 135°stud.	15A	170°
		1N613(A)	500	600ma at 135°stud.	15A	170°
		1N614(A)	600	600ma at 135°stud.	15A	170°
SILICON MEDIUM CURRENT	Stud Mounted Cells. Designed for 2 to 20 ampere range. High junction temperature ratings, very low forward voltage drop and thermal resistance.	1N2154	50	25A at 145°stud.	300A	200°
		1N2155	100	25A at 145°stud.	300A	200°
		1N2156	200	25A at 145°stud.	300A	200°
		1N2157	300	25A at 145°stud.	300A	200°
		1N2158	400	25A at 145°stud.	300A	200°
		1N2159	500	25A at 145°stud.	300A	200°
		1N2160	600	25A at 145°stud.	300A	200°
SILICON HIGH CURRENT 	Large area junction type. Operating temperature to 200°C. DC outputs as high as 85 amps. per element. Also available in 4JA61A series with reverse polarity.	4JA60A	100	70A at 120°stud.	900A	200°
		4JA60B	200	70A at 120°stud.	900A	200°
		4JA60C	300	70A at 120°stud.	900A	200°
		4JA60D	400	70A at 120°stud.	900A	200°
		4JA60F	50	70A at 120°stud.	900A	200°
		4JA60G	150	70A at 120°stud.	900A	200°
		4JA60H	250	70A at 120°stud.	900A	200°
	Same as above series for applications not requiring the full current ratings of the 4JA460 line. Also available in 4JA63A series with reverse polarity.	4JA62A	100	40A at 120°stud.	900A	200°
		4JA62B	200	40A at 120°stud.	900A	200°
		4JA62C	300	40A at 120°stud.	900A	200°
		4JA62D	400	40A at 120°stud.	900A	200°
		4JA62F	50	40A at 120°stud.	900A	200°
		4JA62G	150	40A at 120°stud.	900A	200°
		4JA62H	250	40A at 120°stud.	900A	200°
		4JA62J	350	40A at 120°stud.	900A	200°

RECTIFIER STACKS—Based on cells described above				Max I_{dc} at T°C (up to)
GERMANIUM LOW CURRENT SILICON LOW CURRENT GERMANIUM MEDIUM CURRENT SILICON MEDIUM CURRENT SILICON HIGH CURRENT SILICON HIGH CURRENT	Each type is supplied in hundreds of circuit configuration	4JA211	630V	6 amps. at 55°amb.
		4JA411	3360V	18 amps. at 25°amb.
		4JA3011	630V	48 amps. at 55°amb.
		4JA3611	1800V	65 amps. at 55°amb.
		4JA6011	840V	573 amps. at 35°amb.
		4JA6211	840V	430 amps. at 35°amb.
POTTED RECTIFIER CIRCUITS	One to six cells or more. Large choice of circuits. Individual cell specifications determine ratings. Derating from free air ratings unnecessary.	4JA220	Germanium, Octal base	
		4JA420	Silicon, Octal base	
		4JA221	Germanium, Rectangular Base	
		4JA421	Silicon, Rectangular Base	

SILICON CONTROLLED RECTIFIER	Revolutionary device for power control and switching requiring blocking voltages up to 600 volts and load currents up to 600 amperes.	C35U	25	up to 16A at 87°stud.	150A	150°
		C35F	50	up to 16A at 87°stud.	150A	150°
		C35A	100	up to 16A at 87°stud.	150A	150°
		C35G	150	up to 16A at 87°stud.	150A	150°
		C35B	200	up to 16A at 87°stud.	150A	150°
		C35H	250	up to 16A at 87°stud.	150A	150°
		C35C	300	up to 16A at 87°stud.	150A	150°
		C35D	400	up to 16A at 87°stud.	150A	150°

SELENIUM* VAC-U-SEL RECTIFIERS

Cell sizes up to 2 in. sq. available in 26, 36, and 45 volts (rms) per cell. Larger cells available in 25 and 36 volts (rms) per cell. 18 volt cells available off-standard in all sizes. All types produced by unique G-E spherical evaporation process for extremely long life at high ambient temperatures and high current densities. Vac-u-Sel Rectifier stacks supplied with 3 basic finishes: standard commercial, heavy duty and military. Selected cells are stud mounted, eyelet and tube mounted, oil immersed or embedded. Miniatures (cells up to 15/32" diameter) have no center mounting hole and are mounted without spacer washers, assuring compact assemblies.

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GENERAL ELECTRIC

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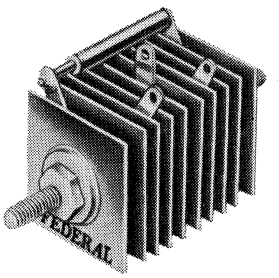
ITT *Components Division*
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

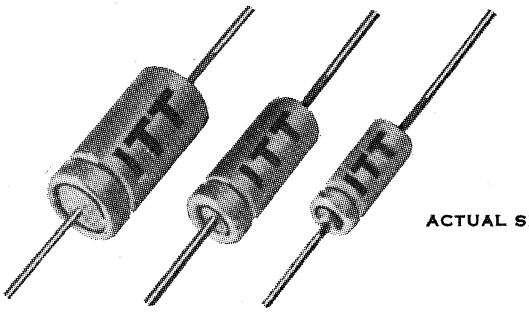
special purpose tubes and components

ITT HIGH DENSITY SELENIUM RECTIFIERS



Over 20,000 custom-built and standard **ITT** high density Selenium Rectifier designs are available for high temperature aircraft and industrial applications; as well as miniaturized rectifiers for home entertainment equipment; high voltage enclosed types; contact protectors; miniature dual and single diodes.

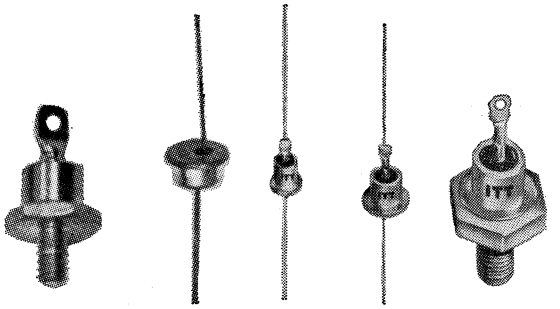
ITT MINIATURE TANTALUM CAPACITORS



ACTUAL SIZE

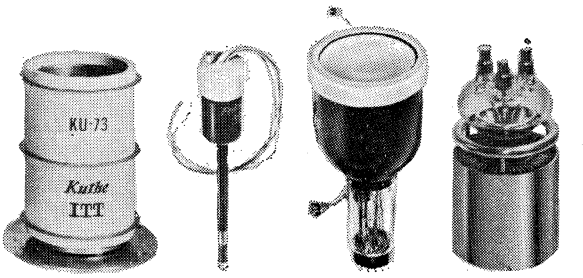
ITT miniature tantalum capacitors satisfy the increasing demand for small, lightweight, reliable electronic components. Featuring an exclusive **ITT** glass-to-metal positive seal, a non-corrosive electrolyte used with a sintered slug and silver case, these capacitors operate to MIL specifications without derating from —55°C to 125°C with low leakage characteristics and large capacity per unit of volume.

ITT GOLD CROWN SILICON POWER RECTIFIERS—ZENER REGULATORS



Designed for the most severe commercial and military applications, operating at highest efficiency and featuring maximum reliability and stability over their entire temperature range, —65°C to 165°C. Positive hermetic seals afford complete environmental protection.

ITT TUBE PRODUCTS



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A wide range of specialty vacuum tubes for communications, industrial and military requirements, including Federal power triodes for use as modulators, amplifiers and oscillators; Iatron* storage tubes; **ITT** Traveling Wave tubes for microwave communications; **Kuthe** glass or ceramic hydrogen thyratrons and diodes.

ITT COMPONENTS ARE AVAILABLE FROM AUTHORIZED DISTRIBUTORS FROM COAST TO COAST. OR WRITE FOR COMPLETE INFORMATION TO

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INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

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International Rectifiers

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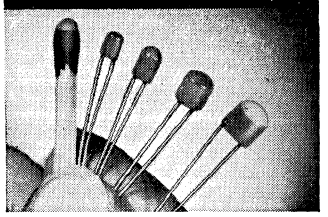
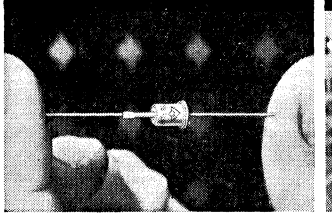
SUB MINIATURE SELENIUM DIODES



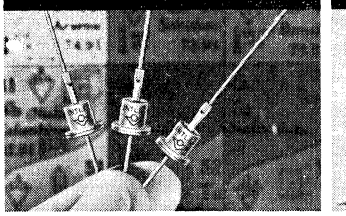
Ratings: 20 to 160 volts • 100μa to 11 ma.
Ideal components for bias supplies, sensitive relays, computers etc. High resistance, (10 megohms and higher at –10 volts). Excellent linear forward characteristics. Extremely small, low in cost. Encapsulated to resist adverse environmental extremes. Specify **Bulletin SD-1B.**

MINIATURE SILICON POWER DIODES



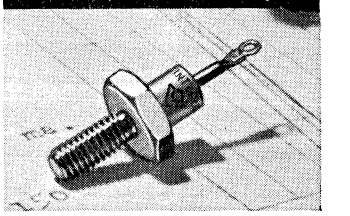
Ratings: 100 to 600 PIV, Up to 500 ma.
Specifically designed for missile and airborne equipment applications where miniaturization and reliability are prime factors. Hermetically sealed, all-welded, pigtail lead construction. Manufactured to meet the most rigid military requirements. Request **Bulletin SR-203**

PIGTAIL TYPE SILICON POWER DIODES



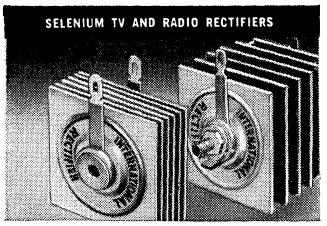
Ratings: 50 to 600 volts PIV • 250 to 750 ma.
An extensive line of silicon power diodes for military and industrial applications featuring all-welded, hermetically sealed construction. All designed and manufactured to meet the most rigid military requirements. For information on types for your application **Contact Factory**

STUD MOUNTED SILICON POWER Diodes



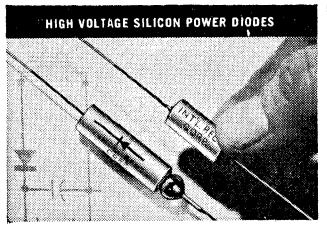
Ratings: 50 to 600 volts PIV • 400 ma. to 1 amp.
Industrial and military types including the 1N253, 1N254 and 1N255. Stud mounted, hermetically sealed, all-welded construction. Operating temperature range: –55°C to +150°C. Designed and manufactured to meet most rigid military specifications. **Bulletin SR-135C**

SELENIUM TV AND RADIO RECTIFIERS



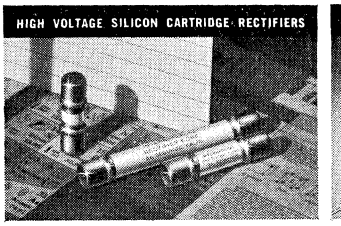
Ratings: 25 to 156 volts AC, 50 to 1,200 ma. DC
The widest range in the industry! Designed for Radio, Television, TV booster, UHF converter and experimental applications. Input ratings from 25 to 156 volts AC and up. DC output current 50 to 1,200 MA. Write for application information. **Bulletin ER-178-A**

HIGH VOLTAGE SILICON POWER DIODES



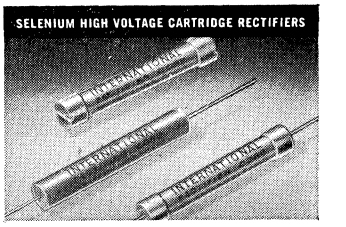
Rating: 600 to 2400 volts PIV • 100 to 125 ma.
Three types available. Hermetically sealed, pigtail construction. Style J rated at 600 to 1000 volts PIV at 125 ma. **Bulletin SR-138E** Styles K and L with PIV ratings from 600 to 2400 volts at 100 ma. dc output current are described in technical detail—**Bulletin SR-157.**

HIGH VOLTAGE SILICON CARTRIDGE RECTIFIERS



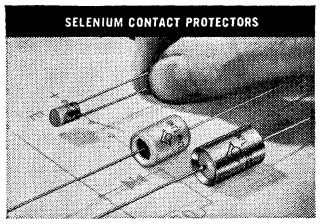
Ratings: 1500 to 16,0000 volts PIV @ 45 to 440 ma.
Especially suited for miniaturized military equipment where optimum reliability is a prime factor. Standard types for normal convection cooling and high current types for forced air or oil cooling. Hermetically sealed, metallized ceramic housing. Request **Bulletin SR-225**

SELENIUM HIGH VOLTAGE CARTRIDGE RECTIFIERS



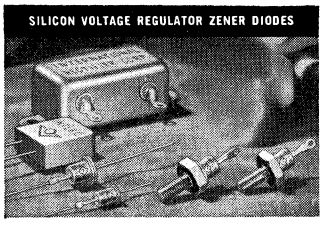
Ratings: 20 to 20,000 volts • 0.2 to 195 ma.
Designed for long life and reliability in half-wave, voltage doubler, bridge, center-tap circuits, and 3-phase circuit types. Phenolic cartridges and hermetically sealed types available. Operating temperature range: –65°C to +100°C. For details specify **Bulletin H-2.**

SELENIUM CONTACT PROTECTORS



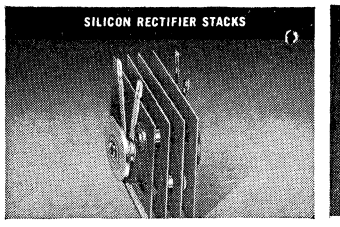
Complete series of AC and DC types.
Designed to eliminate arcing and erosion across the contacts of relays, switches, etc. A complete series in each of three basic types: diode type, cartridge type and hermetically sealed types for industrial application. For complete data: **Bulletin SR-150-A**

SILICON VOLTAGE REGULATOR ZENER DIODES



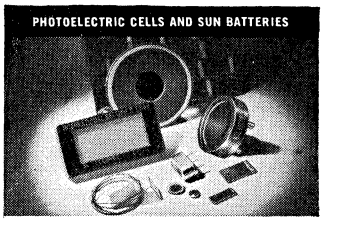
Ratings: From 600 milliwatts to 10 watts
A complete series in 6 types. Miniature single junction types, multiple junction types and double anode units. 750 milliwatt and 1 watt types: **Bulletin SR-251,** 3.5 and 10 watt types: **Bulletin SR-252,** Multiple junction 5 watt types: SR-253, Double anode types: SR-254

SILICON RECTIFIER STACKS



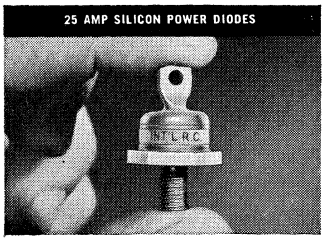
Utilizing junctions rated to 1.25 amps DC output
These stacks consist of hermetically sealed junction diodes mounted on copper cooling fins, stacked to include the interconnections required for specific circuits. Junction ratings: 1.25 amps. DC output: 70 to 350 AC input volts rms. Request **Bulletin SR-137A**

PHOTOELECTRIC CELLS AND SUN BATTERIES



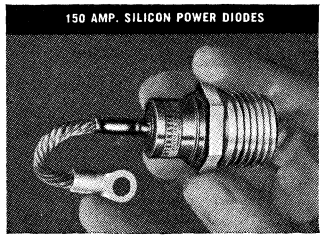
(Wide range of silicon and selenium types.)
Self-generating cells available in standard and custom sizes, mounted or unmounted. For details on wide selection of selenium types, request **Bulletin PC-649.** Silicon solar cells in mounted and unmounted types are described in technical detail—specify **Bulletin SR-156.**

25 AMP SILICON POWER DIODES



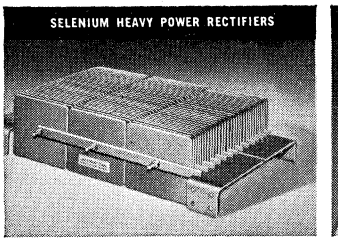
Rating: 50 to 500 volts PIV • 25 to 45 Amps.
Advanced ceramic techniques assuring excellent thermal characteristics and mechanical stability are used in the production of these highly reliable, hermetically sealed rectifiers for military or industrial applications. For complete technical data, request **Bulletin SR-304**

150 AMP. SILICON POWER DIODES



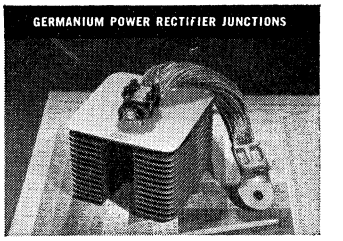
Ratings: 50 to 800 volts PIV • 45 to 150 Amps.
An extensive series of standard and reverse polarity types. Optional mounting bases including machine thread and pipe thread types. Machine thread base types: **Bulletin SR-300,** Pipe thread base types. **Bulletin SR-301,** Complete stack assemblies: **Bulletin SR-302**

SELENIUM HEAVY POWER RECTIFIERS



Ratings: 6 to 30,000 volts • 50 to 2,300 Amps.
Specifically designed for industrial DC power needs. Patented construction features assure long life. Descriptive bulletins available are: **Bulletin C-349,** (26 volt cells); **Bulletin SR-160,** (45 to 52 volts per cell) and **Bulletin SR-152,** on high current density cells.

GERMANIUM POWER RECTIFIER JUNCTIONS



Ratings: 500 amperes • 26 to 66 volts rms
High capacity junctions especially designed for high-current, low-voltage electrochemical installations. Air cooled, these hermetically sealed junctions provide efficiency to 98.5%. Cast aluminum airfoil housing effects maximum heat transfer. For details **Contact Factory.**

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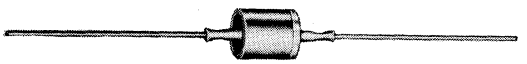
US SEMCOR

ZENER DIODES

temperature compensated
reference element

Superior voltage regulation is now possible through U. S. Semcor's advanced technology of diffused junction silicon devices. Compensated voltage reference elements feature extremely low temperature coefficients over wide temperature range, maintain regulation characteristics through repeated temperature cycling, are not position-sensitive.



JEDEC Number	SEMCOR Part Number	Temperature Coefficient %/°C	Temperature Range °C	Max. mV Change Over Temperature Range	Voltage @ 10 ma
1N2163	1210	.005	0 to +70	33	9.0—9.8
1N2163A	1210A	.005	0 to +70	33	9.2—9.6
1N2164	1211	.005	−55 to +125	86	9.0—9.8
1N2164A	1211A	.005	−55 to +125	86	9.2—9.6
1N2165	1212	.005	−55 to +185	115	9.0—9.8
1N2165A	1212A	.005	−55 to +185	115	9.2—9.6
1N2166	1213	.001	0 to +70	7	9.0—9.8
1N2166A	1213A	.001	0 to +70	7	9.2—9.6
1N2167	1214	.001	−55 to +125	17	9.0—9.8
1N2167A	1214A	.001	−55 to +125	17	9.2—9.6
1N2168	1215	.001	−55 to +185	23	9.0—9.8
1N2168A	1215A	.001	−55 to +185	23	9.2—9.6
1N2169	1216	.0005	0 to +70	4	9.0—9.8
1N2169A	1216A	.0005	0 to +70	4	9.2—9.6
1N2170	1217	.0005	−55 to +125	9	9.0—9.8
1N2170A	1217A	.0005	−55 to +125	9	9.2—9.6
1N2171	1218	.0005	−55 to +185	12	9.0—9.8
1N2171A	1218A	.0005	−55 to +185	12	9.2—9.6

All devices have 15 OHMS maximum zener impedance at 10 ma.
All devices are measured at 3 temperatures, the lowest of its range (0 or −55°C), 30°C, and the highest temperature of its range (70, 125, 185°C).

alloyed junction, silicon
low power

With optimum voltage regulation over widest possible range of Zener current, competitively priced U. S. Semcor alloyed diodes are unique in that forward conduction is specified, allowing versatile application. The Zener impedance and other factors affecting Zener characteristics are closely controlled.

150MW

200MW

400MW

PART NO. & NOMINAL ZENER VOLTAGE @ 25°C		ZENER VOLTAGE RANGE **10% SERIES			LEAKAGE CURRENT (MAX.)		FORWARD CURRENT	ZENER IMPEDANCE @ 10 MA		TEMP. COEFF.
JETEC NO.	*Semcor No.	E_z MIN.	E_z MAX.	@ I_z	@ 25°C I_r (uA)	@ E_r	@ + 1V	(TYP)	@ 1_z	(TYP.)
1N-SERIES	SERIES SZ-LZ-Z	(VOLTS)		(MA)		(VOLTS)	(MA)	OHMS	(MA)	(%/°C)
1927 - 1954 - 1981	3.9	3.6	4.3	5	.6	1.5	150	11	10	— .06
1928 - 1955 - 1982	4.7	4.3	5.1	5	.6	2.0	150	10	10	— .05
1929 - 1956 - 1983	5.6	5.1	6.2	5	.5	2.5	100	8	10	— .01
1930 - 1957 - 1984	6.8	6.2	7.5	5	.5	3.0	100	7	10	+ .03
1931 - 1958 - 1985	8.2	7.5	9.1	5	.4	4.0	90	15	10	+ .06
1932 - 1959 - 1986	10	9.1	11.0	5	.4	7.5	50	22	10	+ .065
1933 - 1960 - 1987	12	11	13	1	.3	9	40	30	5	+ .08
1934 - 1961 - 1988	15	13	16	1	.3	11	30	50	5	+ .088
1935 - 1962 - 1989	18	16	20	1	.2	13	20	70	5	+ .092
1936 - 1963 - 1990	22	20	24	1	.1	16	15	100	5	+ .094
1937 - 1964 - 1991	27	24	30	1	.1	20	12	200	3	+ .096
1938 - 1965 - 1992	33	30	36	.2	.2	24	10	300	3	+ .098
1939 - 1966 - 1993	39	36	43	.2	.3	30	8	400	3	+ .10
1940 - 1967 - 1994	47	43	51	.2	.4	36	6	500	2	.10
1941 - 1968 - 1995	56	51	62	.2	.5	43	5	700	2	.10
1942 - 1969 - 1996	68	62	75	.2	.7	51	4	900	1	.11
1943 - 1970 - 1997	82	75	91	.2	.9	62	3	1200	1	.11
1944 - 1971 - 1998	100	91	110	.2	1.0	75	2.5	1700	1	.12
1945 - 1972 - 1999	120	110	130	.2	1.0	91	2.0	2800	1	.....
1946 - 1973 - 2000	150	130	160	.1	1.0	110	1.5	....	..	.....
1947 - 1974 - 2001	180	160	200	.1	1.0	130	1.0	....	..	.....
1948 - 1975 - 2002	220	200	240	.1	2.0	160	°9.0	....	..	.....
1949 - 1976 - 2003	270	240	300	.1	4.0	200	°7.0	....	..	.....
1950 - 1977 - 2004	330	300	360	.1	5.0	240	°5.0	....	..	.....
1951 - 1978 - 2005	390	360	430	.1	5.0	300	°4.0	....	..	.....
1952 - 1979 - 2006	470	430	510	.1	5.0	360	°3.0	....	..	.....
1953 - 1980 - 2007	560	510	620	.1	5.0	430	°2.0	....	..	.....

single diffused junction, silicon
medium power

U. S. Semcor silicon diffused junction diodes provide superior voltage regulation up to 10 watts, with proper heat sink. PZ and LPZ Series meet the need for medium power silicon Zener diodes as voltage regulators, clipping units, over-voltage protection devices.

PART NO. & NOMINAL ZENER VOLTAGE @ 25°C		ZENER VOLTAGE RANGE 10% SERIES			LEAKAGE CURRENT		FORWARD CURRENT	ZENER IMPEDANCE		TEMPERATURE COEFFICIENT
JETEC NO.	*SEMCOR NO.	E_z MIN	E_z MAX	@I_z	@ 25°C I_r	@ E_r	@ + 1V	(TYP.) @ I_z		(TYP.)
1N-SERIES	SERIES LPZ-PZ	(VOLTS)		(MA)	(uA)	(VOLTS)	(MA)	OHMS	(MA)	(%/°C)
1875-1891	8.2	7.5	9.1	25	20	4.5	500	1	50	+ .04
1876-1892	10	9.1	11	25	20	6	500	1.3	50	+ .058
1877-1893	12	11	13	25	20	8	500	1.8	50	+ .059
1878-1894	15	13	16	25	20	10	500	2.0	50	+ .060
1879-1895	18	16	20	25	20	12	500	2.6	50	+ .062
1880-1896	22	20	24	7	20	15	500	10	15	+ .064
1881-1897	27	24	30	7	20	18	500	18	15	+ .066
1882-1898	33	30	36	7	10	21	500	24	15	+ .068
1883-1899	39	36	43	7	10	25	500	26	15	+ .07
1884-1900	47	43	51	7	10	35	500	28	15	+ .072
1885-1901	56	51	62	7	10	40	500	30	15	+ .075
1886-1902	68	62	75	3	10	50	500	35	7.5	+ .08
1887-1903	82	75	91	3	10	60	500	45	7.5	+ .086
1888-1904	100	91	110	3	10	70	500	60	7.5	+ .093
1889-1905	120	110	130	3	10	80	500	85	7.5	+ .10
1890-1906	150	130	160	3	10	90	500	110	7.5	+ .12

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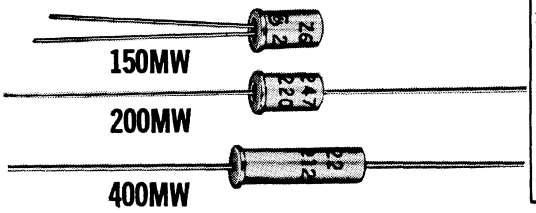
US SEMCOR RECTIFIER DIODES

alloyed junction, silicon
low power

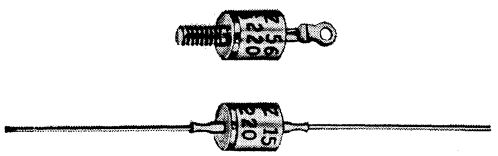
Low power silicon alloyed junction rectifier diodes are offered with peak inverse voltage ratings from 6.8 volts to 470 volts. Three package configurations provide maximum power in minimum space, allow engineers to design circuits with complete freedom from mounting problems.



PART NO.		PEAK INVERSE VOLTAGE	MINIMUM JUNCTION BREAK-DOWN VOLTAGE		MINIMUM FORWARD CURRENT @ 25°C		REVERSE CURRENT @ 25°C		MAXIMUM RATINGS FORWARD CURRENT		
JETEC NO.	*SEMCOR NO.			@I_h		@ E_f		@ E_r	Half* Wave Peak	Steady State dc or RMS	Avg. Rect. Current
1N-SERIES	SERIES R-LR-SR	Volts	Volts	ma	ma	Volts	ua	Volts	ma	ma	ma
1839 - 1851 - 1863	6.8	6.8	9.1	.2	50	1.0	.5	6.8	260	130	85
1840 - 1852 - 1864	10	10	13	.2	35	1.0	.5	10	230	115	77
1841 - 1853 - 1865	15	15	20	.2	23	1.0	.5	15	190	95	63
1842 - 1854 - 1866	22	22	30	.2	12	1.0	.1	22	150	75	50
1843 - 1855 - 1867	33	33	43	.2	7	1.0	.1	33	120	60	40
1844 - 1856 - 1868	47	47	62	.2	4.5	1.0	.1	47	95	45	30
1845 - 1857 - 1869	68	68	91	.2	2.7	1.0	1.0	68	72	36	23
1846 - 1858 - 1870	100	100	130	.2	1.5	1.0	1.0	100	50	25	16
1847 - 1859 - 1871	150	150	200	.1	1.0	1.0	3.0	150	35	17	11
1848 - 1860 - 1872	220	220	300	.1	6.5	4.0	5.0	220	28	14	9
1849 - 1861 - 1873	330	330	430	.1	3.0	4.0	5.0	330	24	12	7.5
1850 - 1862 - 1874	470	470	620	.1	2.0	4.0	5.0	470	20	10	6

single diffused junction, silicon
medium power

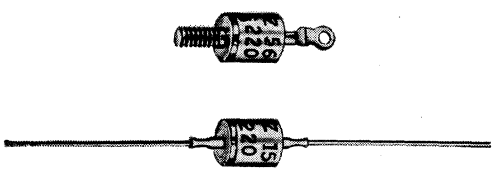
With PIVs from 50 to 900 volts in a single junction, these silicon diffused junction rectifiers have extremely high forward conduction and minimum saturation current of 10ua or less at rated PIV. Especially suited to applications requiring low back current.



PART NUMBER AND PEAK INVERSE VOLTAGE		MAXIMUM CONTINUOUS WORKING VOLTAGE	MINIMUM FORWARD CURRENT		MAXIMUM INVERSE CURRENT @25 °C		Max. Aver. Rectified Current ·	Max. Recur. Half Wave Pk. Current	ABSOLUTE MAXIMUM RATINGS		
JETEC NO.	*SEMCOR NO.		I_f	@ E_f	I_h	@ E_h	Amps @ 25°C		Surge Current .016 Seconds @ 25°C	Dissipation @ 25°C	Max. Temp Range °C
1N SERIES	SERIES PR-LPR	RMS	AMPS	VOLTS	(uA)	VOLTS					
1907-1917	50	35	1	1	10	50	1.7	5	30	3	−65 to +250
1908-1918	100	70	1	1	10	100	1.7	5	30	3	−65 to +250
1909-1919	200	140	1	1	10	200	1.7	5	30	3	−65 to +250
1910-1920	300	210	1	1	10	300	1.7	5	30	3	−65 to +250
1911-1921	400	280	1	1	10	400	1.7	5	30	3	−65 to +250
1912-1922	500	350	1	1	10	500	1.7	5	30	3	−65 to +250
1913-1923	600	435	1	1	10	600	1.7	5	30	3	−65 to +250
1914-1924	700	500	1	1	10	700	1.7	5	30	3	−65 to +250
1915-1925	800	570	1	1	10	800	1.7	5	30	3	−65 to +250
1916-1926	900	630	1	1	10	900	1.7	5	30	3	−65 to +250

"R R" Series
medium power

U. S. Semcor's 1N2103 to 1N2114 Series silicon diffused junction rectifiers offer PIVs from 50 to 500 volts in a single junction, good forward conduction, saturation current of 1 milliamp or less at the rated PIV. Low cost with high quality!



PART NO.		PEAK INVERSE VOLTAGE	MAX. INVERSE CURRENT @ 25°C		MINIMUM FORWARD CURRENT		MAXIMUM AVERAGE RECTIFIED CURRENT	MAXIMUM RECURRENT HALF-WAVE PK. CURRENT	ABSOLUTE MAXIMUM RATINGS		
1N-SERIES	SEMCOR NO.	Volts	I_h @ μa	E_h Volts	I_f @ Amps	V_f Volts	Amps @ 25°C	Amps @ 25°C	Surge Current .016 Seconds	Dissipation @ 25°C	Max. Temp. Range °C
1N2103	LRR 50	50	300	50	.75	1.2	.75	1.5	10	1	−65 to +165
1N2104	LRR 100	100	300	100	.75	1.2	.75	1.5	10	1	−65 to +165
1N2105	LRR 200	200	300	200	.75	1.2	.75	1.5	10	1	−65 to +165
1N2106	LRR 300	300	300	300	.75	1.2	.75	1.5	10	1	−65 to +165
1N2107	LRR 400	400	300	400	.75	1.2	.75	1.5	10	1	−65 to +165
1N2108	LRR 500	500	300	500	.75	1.2	.75	1.5	10	1	−65 to +165
1N2109	RR 50	50	300	50	.75	1.2	2	6	10	6**	−65 to +165
1N2110	RR 100	100	300	100	.75	1.2	2	6	10	6**	−65 to +165
1N2111	RR 200	200	300	200	.75	1.2	2	6	10	6**	−65 to +165
1N2112	RR 300	300	300	300	.75	1.2	2	6	10	6**	−65 to +165
1N2113	RR 400	400	300	400	.75	1.2	2	6	10	6**	−65 to +165
1N2114	RR 500	500	300	500	.75	1.2	2	6	10	6**	−65 to +165

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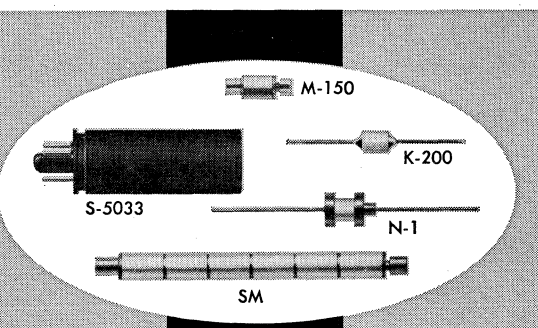
Tarzian
SILICON RECTIFIERS

- Full Current Ranges
- Low Forward Voltage Drop
- High Inverse Resistance
- High Efficiency
- Small Size
- Low Cost
- Stock Delivery
- Industry Accepted

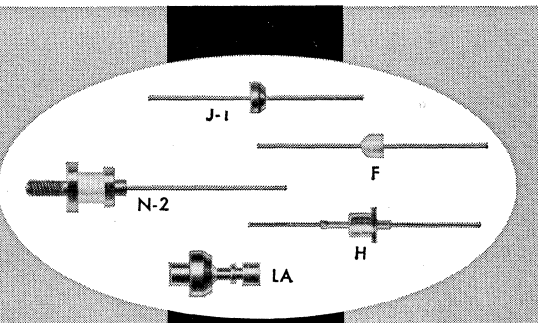
0.15 TO 0.5 AMPS. DC . . .

AMPS. DC	P.I.V.	TARZIAN TYPE
0.15	360	M-150
0.2	360	K-200
0.25	4500	S-5033
0.325	2800	280SM
0.35	2400	240SM
0.375	2000	200SM
0.4	1600	160SM
0.425	1200	120SM
0.45	800	80SM
0.5	100-400	M Series
	50-400	N-1 Series
	2800	S-5019



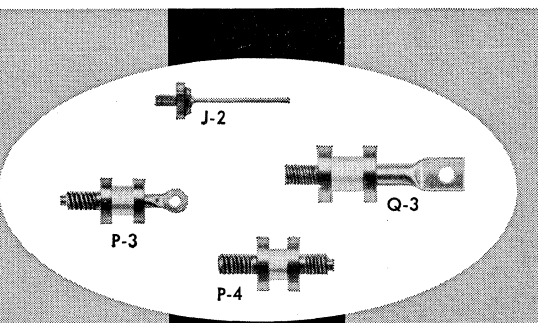
0.75 TO 1.5 AMPS. DC . . .

AMPS. DC	P.I.V.	TARZIAN TYPE
0.75	200-600	F Series
	100-600	H Series
	100-400	K Series
	1600	S-5011A, S-5017, S-5018
1.0	50-400	N-2 Series
	50-400	N-3 Series
	50-400	N-4 Series
1.5	100-400	J-1 Series
	100-400	LA Series
	50-400	P-1 Series



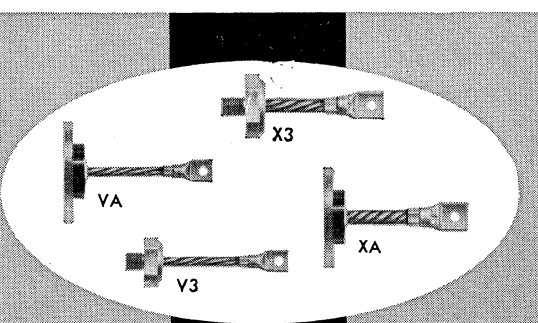
5 TO 15 AMPS. DC . . .

AMPS. DC	P.I.V.	TARZIAN TYPE
5.0	100-400	LF Series
	50-400	P-2 Series
	50-400	P-3 Series
	50-400	P-4 Series
10.0	100-400	J-2 Series
15.0	50-300	Q-3 Series
	50-300	Q-4 Series



20 TO 200 AMPS. DC

AMPS. DC	P.I.V.	TARZIAN TYPE
20.0	50-300	RAN, RAP Series
35.0	50-300	SAN, SAP Series
	50-400	S3N, S3P Series
100.0	50-300	VAN, VAP Series
	50-400	V3N, V3P Series
150.0	50-300	WAN, WAP Series
	50-400	W3N, W3P Series
200.0	50-300	XAN, XAP, Series
	50-400	X3N, X3P Series



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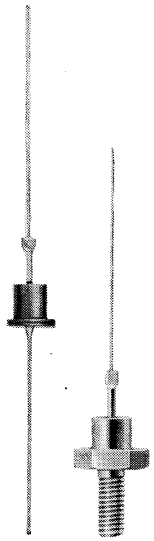
LOW POWER SILICON RECTIFIERS

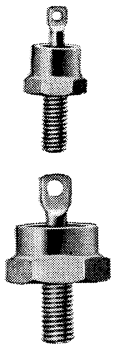


types 1N1227 series (305) and 1N1217 series (320)—Provide d-c average forward currents up to 1.6 amperes per cell half wave, single-phase (with proper heat sink) with maximum peak inverse voltage up to 1000 volts. For power supply applications.

types 1N1217A series (307), 1N1227A series (308), and 1N1537 series (352)—Provide d-c average forward currents up to 1.6 amperes per cell half wave, single-phase (with proper heat sink) with maximum peak inverse voltage up to 600 volts. For mag-amp applications.

types 1N1169 and 1N1486 — Provide d-c average forward currents up to 500 ma per cell half wave, single-phase with peak inverse voltage of 400 and 500 volts respectively. For radio and TV applications.

MEDIUM POWER SILICON RECTIFIERS



1N1341 series (341) — Provide d-c average forward currents up to 6 amperes per cell half wave single-phase (with proper heat sink and cooling) with a maximum peak inverse voltage up to 600 volts.

1N1199 series (304) — Provide d-c average forward currents up to 12 amperes per cell half wave single-phase (with proper heat sink and cooling) with a maximum peak inverse voltage up to 600 volts.

1N1191 series (303) — Provide d-c average forward currents up to 18 amperes per cell half wave single-phase (with proper heat sink and cooling) with a maximum peak inverse voltage up to 600 volts.

1N1183 series (302) — Provide d-c average forward currents up to 35 amperes per cell half wave single-phase (with proper heat sink and cooling) with a maximum peak inverse voltage up to 600 volts.

GERMANIUM TRANSISTORS

types 2N59, 2N60, 2N61, 2N609, 2N610, and 2N611—Medium power, for use as matched pairs in Class B audio amplifiers.

types 2N402 and 2N612—For application as a driver in transistorized audio amplifiers.

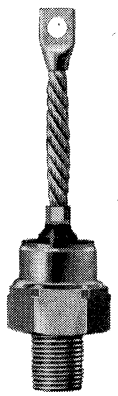
types 2N403 and 2N613 — Medium power application in Class A audio output stages and as high gain drivers.

types 2N614 and 2N615—For application as IF amplifiers at 455 KC.

type 2N616—For application as a reflex amplifier in transistorized radio receivers.

type 2N617—For application as a converter in transistorized radio receivers.

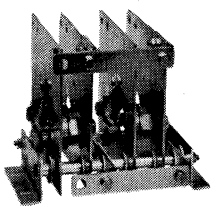
HIGH POWER SILICON RECTIFIERS



1N1660 series (329), 319, 322, and 326—Provide d-c average forward currents up to 160 amperes per cell half wave single-phase (with proper heat sink and cooling) with a maximum peak inverse voltage up to 500 volts.

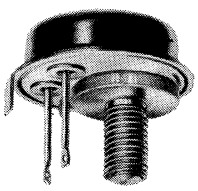
1N1670 series (339), 327, and 328—Provide d-c average forward currents up to 240 amperes per cell half wave single-phase (with proper heat sink and cooling) with a maximum peak inverse voltage up to 350 volts.

SILICON BRIDGE ASSEMBLIES



Available in a variety of standard as well as special designs. These assemblies are designed for either forced air or natural convection cooling. Nickel copper plates and other materials used in these assemblies have been chosen to insure satisfactory performance in corrosive atmospheres and ambient temperatures.

SILICON POWER TRANSISTORS



types WX1015 and WX1016—First members of a unique new family of Silicon Power Transistors developed to function at high voltages and high operating temperatures with high efficiency. As a d-c switch, handling 1.5 kw (300 volts at 5 amperes) efficiency is better than 99%. Type WX1015 is rated at 2 amperes, type WX1016 at 5 amperes.

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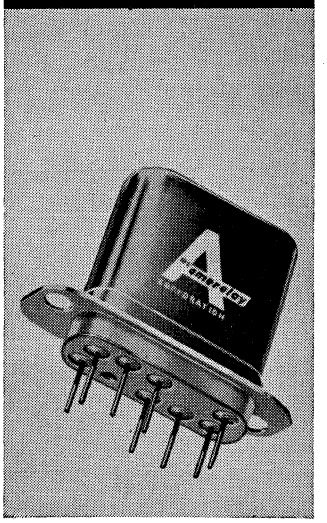
THE amerelay CORPORATION



*Patent Pending

micro-miniature crystal-case relay*

featuring a new concept for added reliability

Although the external appearance of the Amerelay micro-miniature relay is similar to others, its design — coupled with AMERELAY's manufacturing technique — assures an extremely high degree of reliability and uniform performance. It is of the size and shape that conforms with present industry standards as well as with MIL-R-25018 (USAF) and MIL-R-5757C.

FEATURES:

- Operating coils are contained in a separate hermetically sealed enclosure, thereby eliminating contact contamination from volatile coil materials as found in other relays.
- Return springs for armature have been eliminated to permit all the power developed in the magnetic circuit to be employed in operating the contacts, thereby providing higher contact pressure.
- A short pivot support is used for the armature to provide a rugged mounting not subject to vibration damage.
- Teflon® bobbins are used exclusively in coil construction to offer highest insulation resistance even at high ambient temperatures.
- Contact material used by Amerelay permits use of the same relay for both 2 ampere 26.5 VDC resistive load service, as well as for low level or "dry circuit" operation.
- Relays can be furnished with hooked wire terminals for soldering circuit wiring directly to terminals; with straight terminals suitable for plug-in applications; or with three-inch wire leads.

ENGINEERING SPECIFICATIONS:

Vibration: 5 to 55 cycles per second at .060" max. excursions. 55 to 2000 cycles per second at 20 G's.

Shock: 50 G's for 11 milliseconds.

Ambient Temperature Range: —65°C to +125°C.

Dielectric Strength: 1000 volts RMS.

Insulation Resistance: 10,000 megohms minimum at 25°C.

Coil Resistance: 550 ohms for 26.5 VDC; others available.

Contact Arrangement: DPDT (2 Form C).

Contact Rating: 2 amp. 26.5 VDC or 1 amp. 115 VAC resistive load, or for low level dry circuit application.

Contact Resistance: .050 ohms max.

Contact Life: 100,000 operations minimum at rated load.

Operating Time: 5 milliseconds maximum at rated voltage.

Release Time: 5 milliseconds maximum.

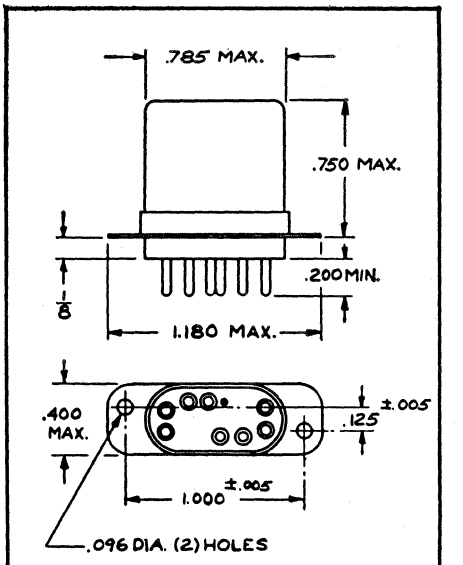
Altitude: 70,000 feet.

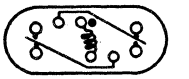
Duty: Continuous.

Weight: .3 oz. to .6 oz. depending on mounting.

Terminal Arrangement: Solder-hook, plug-in or 3" wire leads.

Mounting Arrangement: Flange, stud and other standard mounting arrangements. Special mountings are available.





SCHEMATIC DIAGRAM

THE amerelay CORPORATION

The AMERELAY CORPORATION

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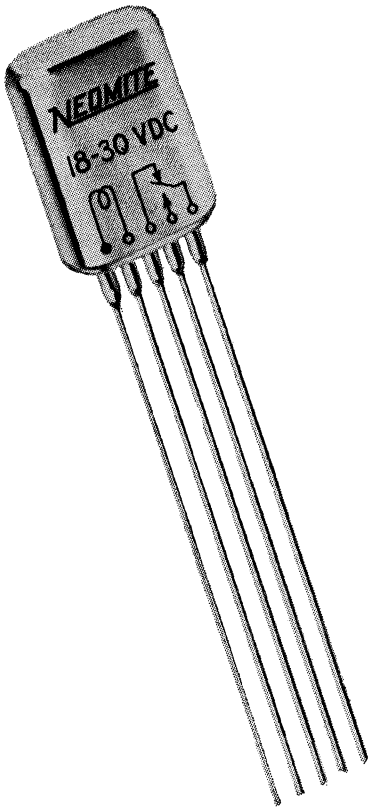
ADVANCE RELAYS ELGIN

NM SERIES "Neomite" RELAYS



Has applications in computers, guided missiles, printed circuits, dry-circuit switching, and in all kinds of specialized electronic devices. Special new contact alloys hold contact resistances to extraordinarily low values.

Relay Type	NMIC 50	NMIC 200	NMIC 500	NMIC 1K	NMIC 2K
DC Coil Resistance (+10% @ 20°C)	50 ohms	200 ohms	500 ohms	1000 ohms	2000 ohms
Coil Voltage	3-5 V.D.C.	6-10 V.D.C.	9-15 V.D.C.	12-21 V.D.C.	18-30 V.D.C.
Pickup	44 MA Max.	22 MA Max.	14 MA Max.	10 MA Max.	7 MA Max.

Duty: Continuous

Dropout: 30 to 60% of pickup

Contact Rrating: .25 AMP at 28 V.D.C. resistive load

Operation Time: 8 milliseconds max. @ rated voltage, including bounce time

Dielectric Strength: Sea level; 500 V RMS. High altitude: 500 V RMS

Shock: Shock test: 50 G. without damage

Vibration: 10 G to 500 cps

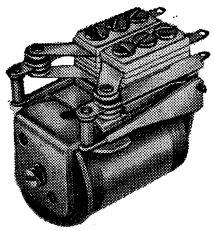
Contact Arrangement: SPDT Form C

Ambient Temperature Range: —55°C to ±85°C

Life: 1,000,000 operations at rated load

Contact Resistance: .05 ohms

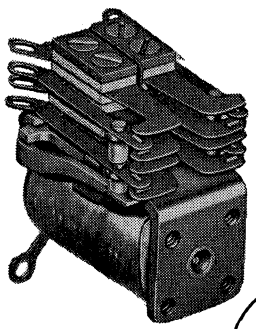
MINIATURE TELEPHONE RELAYS TD & TQ SERIES



TD

DIMENSIONS:
H. 1½"
W. 1⅛"
L. 1 9/16"

MOUNTING DATA:
2 tapped holes; 6-32 NC-2



TQ

DIMENSIONS:
H. 1⅝"
W. ⅝"
L. 1-1/32"

MOUNTING DATA:
4 tapped holes; 3-48 NC-2; ⅜" centers.

Power consumption in TD telephone relays is minimized, through the use of single contacts, short armature travel, and highly efficient magnetic structure. Contacts are fine silver.

The TQ relay occupies only .94 cu. in. of space. The conventional hinge pin is replaced by a beryllium copper retaining spring, hence no hinge pin to wear out.

Type	Coil Resistance	Coil Voltage	Contacts*
TD/2C/115VA	900 ohms	115 VAC	DPDT 5 amps
TD/4C/115VA	900 ohms	115 VAC	4PDT 5 amps
TQ/2C/24VD	600 ohms	24-28 VDC	DPDT 3 amps
TQ/4C/24VD	300 ohms	24-28 VDC	4PDT 3 amps

*Contacts: rated at 115VAC or 26.5VDC resistive loads.

ADVANCE RELAYS

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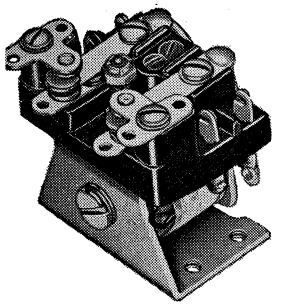
POWER CONTROL RELAYS



DIMENSIONS:
H. 1⅞"
W. 1⅝"
L. 1¼"

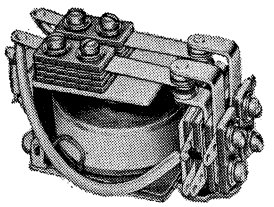
MOUNTING DATA:
4 tapped holes 6-32 NC-2; ½" x 1-5/16" centers.

PG Series (general purpose)

Efficient coil structure provides the high magnetic strength necessary for high-pressure contacts on short blades and excellent wiping action. Vibration and shock are withstood easily due to the special armature and frame design. PG types are ideal double-pole relays for general industrial power-control circuits, and can be built to meet Army-Navy specifications.

Type	Coil Resistance	Contacts*
PG/2C/6VA	1.0 ohms	DPDT 15 amps
PG/2C/24VA	16 ohms	DPDT 15 amps
PG/2C/115VA	400 ohms	DPDT 15 amps
PG/2C/220VA	1600 ohms	DPDT 15 amps
PG/2C/6VD	16 ohms	DPDT 15 amps
PG/2C/12VD	63 ohms	DPDT 15 amps
PG/2C/24VD	250 ohms	DPDT 15 amps

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.



DIMENSIONS:
H. 1-9/16"
W. 1⅝"
L. 2¼"— 1 & 2 pole.
H. 1-9/16"
W. 2¼"
L. 3-3/16"— 3 & 4 pole.

MOUNTING DATA:
2 tapped holes 6-32 NC-2; 2" centers.

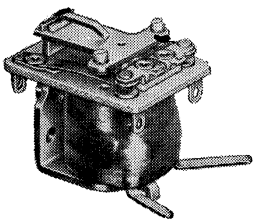
PC Series (1, 2, 3 & 4 pole)

These are compact and positive-acting relays for either AC or DC. They are used in air conditioning and lighting systems, small motor starting, transformers, garage door openers—wherever dependable circuit switching is necessary.

AC RELAYS Type	Contacts*			DC RELAYS Type	Contacts*		
PC 1C	SPDT	6-12-24-115 VAC	220 VAC	PC 1C	SPDT	6-12-14 VDC	110 VDC
PC 2C	DPDT	6-12-24-115 VAC	220 VAC	PC 2C	DPDT	6-12-24 VDC	110 VDC
PC 3C	3PDT	6-12-24-115 VAC	220 VAC	PC 3C	3PDT	6-12-24 VDC	110 VDC
PC 4C	4PDT	6-12-24-115 VAC	220 VAC	PC 4C	4PDT	6-12-24 VDC	110 VDC

*Contacts: rated at 115VAC or 26.5VDC resistive loads.

MINIATURE RELAYS-MK & VG Series



DIMENSIONS:
H. 51/64"
W. 41/64"
L. 53/64"

MOUNTING DATA:
Relay supplied with single 2-56 NC-2 machine screw.

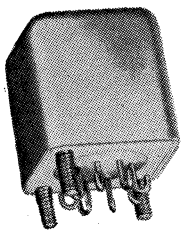
MK Series

Ultra-small and feather-light, these direct current devices require less than ½ cubic inch mounting space!

All switching is entirely above ground . . . insulation material is silicone glass. Beryllium copper armature hinges assure stable performance under vibration and shock.

Type	Coil Resistance	Coil Voltage	Contacts*
MK/1C6VD	50 ohms	6 VDC	SPDT 1 amp
MK/1C/12VD	200 ohms	12 VDC	SPDT 1 amp
MK/1C/24VD	800 ohms	24-28 VDC	SPDT 1 amp
MK/2C/6VD	30 ohms	6 VDC	DPDT 1 amp
MK/2C/12VD	120 ohms	12 VDC	DPDT 1 amp
MK/2C/24VD	500 ohms	24-28 VDC	DPDT 1 amp
MK/2C/110 VD	10,000 ohms	110 VDC	DPDT 1 amp

*Contacts: rated at 115VAC or 26.5VDC resistive loads.



DIMENSIONS:
⅞ ±1/64 sq. x 1⅛ ±1/64

MOUNTING DATA:
3 studs #4-40 UNC-2A

VG Series–An exceptionally high-precision, high performance relay is this new VG series.

Primarily designed for aircraft and missile applications, the VG series operates over a temperature range of −65°C to +125°C. It occupies less than 1 cubic inch of space and weighs only 1.5 ozs.

Type	Coil Resistance	Contacts*
VG 2C 6VD	25 ohms	DPDT 5 amps
VG 2C 12VD	100 ohms	DPDT 5 amps
VG 2C 24VD	500 ohms	DPDT 5 amps

*Contacts rated at 28 VDC or 115 VAC

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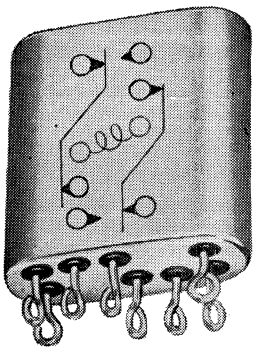
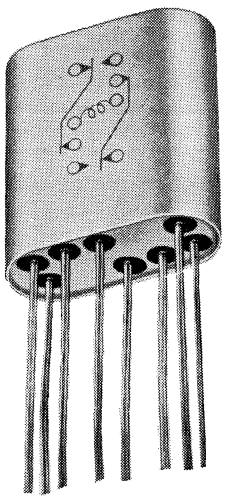
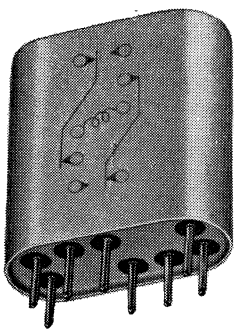
MV SERIES

CRYSTAL-CAN SIZE RELAYS





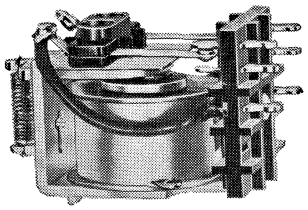


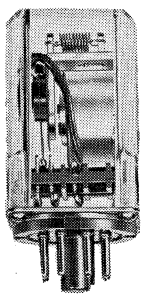
A high-precision subminiature relay in the popular crystal-can size, designed to meet the most severe military and industrial specifications.

VIBRATION.....10 to 34 cycles per second at maximum excursions of .4"—34 to 2000 CPS 20G's acceleration
SHOCK.....50G's for 11 milliseconds
LIFE.....100,000 operations minimum at rated current
AMBIENT TEMPERATURE RANGE.....—65°C to 125°C
DUTY.....Continuous
OPERATING POWER.....Nominal 1.2 watts at ambient temperature
CONTACT ARRANGEMENT.DPDT (2 Form C)
CONTACT RATING.....2 amps resistive at 32VDC or 115VAC
CONTACT MATERIAL.....Silver-Magnesium-Nickel Alloy Gold Plated
CONTACT RESISTANCE....05 ohms
OPERATING TIME.....5 milliseconds maximum at nominal power
RELEASE TIME.....5 milliseconds maximum
ALTITUDE.....Voltage breakdown of relay is 1000 volts AC at sea level—450 volts AC to 70,000 ft.
DIELECTRIC STRENGTH....1000 volts RMS
INSULATION RESISTANCE.100 megohms minimum at 125°C
STANDARD COIL RESISTANCE.....30, 120, 600, 1000, 2500, 5000, 10000 ohms; others available
SIZE.....875 high x .797 wide x .359 thick max.
WEIGHT.....0.45 ounces (max.)
MOUNTING ARRANGEMENT.....6 types available

TERMINAL ARRANGEMENT.3" leads, Plug-in Pin Solder-Hook

GH RELAYS—low cost, general purpose types





GHA SERIES 5 amps resistive, 2 amps inductive
GHB SERIES 10 amps resistive, 5 amp inductive
Maximum Size:
Height 1.100"
Length 1.732"
Width .937"

GHP SERIES
(5-amp Relay)
GHE SERIES (5-amp Plate Circuit)
5 amps resistive,
2 amps inductive
Size of Enclosure:
Overall length 2-11/16" x 1-13/32" x 1-13/32"
Length above chassis 2⅛"
Has clear polystyrene dustite enclosure with 8-pin octal base for GHP1C and 2C, 11-pin for 3C versions.

Engineered for high efficiency in thousands of applications. The small size of these midgets allows installation where space is a problem. Available in open types, 5 and 10-amp ratings . . . in dustite plastic enclosures, 5 amps, and 5-amp plate circuit types.

GH GROUP SPECIFICATIONS

GHA, GHB, GHP Series:

NOMINAL POWER REQUIRED:

DC Relays: 1 to 2 watts nominal		AC Relays: 2 to 3 volt amperes nominal	
Voltage	Resistance	Voltage	Resistance
6	25 ohms	6	4 ohms
12	100 ohms	12	16 ohms
24-28	400 ohms	24	63 ohms
100-120	8,000 ohms	115	1,600 ohms

Standard Resistance and Factory Adjusted Pull-in Current Values:

Resistance	Pick-up Current		
	1C	2C	3C
2,500 ohms	7.2 MA Max.	10 MA Max.	11.8 MA Max.
5,000 ohms	5.0 MA Max.	7.2 MA Max.	8.3 MA Max.
10,000 ohms	3.6 MA Max.	5.0 MA Max.	5.8 MA Max.

GHE Plate Circuit Series
Nominal power required for relay pull-in:
1C—130 milliwatts, 2C—260 milliwatts, 3C—350 milliwatts.

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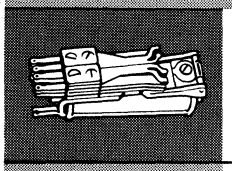
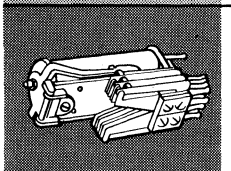
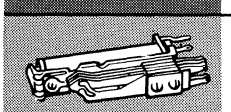
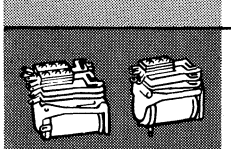
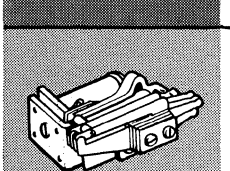
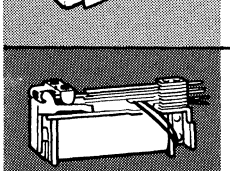
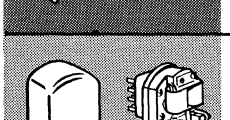
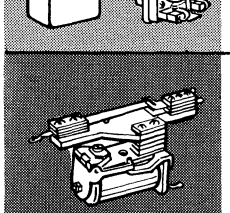
RELAYS SWITCHES

AUTOMATIC ELECTRIC

AE RELAYS

	SERIES	OPERATING TIME, SECONDS	RELEASE TIME, SECONDS
 **CLASS B** When extremely long service and reliable operation are demanded, this relay meets the requirements. Life often exceeds 400 million operations. Ideal for computers, fire control, pulsing or switching functions.	BQA	0.002-0.030	0.005-0.050
	BSO	0.040-0.120	0.025-0.350
	BSR	0.004-0.035	0.035-0.600
	BSA	0.020-0.055	0.035-0.600
	BFA	0.010-0.025	0.008-0.020
	BMS	0.010-0.030	0.015-0.050
CLASS E A new telephone-type relay, designed for long-life industrial service. Based on the rugged Class B design, this is a universal relay, engineered for a variety of uses demanding compact size coupled with our usual high standard of reliability.	EQA	0.002-0.030	0.005-0.025
	ESO	0.015-0.050	0.025-0.125
	ESR	0.005-0.030	0.025-0.125
	ESA	0.015-0.030	0.050-0.125
	EFA	0.005-0.025	0.005-0.025
	EMS	0.010-0.030	0.015-0.030
 **CLASS A** This original telephone-type relay will hold down costs, yet provide dependable operation and long life. A wide variety of coils, contacts, contact spring arrangements and mounting facilities makes this truly the "all-purpose" relay.	AQA	0.002-0.025	0.005-0.025
	ASO	0.040-0.120	0.020-0.250
	ASR	0.004-0.025	0.020-0.350
	ASA	0.010-0.050	0.020-0.350
	AWS	††Up to 2	0.005-0.025
	AVR	0.002-0.025	††1 to 15
	AMC	0.210-0.280	0.300-0.345
 **CLASS C** This compact relay combines unusual dependability and surprisingly long service life in a space about half of the size of the average relay of equal rating. Can be used for high-speed or delayed operation.	CQA	0.005-0.035	0.005-0.025
	CSA	0.010-0.040	0.015-0.200
	CMS	0.010-0.035	0.010-0.050
 **CLASS S** Specify this relay for aircraft use, where a small, light relay is required, resistant to shock and vibration. It features fast pulse response because of its small mass and slight self-inductance. Series SQPC available for printed circuits.	SQA	0.002-0.016	0.005-0.085
	SQD	0.002-0.030	0.005-0.085
	SQPC	0.002-0.030	0.005-0.085
	S-Power	0.005-0.016	0.005-0.010
 **CLASS Z** Choose Class Z relays where a small, light relay is needed but long life or time delay is of greater importance than extremely small size. Similar to Class A relay, but smaller and less sensitive.	ZQA	0.002-0.025	0.005-0.025
	ZSO	0.010-0.050	0.050-0.150
	ZSR	0.003-0.010	0.050-0.200
	ZSA	0.010-0.040	0.050-0.200
	ZMS	0.010-0.040	0.005-0.200
	ZFA	0.010-0.025	0.008-0.020
	Type 18	0.002-0.025	0.005-0.025
 **CLASS F** An a.c. relay, for use when the number of relays doesn't justify a rectifier, and when operate and release time delays are not a factor. When operate and release timing is required, an inexpensive rectifier can be used with any of the above d.c. relays.	FQA	0.002-0.025	0.005-0.040
	BFA	0.010-0.025	0.008-0.020
	EFA	0.005-0.025	0.005-0.025
	FMS	0.002-0.020	0.002-0.020
	FMC	0.298-0.333	0.290-0.350
	ZFA	0.010-0.025	0.008-0.020
 **POLARIZED** Series PHD and PLD offer "2-position" or "3-position" operation; Series PTW provides "2-position" only. "2-position" relays "stick" operated until current is reversed; "3-position" have neutral position in absence of current.	PLD	0.003-0.010	0.022-0.047
	PHD	0.006-0.027	0.065-0.075
	PTW****	0.007 Minimum	0.0002 Approx. Travel Time
 **SPECIAL PURPOSE**—We can usually make assemblies of Automatic Electric relays with modifications to suit your special applications. The Class E Video relay, illustrated here, is an example. Others are designed for power applications, electro-mechanical interlocking, marginal operation, mechanical locking, micrometer adjusting, and the simultaneous closing of up to 35 circuits (BAR relay).			

AE STEPPING SWITCHES

FAST STEPPING, SMOOTH RUNNING, POSITIVE STEPPING

TYPE 44

The Type 44 is a small switch with a large, flexible capacity. Use this switch in almost any d.c. application—for impulse controlled response or self-interrupted operation. Though it's only slightly larger than a pack of king-size cigarettes, the Type 44 rotary stepping switch accommodates up to six 10-point bank levels.

TYPE 45

In every feature of its design, the Type 45 rotary stepping switch provides for adaptation to varied requirements, including a.c. operation. The one-piece, open-type flat frame occupies only one side of this switch, so the 25-point contact banks can be built up level by level as needed, up to twelve.

SERIES OCS RELAY

Here's a shock-resistant relay which can be used for cam-switching...for alternate on-off operations...or as a "stepper." When you order Automatic Electric's OCS relay, you specify the programming. This compact unit simplifies engineering and wiring—cuts space, weight and maintenance costs.

See YELLOW SECTION for Local Offices, Telephone, etc.

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RELAYS **SWITCHES**

AUTOMATIC ELECTRIC

SERIES	MAXIMUM COIL VOLTAGE	MAX. NO. OF STANDARD CONTACTS	TYPE OF CONTACTS†††	WEIGHT	DIMENSIONS (MAX.) IN.
BQA	250 dc	24 Spgs.		8-12 oz.	4-3/32x2-5/16x1
BSO	135 dc	**24 Spgs.		8-14 oz.	4-3/32x2-5/16x1
BSR	135 dc	*6 Spgs.	Code 0—18 ga.	8-14 oz.	4-3/32x1-7/8x1
BSA	250 dc	*6 Spgs.	Twin	8-14 oz.	4-3/32x1-7/8x1
BFA	230 ac	24 Spgs.		8-14 oz.	4-3/32x2-5/16x1
BMS	250 dc	***2 Form C	Snap-action	7-11 oz.	4-3/32x2-17/32x1-23/32
EQA	150 dc	26 Spgs.			
ESO	110 dc	26 Spgs.			
ESR	110 dc	*6 Spgs.	Code 0—18 ga.	2-3 oz.	2-1/4x1-23/32x1-1/8
ESA	110 dc	*6 Spgs.	Twin		
EFA	220 ac	12 Spgs.			
EMS	150 dc	2 Form C	Snap-action		2-1/4x1-23/32x2-3/16
AQA	250 dc	26 Spgs.		8-12 oz.	4-3/32x2-3/16x1-7/16
ASO	135 dc	26 Spgs.		8-14 oz.	4-3/32x2-3/16x1-7/16
ASR	135 dc	*6 Spgs.		8-12 oz.	4-3/32x2x1-7/16
ASA	250 dc	*6 Spgs.	Code 4—18 ga.	8-12 oz.	4-3/32x2x1-7/16
AWS	250 dc	1 Form A		7-11 oz.	4-3/32x2-3/4x1-7/16
AVR	250 dc	Special		8-12 oz.	4-1/4x2x1
AMC	250 dc	2	Mercury	12-16 oz.	4-3/4x3-1/16x3
CQA	150 dc	12 Spgs.	Code 0—18 ga. Twin	4-oz.	4-1/32x2-3/16x21/32
CSA	150 dc	12 Spgs.	Code 0—18 ga. Twin	4-oz.	4-1/32x2-3/16x21/32
CMS	150 dc	1 Form C	Snap-action	6-oz.	3-13/16x2-7/16x1
SQA	†115 dc	9 Spgs.		2-oz.	1-17/32x2x11/16
SQD	†115 dc	18 Spgs.	Code 0—20 ga.	2- 3 oz.	1-17/32x2x1
SQPC	†115 dc	18 Spgs.	Twin	2- 3 oz.	1-17/32x2x1
S-Power	115 dc	1 Make	Silver-Tungsten	12 oz.	1-1/2x1-1/2x1-1/4
ZQA	135 dc	13 Spgs.		4- 6 oz.	2-1/2x2-3/4x1-1/2
ZSO	115 dc	13 Spgs.		4- 6 oz.	2-1/2x2-3/4x1-1/2
ZSR	115 dc	*6 Spgs.	Code 4—18 ga.	4- 6 oz.	2-1/2x2-3/4x1-1/2
ZSA	135 dc	*6 Spgs.		4- 6 oz.	2-1/2x2-3/4x1-1/2
ZMS	135 dc	***2 Form C	Snap-action	8-10 oz.	2-1/2x2-5/8x2-1/4
ZFA	115 ac	13 Spgs.	Code 4—18 ga.	4- 6 oz.	2-1/2x2-3/4x1-5/16
Type 18	12 or 24 dc	10 Spgs.	Code 9—18 ga.	4- 6 oz.	2-1/2x2-1/4x1-1/4
FQA	To 230 (16-66 cycles)	12 Spgs.	Code 4—18 ga.	9-13 oz.	4x1-15/16x1-1/4
BFA	To 230 (20-60 cycles)	24 Spgs.	Code 0—18 ga.	8-14 oz.	4-3/32x2-5/16x1
EFA	To 220 ac	12 Spgs.	Code 0—18 ga.	2- 3 oz.	2-1/4x1-23/32x1-1/8
FMS	To 240 (16-66 cycles)	2 Form C	Snap-action	10-14 oz.	3-1/2x2-3/8x2-3/8
FMC	To 240 (16-66 cycles)	2	Merc.-Glass	14-18 oz.	4-5/8x2-3/4x2-3/4
ZFA	To 115 (20-60 cycles)	13 Spgs.	Code 4—18 ga.	4- 6 oz.	2-1/2x2-7/8x1-11/32
PLD	350 dc	6 each side	Code 4—18 ga.	28 oz.	4x3-1/4x2
PHD	350 dc	6 each side	Code 4—14 ga.	27-37 oz.	4-13/16x2-3/4x3
PTW****		1 Form C	Tungsten Carbide or Palladium	14 oz.	2-7/8x2-1/4x3-5/16

*More contacts can be used at a sacrifice of speed.
**Up to 0.600 sec. release time on BSO relay with 6 springs max.
***With 1 snap-action switch and 1 contact assembly (8 springs max.)
****Octal or pin-type plug (to fit WE Co. 255 applications) available.
†Higher wattage obtainable with oversize coils.
††Timing value in conjunction with a Series ASO relay.
†††Most relays can be furnished with special heavy-duty contacts.

Automatic Electric, pioneer in the use of telephone-type relays for industry, has the experience, reputation, manufacturing facilities, research staff, and down-to-earth, practical "know how" to solve your knottiest control problem. We specialize in the hermetic sealing of relays and switches, as well as in the design, circuitry and assembly of industrial control "packages" and systems. Our representative and facilities are at your command.

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We will be happy to send additional literature on request. You may be interested in some of the following:
Rotary Stepping Switches.....#1698-H
Relays for Industry.....#1702-E
Relay Terms.....#1884
Basic Circuits.....#1927
Hermetically Sealed Components.....#4083
Key Switches and Other Electrical Control Components.....#4018-E

Address requests to:
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RELAYS **SWITCHES**

AUTOMATIC ELECTRIC

Subsidiary of GENERAL TELEPHONE

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ELECTRONICS DIVISION

CURTISS-WRIGHT

MANUFACTURERS OF ELECTRONIC COMPONENTS TO MEET DESIGN SPECIFICATIONS

THERMAL TIME DELAY RELAYS

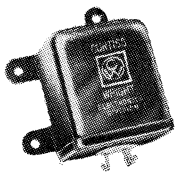
INSTANT RESET • VOLTAGE COMPENSATED • SNAP-ACTION

TIME DELAY RELAY SELECTION CHART

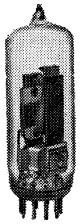
RELAY SERIES	"H"	"S"	"K"	"G"	"IR"	"MR"	"CR"
DELAY RANGE (Sec.)	3-180	3-60	3-60	3-60	20-180	3-60	3-180
CONTACT ARRANGEMENT	SPNO or SPNC	SPDT	SPNO or SPNC	SPDT	SPST, SPDT or DPDT	SPDT	DPDT
CONTACT RATING	3A-120AC 1A-28DC	3A-120AC 3A-28DC	3A-120AC 1A-28DC	2A-120AC 2A-28DC	2A-28DC	2A-28DC	5A120AC 5A-28DC
INPUT VOLTAGE	6.3, 26.5, 117	6.3, 26.5, 117	6.3, 26.5 117	6.3, 26.5, 117	22-32	28	28, 117
INPUT CURRENT	AC or DC	AC or DC	AC or DC	AC or DC	DC	DC	AC or DC
VIBRATION C.P.S.	5-500	5-55	—	—	5-500	5-500	5-55
AMBIENT TEMP. °C	−65+125	−55+100	−55+85	−55+85	−65+125	−65+125	−55+85
SPECIAL FEATURES	For High Vibration	Snap-Action	Glass Low Cost	Snap-Action Economical Glass	Instant Reset & Voltage Compensated	High Vibration	Low Cost

DATA SHEETS ON EACH SERIES AVAILABLE UPON REQUEST
Special Application Requirements will be Evaluated by our Engineering Department

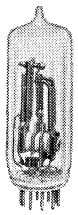
▶ For Local Sales Offices see Curtiss-Wright Components Dept. **Relay Sales** in Yellow Section ◀



"IR"



"K"

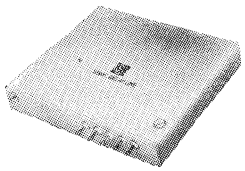


"G"

"H" & "S"

- **Time Delays—up to 180 seconds**
- **Small size—A.C. or D.C.**
- **Temperature Compensated**
- **Hermetically sealed**
- **Fast Reset**
- **Meets Military Specs.**

ULTRASONIC DELAY LINE



Small, light weight, hermetically sealed ultrasonic delay lines with delays from 5 to 6000 microseconds are available. The units operate over the ambient temperature range of −55° to +100°C with a temperature coefficient of delay less than 20 parts per million per degree centigrade. A ratio of delay to pulse rise time up to 800:1 is obtainable with a storage capacity of up to 2000 bits. Input and output impedances range from 50 to 2000 ohms with carrier or pulse frequencies up to one megacycle. An adjustment of ±3 microseconds is supplied on standard units. Taps are available with and without the adjustment feature. The units will withstand vibration to 500 cps at 15 g. and shock to 50 g.

Bulletin UD-19 and technical data SUD-19 are available upon request.

DIGITAL MOTORS

DM SERIES

- **Bi-Directional**
- **Dynamically Balanced**
- **Temperature −65°F to +165°F**
- **Vibration—20G's to 500 CPS**
- **Shock—30G's**
- **Voltage—28v DC, other voltages available**

For—Missile, Aircraft, Computors, and Navigational Devices—Flight Controls—Automation Feeds for Machine Tools and Controls for positioning and synchronization of aerial cameras, actuator for automatic pilots, controls for food processing machinery.

The Curtiss-Wright DM series digital motors are designed to withstand severe enrivonment requirements and are operable under high shock and vibration. They operate on the electro-magnetic principle, converting electrical pulses to stepping motion on the output shaft. In its function the digital motor indexes and locks positively, so that external forces cannot affect the position of the shaft. The motor is bi-directional and combines the best features of both the escapement and ratchet type movements. Since the design does not require the use of a spring loaded detent mechanism, the power requirement is low.

VOLTAGE: Standard voltage 28 volts D-C. Other voltages available upon request.

LIFE: In excess of five million operations in each direction at rated load.

TEMPERATURE: −65° F. to +165° F.

RELIABILITY: The unit does not fail to convert more than one pulse in 1,000,000 into equivalent angular' rotation.

VIBRATION: 20 G's to 500 CPS.

SHOCK: 30 G's for 11 milliseconds along each axis.

	Angular Rotation	Pulsing Rate	Weight	Torque
Model DMA	36° Bi-directional per pulse	To 40 pulses per second	9.6 oz.	8 in. oz.
Model DMB	30° Bi-directional per pulse	To 30 pulses per second	28 oz.	22 in. oz.

CURTISS-WRIGHT

CORPORATION • ELECTRONICS DIVISION
COMPONENTS DEPT. • CAPITAL 6-9500
620 PASSAIC AVE. • WEST CALDWELL, N. J.

See YELLOW SECTION for Local Offices, Telephone, etc.

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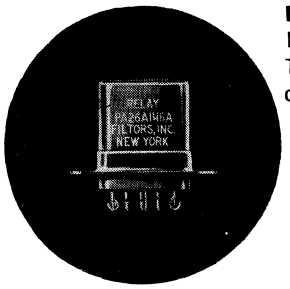
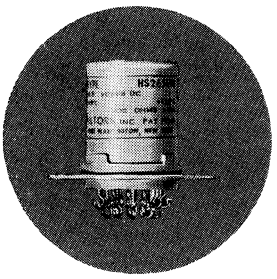
FILTORS, INC.

LEADING MANUFACTURERS OF HERMETICALLY SEALED ROTARY MICRO AND SUB-MINIATURE RELAYS



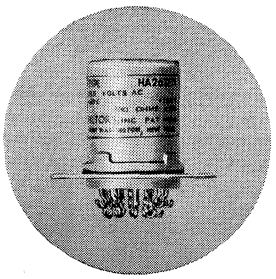
NEW!

Filtors is first with a crystal can relay for AC operation! The new Powrmite® micro-miniature relay for AC operation is the smallest, lightest AC relay made today.



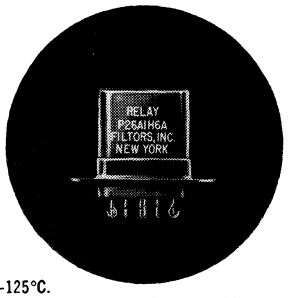
NEW!

Filtors is first with relays with a built-in arc suppressed coil. In the same micro-miniature size Filtors' Powrmite is also made with a built-in arc-suppressed coil to cut radio interference a minimum of ten to one. Available also in four and six-pole sub-miniature relays. Filtors arc suppressed relays increase life and reliability of associated circuitry.



NEW!

Filtors now manufactures the smallest, lightest four and six-pole sub-miniature relays for AC operation.



POWRMITE®

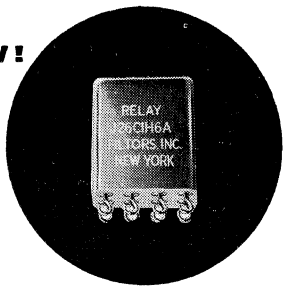
new MICRO MINIATURE relay by Filtors, leading specialists in development and manufacture of micro miniature relays.

SPECIFICATIONS:

AMBIENT TEMPERATURE RANGE	—65°C. TO +125°C.
DIELECTRIC STRENGTH	1000 VOLTS (750 VOLTS BETWEEN OPEN CONTACTS).
INSULATION RESISTANCE	10,000 MEGOHMS MINIMUM AT 25°C.
CONTACT ARRANGEMENT	2C (2 POLE DOUBLE THROW).
CONTACT RATING	2 AMPS RESISTIVE AT 28 VOLTS DC OR DRY CIRCUITS.
SHOCK	100 Gs 11 MILLISECONDS.
VIBRATION	10—55 CPS AT .06 AMPLITUDE. 55—2000 CPS AT 30 G.
PICK-UP TIME	5 MILLISECONDS MAXIMUM AT NOMINAL COIL VOLTAGE, 25°C. TEMPERATURE.
RELEASE TIME	5 MILLISECONDS MAXIMUM.
NOMINAL COIL VOLTAGE	26.5 VOLTS DC.
COIL RESISTANCE	550 OHMS ± 10% AT 25°C.
ALTITUDE	70,000 FEET
DUTY	CONTINUOUS.
PICK-UP	RELAY SHALL PICK-UP WHEN COIL VOLTAGE IS 18 VOLTS DC MAX.

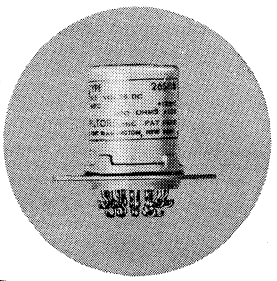
NEW!

All types of Filtors Powrmite micro-miniature relays are now available in .2 grid space in all mounting styles; .2 grid space relays feature Filtors' new "Sensi-Tork" motor, a Filtors development for greatest reliability and sensitivity.



GENERAL PURPOSE

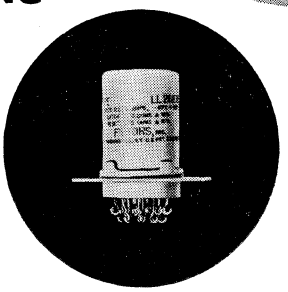
precision manufactured under rigid quality control. Offers lightweight, rugged, compact construction for high environmental conditions. Applicable to instrument, geophysical, aircraft controls and many other circuits where high reliability and multiple switching are required. Available in 2 DPDT, 4 DPDT and 6 DPDT.

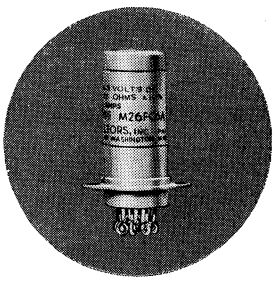


LATCHING

relay remains in "energized" position indefinitely without consuming power. As an overload relay it can be electrically reset from a remote position. Contacts can be closed by one circuit and opened by another. It has many applications in fail-safe circuits. Its small size, light weight and hermetically sealed enclosure make possible its use in airborne and other equipment. Either coil may be energized continuously without damage to the relay.

It affords the designer great latitude in circuitry, particularly in "lock-up" circuits, e.g., where the contacts of one conventional relay are used to lock-up the coil of another relay. Thus it avoids redundancy. Available in 2 DPDT, 4 DPDT and 6 DPDT.





5/8 INCH STYLE

A rugged 2 pole double throw relay of small size and weight designed for high reliability under extreme conditions. Available with either 2 amp or dry circuit contacts.

Write for complete catalog

FILTORS, INC.

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G-V® thermal relays

...from the leader in the field

R SERIES TIME DELAY RELAYS

- Metal sheathed heaters
- Hermetically sealed, still adjustable
- Meet military requirements
- Miniature Flanged, Miniature Plug-in or Octal Size

For time delays of 5 to 300 seconds.

Heater voltages up to 230 volts AC or DC.

T SERIES TIME DELAY RELAYS

- Ribbon heaters
- Medium delays—faster recovery
- Hermetically sealed, still adjustable
- Meet military requirements
- Miniature Flanged, Miniature Plug-in or Octal Size

For time delays of 2 to 12 seconds.

Heater voltages up to 160 volts AC or DC.

H SERIES TIME DELAY RELAYS

- Hot wire heaters
- Short delays—rapid recovery
- Hermetically sealed, still adjustable
- Meet military requirements
- Miniature Size, Flanged or Plug-in

For time delays of 1/10 to 5 seconds.

Heater voltages up to 32 volts AC or DC.

LT SERIES SUBMINIATURE THERMAL TIMING RELAY

- Subminiature size
- 40% seated height of miniature
- Flanged—solder terminals
- Hermetically sealed
- Meets military requirements

For time delays of 2 to 75 seconds.

Heater voltages 6.3, 28 and 115 Volts.

RED LINE THERMAL TIMING RELAY

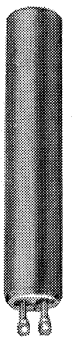
- The low cost timing relay
- Rugged, steel sheathed heater
- Shatter-proof—no glass
- Dust tight metal enclosure
- Tamper proof • Factory preset
- Octal size
- Available from stock

Stock Time Delays: 2, 5, 10, 20, 30, 45, 60, 90, 120 and 180 seconds.

Stock Heater Voltages: 6.3, 26.5, 115 and 230 volts.

VOLTAGE & CURRENT SENSING RELAYS

- For overload protection, voltage regulation, over-voltage cut off, under voltage alarm, low frequency cut off, battery charge control
- Available in R, T and H Series, Miniature Size—Flanged or Plug-in
- Heater voltages from 2 to 230 volts
- Heater currents from .015 to 5 amps
- Heater resistances from 1 to 12,000 ohms



ELECTRICAL THERMOSTATS

- Hermetically sealed, still adjustable
- Fast response to temperature change
- Bracket, flanged or pipe plug mounting
- Vibration up to 2,000 cycles per second
- Accurate repeatability

Operating temperatures from −65° to +300°F.

Contact ratings to 1,000 watts.

Write for complete technical information.

G-V CONTROLS INC.
83 Okner Parkway, Livingston, New Jersey

G-V®

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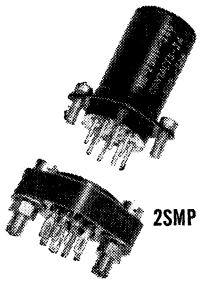
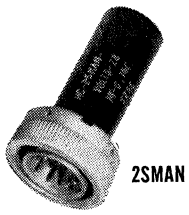
HI-G SHOCK-RESISTANT RELAYS

SM SERIES
1 OR 2 POLE
DC & AC TYPES

2SM


2SMP

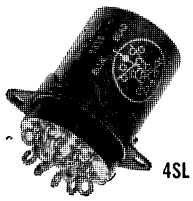

2SMAN

DC TYPES	AC TYPES	NOTES
SM	SMR	Std. Hi-G sub-miniature in can .635 dia. x 1¼ high. 8 hook terminals.
SMP	SMRP	Same as above except straight pins for plug-in, Relay socket available from HI-G.
SMAN	SMANR	Employs AN type connector (8 terminal) total length of unit 17/8''.
SMA	SMAR	Adaptation of SM to obtain 8 equally spaced hook terminals. 1¾'' can.
SMAP	SMARP	Same as SMA except header for 7 pin miniature tube socket, or header for 9 pin noval tube socket.

SPECIFICATIONS:

CONTACTS: SPDT or DPDT, Standard rating 2 amps resistive at 115 V AC or 28 V DC. Dry circuit and other special contacts also available.
COIL: Up to 5K. AC units have ½ or full-wave diode bridge rectifier mounted internally for use over wide frequency range.
COIL VOLTAGE: Up to 115 volts.
SENSITIVITY AT PULL-IN: 700 mw standard, for standard vibration, shock and contact ratings. Sensitivity changes as ratings change.
VIBRATION: 5-2000 cps at 20 G, standard.
SHOCK: 50 G, 11 ms operating, standard.
TEMPERATURE RANGE: —65°C to +125°C, standard.

SL SERIES
1 TO 4 POLE
DC & AC TYPES


4SL

4SLAN

4SLP

DC TYPES	AC TYPES	NOTES
SL	SLR	Std. Hi-G minature unit in can 1.076'' dia. by 1½'' high. Hook terminal.
SLP	SLRP	Same as SL units, except straight pins for plug-in, Relay socket available from HI-G.
SLAN	SLANR	AN connector (size 20 shell). Total length of unit 3-3/16''.

SPECIFICATIONS:

CONTACTS: 1 to 4 pole form C. Standard rating 3 amps resistive at 115 V AC or 28 V DC. Dry circuit and other special contacts also available.
COIL: Up to 25K, standard. AC units have ½ or full-wave diode bridge rectifier mounted internally for use over wide frequency range.
COIL VOLTAGE: Up to 350 volts.
SENSITIVITY AT PULL-IN: 700 mw standard, for standard vibration, shock and contact ratings. Sensitivity changes as ratings change.
VIBRATION: 5-2000 cps at 20 G, standard.
SHOCK: 50 G, 11 ms operating, standard.
TEMPERATURE RANGE: —65°C to +125°C, standard.

CRYSTAL CAN

BIA-9

DC TYPE	AC TYPE	NOTES
G	GR	Terminal in "S" configuration.
B	BR	Terminals on .200 centers for grid-board application.

These are 2 PDT relays rated at 2 amperes resistive, standard. AC coils supplied with silicon rectifiers mounted internally.

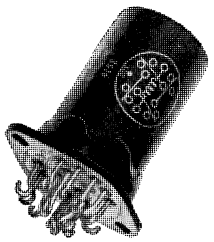
E SERIES

2PDT

DC TYPE	AC TYPE	NOTES
E	ER	In can approx. 1'' cube.
ES	ESR	More sensitive version of E, in can 1¼'' high.
ESS	ESSR	Most sensitive of "E" series, in can 1½'' high.

Stud mounted relays, contact rated at 2 amps resistive at 115 V AC or 28 V DC. AC coils supplied with silicon diode rectifiers mounted internally.

S & R SERIES


4S

DC TYPE	AC TYPE	NOTES
S	R	Std. HI-G miniature unit in can 1.076 dia. x 1-15/16'' high, hook terminals.

SPECIFICATIONS:

CONTACTS: 1 to 4 pole, form C. Standard rating 4 amps resistive at 115 V AC or 28 V DC. Dry circuit and other special contacts also available.
COIL: Up to 25K standard. AC units have ½ or full-wave diode bridge rectifier mounted internally for use over wire frequency range.
COIL VOLTAGE: Up to 350 volts.
SENSITIVITY AT PULL-IN: 700 mw standard, for standard vibration, shock and contact ratings. Sensitivity changes as ratings change.
VIBRATION: 5-2000 cps at 20 G, standard.
SHOCK: 50 G, 11 ms operating, standard.
TEMPERATURE RANGE: —65°C to +125°C, standard.

ANNOUNCING New Hi-G catalog #259, includes complete specifications on all Hi-G relays, plus reference data on life versus contact current, shock and vibration. Write Hi-G, INC. for your free copy now, or see your local representative.

SPECIAL DESIGNS — Since all Hi-G relays are manufactured to customer order, special designs are easily accommodated. The specifications indicated for each relay are intended as a general guide to the user and do not necessarily imply firm limits, either electrical or mechanical. For variations in standard units or for completely new designs. HI-G, INC. maintains complete experimental and prototype facilities. Our engineering staff will be pleased to evaluate any customer requirements and will submit proposals and suggestions for special modifications or new designs as required.

TEST FACILITIES — dry circuit testers, cold chambers, high temperature chambers, vibration and shock testers, life testers, and special test units designed especially for relay evaluation. For certified MIL-Spec tests, an independent laboratory is located conveniently near the Hi-G plant.

MECHANICAL VARIATIONS OF STANDARD RELAYS — Many special mounting requirements or other mechanical changes can be accomplished, including Special bracket locations • Special Brackets • Plugs and sockets • AN connectors • Special finishes for unusual environmental conditions.

BALANCED Hi-G ROTARY

HI-G, INC.

BRADLEY FIELD | TEL: NA 3-3308 • TWX: 562
WINDSOR LOCKS, CONNECTICUT

See YELLOW SECTION for Local Offices, Telephones, etc.

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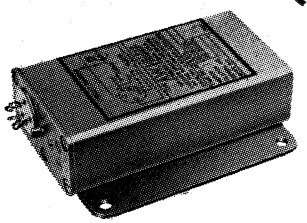
CUSTOM DESIGNED TO SAVE SPACE AND WEIGHT

TOUGH and TINY... the A. W. HAYDON CO.'S unique line of SUB-MINIATURE TIMING DEVICES

CUSTOM DESIGNED TO MEET MILITARY REQUIREMENTS



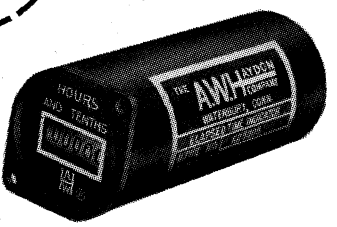
REPEAT CYCLE TIMERS
Write for Bulletin AWH-RC-301

TIME DELAY RELAYS
Write for Bulletin AWH-TD-502

features

Hermetically Sealed Housings
1/4 the size of standard designs
1/2 the weight of standard designs
Direct Current, 60 CPS, 400 CPS
Aircraft & Missile Applications
Wide range of timing programs
Timers have 1 x 2 inch cross section.
Indicators only 1 1/4 inch diameter.

Miniature Motors and Custom Devices also available.



ELAPSED TIME INDICATORS
Dial face or Digital (as shown)
Square or Compact Flange Mounting (as shown)
Write for Bulletin AWH-ET-602

TIME-PROVEN STANDARDS OR TEST-PROVEN SUB-MINIATURES . . . ALL DESIGNED FOR RELIABLE OPERATION IN YOUR APPLICATION

PRECISION TIMING MOTORS

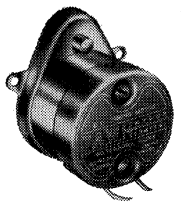


FIG. 1. D.C. TIMING MOTORS

5300 SERIES — Basic Type.
- Standard Voltages: 6, 12, 27 1/2 VDC.
- Special Voltages from 4 1/2 to 32 VDC.

6300 SERIES — Low Current Type
- Standard Voltage: 45 VDC.
- Also available down to 6V DC.
- Operating Current: 5-10 MA

7600 SERIES — ROTO-TORK®
- Rotary Actuators
- Wide range of voltages
- For stall or rotary torque applications

Write for BULLETIN AWH MO-805

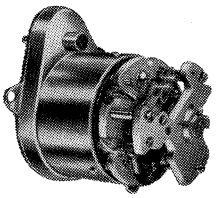


FIG. 2. CHRONOMETRICALLY GOVERNED D.C. TIMING MOTORS

General Description: Write for BULLETIN AWH M0800.
- 5700 SERIES — Non-military applications where extreme temperature, vibration and shock are not experienced. Write for BULLETIN AWH M0804.
- 5600 SERIES — Aircraft and military applications where extreme temperature and moderate vibration and shock are encountered. Write for BULLETIN AWH M0801.
- 5800 SERIES — Aircraft and missile applications where extreme temperature, vibration and shock are encountered. Write for BULLETIN AWH M0802.

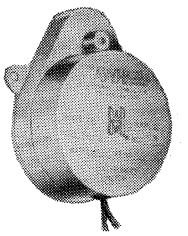


FIG. 3. A.C. TIMING MOTORS

22100 SERIES — 60 Cycle Synchronous
- Compact — 7/8" Deep
- 2 1/2 Watts Maximum
- Speeds from 300 RPM to 1/6 RPH

Write for BULLETIN AWH MO-806

24100 SERIES — Reversible — 400 Cycle
- Lightweight — Reliable
- 6 Watts Maximum
- Speeds from 3000 to 1/36 RPM

Write for BULLETIN AWH MO-803

26100 SERIES — Reversible — 60 cycle
- Versatile — practical
- 5 Watts Maximum
- Speeds from 450 RPM to 1/4 RPH

Write for BULLETIN AWH MO-807

TIME INDICATING INSTRUMENTS

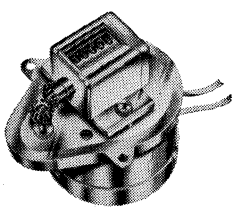


FIG. 4. BASIC ELAPSED TIME INDICATOR.

7500 SERIES — DC
12500 SERIES — AC (60 CPS)
24200 SERIES — AC (400 CPS)
- Compact — light weight
- Counters Register: Hours, minutes, seconds, or tenths

Write for BULLETIN AWH ET-600

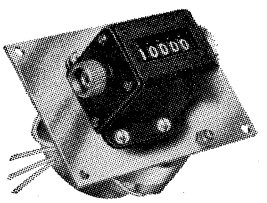


FIG. 5. RESET TYPE ELAPSED TIME INDICATORS.
- Series: Same as basic type.
- Counters Register: Same as basic type.
- Reset knob on left side of counter allows convenient reset to zero.
- Panel mounting plate.

Write for BULLETIN AWH ET601.

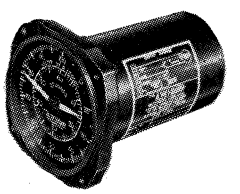


FIG. 6. STOP CLOCKS

15300 SERIES — DC
15200 SERIES — AC (400 CPS)
- Electrical Reset — Precision Movement.
- Meet military specifications.
- Option on mounting and electrical termination.

Write for BULLETIN AWH ET700 (DC) or AWH ET701 (AC)

See YELLOW SECTION for Local Offices, Telephone, etc.

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REPEAT CYCLE TIMERS

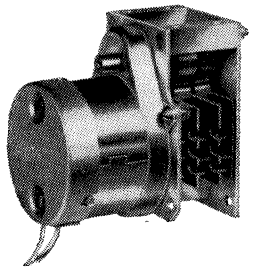

FIG. 7. BASIC REPEAT CYCLE TIMERS

- Basic design incorporates up to 11 switches.
- Fixed or adjustable programs.
- Convenient solder terminals on switches.

Write for BULLETIN AWH RC201.

TWO BASIC TYPES

- Miniature Switches (Fig. 7 and 8)
  - 3600 SERIES — DC
  - 13600 SERIES — AC (60 CPS)
  - 24400 SERIES — AC (400 CPS)
- Standard Switches (not shown)
  - 7900 SERIES — DC
  - 12900 SERIES — AC (60 CPS)
  - 24900 SERIES — AC (400 CPS)
- Wide range of time cycles.
- Wide range of AC or DC Voltages.
- Meet military specifications.
- DC units available with Basic or Governed motors.

ALSO AVAILABLE

- **Intervalometers**
- **Interval Timers**
- **Precision Repeat Cycle Timers**

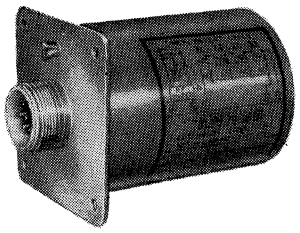

FIG. 8. MINIATURE — ROUND HERMETIC REPEAT CYCLE TIMERS.

- Incorporates up to 10 switches.
- Program pre-set during manufacture.
- 2½" diameter housing.
- Option on mounting and electrical termination.

Write for BULLETIN RC200.

TIME DELAY RELAYS

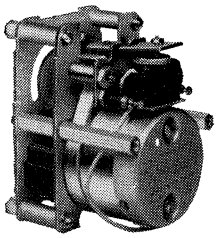

FIG. 9. BASIC TIME DELAY RELAYS.

6400 SERIES — DC
11400 SERIES — AC (60 CPS)
24300 SERIES — AC (400 CPS)

- **Preset or adjustable Time Delay.**
- **Adjustable 6:1, 6 standard ranges.**
- **Incorporates up to 6 switches.**
- Basic unit supplied with dust cover.
- Also available in hermetic housing shown in Fig. 11.

Write for BULLETIN AWH TD403.

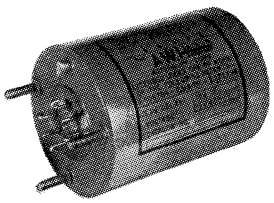

FIG. 10. MINIATURE — ROUND HERMETIC TIME DELAY RELAYS.

- Series: Same as basic type.
- Basic design incorporates up to 7 switches.
- Wide range of Time Delays available.
- 2½" diameter housing.
- Option on mounting and electrical termination.

Write for BULLETIN AWH TD400.

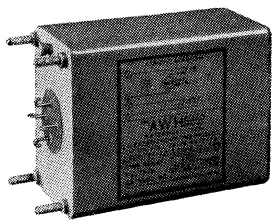

FIG. 11. DELAYED RESET TIME DELAY RELAY.

- Series: Same as basic type.
- Dust cover or hermetically sealed (as shown).
- Operates as standard unit on Time Delay.
- Reset rate controlled by escapement.
- Several reset rates available.

Write for BULLETIN AWH TD402.

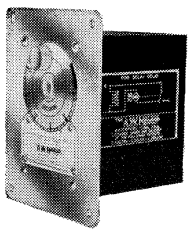

FIG. 12. DIAL ADJUSTABLE TIME DELAY RELAYS.

- Series: Same as basic type.
- **Adjustable 6:1, 6 standard ranges**
- **Option on mounting: Flush type. (shown) or surface type.**

Write for BULLETIN AWH TD404,TD405.

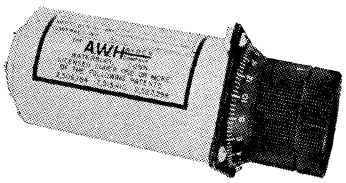

FIG. 13. SPECIAL TIME DELAY RELAYS.

- Precision adjustable over wide range.
- Accuracy: ± 0.1 second or ± 1% of setting.
- Special ranges available.
- Meets military specifications.

Write for BULLETIN AWH TD500.

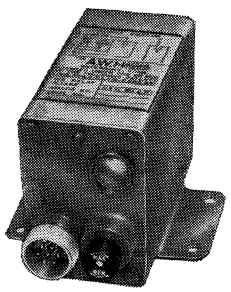

FIG. 14. HERMETIC — ADJUSTABLE TIME DELAY RELAYS.

- Series: Same as basic type.
- Adjustable over 8:1 range.
- Several ranges available.
- True hermetic sealing — AN connector.

Write for BULLETIN AWH TD401.

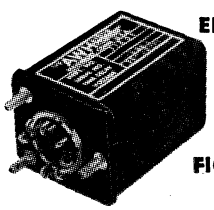

FIG. 15.

ELECTRONIC TIME DELAY RELAYS

31200 SERIES: Miniature
31300 SERIES: Sub-Miniature

- **Transistorized**
- **High Temperature, Shock, vibration**
- **Hermetically Sealed**
- **Meet MIL-E-5272A**

Write for BULLETIN AWH TD-503, TD-504

The **A.W. HAYDON COMPANY**

247 NORTH ELM STREET
WATERBURY 20, CONNECTICUT

Design and Manufacture of Electro-Mechanical Timing Devices

Printed in U. S. A.

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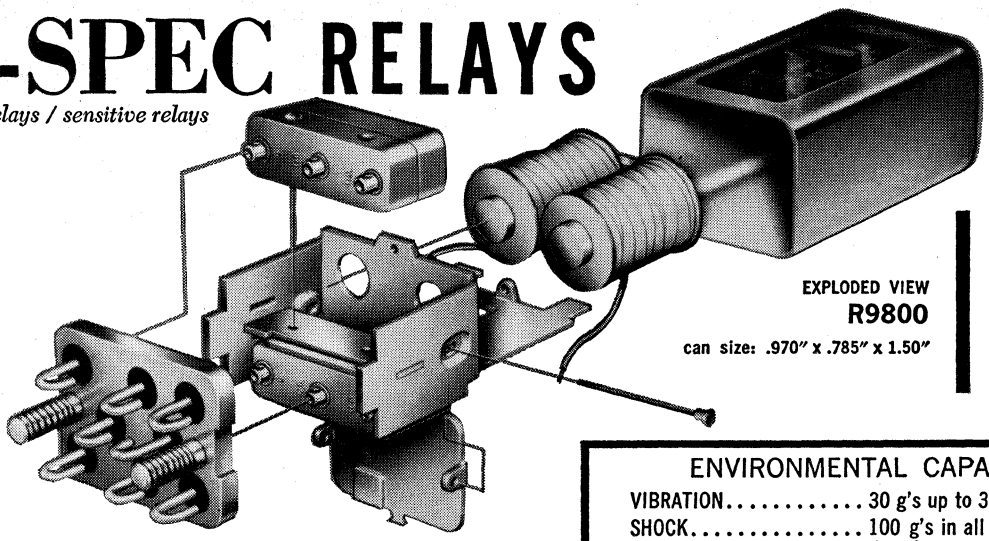
FOR PERFORMANCE AND RELIABILITY UNDER EXTREME ENVIRONMENTAL CONDITIONS

HI-SPEC RELAYS

miniature relays / sensitive relays

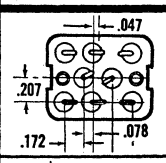
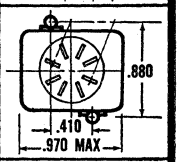
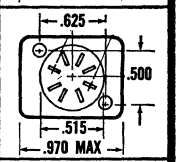
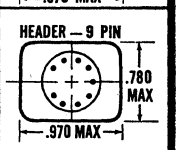


EXPLODED VIEW
R9800
can size: .970" x .785" x 1.50"

ENVIRONMENTAL CAPABILITIES

VIBRATION..... 30 g's up to 3000 cps
SHOCK..... 100 g's in all planes 11 milliseconds duration
AIR-INDUCED VIBRATION..150 db random noise 50 to 10K cps
TEMPERATURE.....—65° C to +125° C

MODELS AVAILABLE

STYLE	DESCRIPTION	HEADER
R9800	This is the basic header configuration. The unit is mounted by two 4-40 studs spaced .670 inch center to center.	
R9801	This unit uses a standard 8 pin header configuration with a pin circle diameter of .375. Two 4-40 mounting lugs are located .970 inch center to center.	
R9802	This unit uses a standard 8 pin header configuration with a pin circle diameter of .375. Two 4-40 studs are mounted in the header and are .800 inch center to center.	
R9804	This unit has a standard 9 pin Noval-type header with a .468 inch pin circle diameter. This is Hi-Spec's standard plug-in unit. No mounting studs are provided.	
R9805	This unit has Hi-Spec's standard R9800 type header (without studs) and is mounted on the back face. Two 4-40 studs are located .750 inch center to center. The lower pin is .375 inch above the header face.	STYLE OPTIONAL
R9806	This is the standard bracket mounted unit which uses the basic R9800 header without studs. The mounting holes in the brackets are located 1.000 and .50 inch above the header face and horizontally spaced 1.187 inches apart.	STYLE OPTIONAL
HS400	This is our newly introduced 4 pole 5 amp relay. Various mounting configurations are available including those described under R9801, R9805, and R9806. Specific performance capabilities and/or environmental capabilities of the HS400 are available on request.	

STANDARD COIL RESISTANCES

The following coil resistances are available in any of the basic R9800 styles. See ordering information at the bottom of this page.

1. 325 ohms
2. 450 ohms
3. 500 ohms
4. 1000 ohms
5. 2000 ohms
6. 2500 ohms
7. 4000 ohms
8. 5000 ohms
9. 7000 ohms
10. 8000 ohms
11. 10,000 ohms
12. 12,000 ohms
13. 25,000 ohms
14. 36,000 ohms

SENSITIVITY

The standard sensitivity of all Hi-Spec dpdt relays in the R9800 series is 55 mw. A maximum sensitivity of 40 mw can be provided. When ordering, the sensitivity can be specified in mw of coil power required to actuate, or by calling out the required pick-up voltage or current.

CONTACT MATERIAL

The standard 5 amp relays use fine silver contact material. We also provide 24 carat gold contact material for dry circuit applications at a slight increase in price.

QUALITY ASSURANCE AND RELIABILITY

All units are serialized during manufacture and a record is maintained of their in-process performance. Purchaser receives a record of final inspection and detailed performance under high and low temperature operation.

RELAYS FOR AC USE

Hi-Spec Electronics also produces a line of relays for AC use. Please contact address below or local Hi-Spec representative for detailed technical data and price information.

WHEN ORDERING SPECIFY:

	Model No.	Contact Material*	Coil Resistance	Sensitivity**
(example)	(R9800)	(G)	(8 K)	(50 mv)

*Gold or Silver.
**Sensitivity can be expressed in milliwatts or in terms of pickup voltage or current.

NOTE: Drop-out current or voltage is nominally 30% of pickup.

HI-SPEC ELECTRONICS CORP.
7328 Ethel Avenue, North Hollywood, California, POplar 5-5075

MINIATURE RELAYS/SENSITIVE RELAYS

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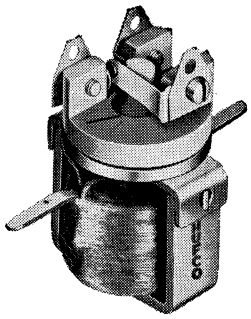
Hufco *Precision built* RELAYS

SUB-MINIATURE RELAY

type 1001



Less than a cubic inch in volume, this tiny relay was designed specifically for applications where small size, light weight and high resistance to shock and vibration are required.

Armature is dynamically balanced for extreme resistance to shock and sudden changes in acceleration and direction. A minimum of working parts insure long life and reliable performance.

SPECIFICATIONS

CONTACT RATING: 2 amps resistive at 28 VDC

CONTACT ARRANGEMENT: SPST or SPDT, open or closed circuit types

CONTACT MATERIAL: Palladium

COIL VOLTAGE: Up to 115 VDC

COIL RESISTANCE: Up to 15,000 ohms

DUTY: Continuous

SIZE: $\frac{15}{16}$" high x ⅞" wide x ⅝" long

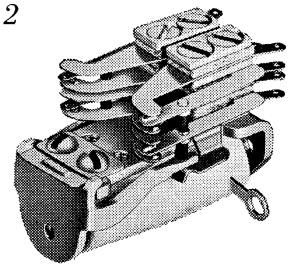
MOUNTING: Mounted through the bottom with a 2-56 screw

TERMINALS: Lug type on open styles

ENCLOSURES: Hermetically sealed can ⅞" dia. x 1¼" in length

MINIATURE TELEPHONE TYPE RELAY

type RC-12



Designed for applications where high reliability is required. These relays are carefully built with finest quality materials, and manufactured under constant critical inspection. They offer a wide temperature range and excellent resistance to shock and vibration.

The small size of these relays permits maximum switching in a minimum space.

SPECIFICATIONS

CONTACT RATING: Up to 3 amps at 28 VDC

CONTACT ARRANGEMENTS: From 2PDT to 4PDT - with slightly larger env. - 6PDT

CONTACT MATERIAL: Silver or paladium

COIL VOLTAGE: Up to 115 VDC

COIL RESISTANCE: Up to 10,000 ohms

DUTY: Continuous

SIZE: 1" high x ¾" wide x 1⅜" long.

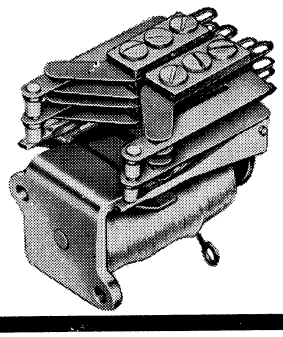
MOUNTING: 2 #4-40 tapped holes ⅜" on center

TERMINALS: Lug-type on open styles

ENCLOSURES: Hermetically sealed rectangular cans 1¾" H x $1\frac{1}{16}$" L x ⅞" W

MIDGET TELEPHONE TYPE RELAY

type D



Small general purpose relays offering a wide selection of contact arrangements in minimum size. Units are designed to withstand excellent shock and vibration resistance, and will operate up to 125°C ambient. These relays, built to precision standards, provide complete reliability.

SPECIFICATIONS

CONTACT RATING: 5 amps resistive at 26.5 VDC or 115 VAC. Up to 10 amps in 2-form C

CONTACT ARRANGEMENT: Up to 6-form A, 6-form B or 4-form C.

CONTACT MATERIAL: Palladium. Can be supplied in fine silver or special alloys.

COIL VOLTAGE: Up to 115 VDC, standard

COIL RESISTANCE: Up to 10,000 ohms

DUTY: Continuous

SIZE: $1\frac{7}{16}$" high x $\frac{5}{16}$" wide x $1\frac{7}{16}$" long, nominal

MOUNTING: 2 #4-40 tapped holes

TERMINALS: Lug-type on open styles

ENCLOSURES: Hermetically sealed cans, available with stud, plug-in, hook, and solder lug mountings.

Hufco

HUFCO INDUSTRIES

2815 WEST OLIVE AVE., BURBANK, CALIF.

See YELLOW SECTION for Local Offices, Telephone, etc.

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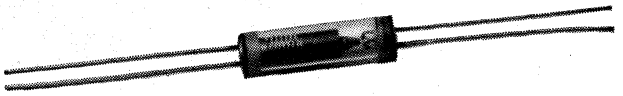
HUGHES THERMAL RELAYS



Hughes makes commercially available a completely reliable single action switch. Used in the Falcon, field-proven as a reliable missile, this Hughes relay is engineered to meet the most exacting of requirements.

In a typical application, 3.0 volts DC applied to a firing circuit of 1.2 ohms fire within 0.3 seconds.

SPECIFICATIONS

MECHANICAL—Body Size: Maximum diameter 0.252″; length .920″. Total weight: Less than 0.1 oz.

ELECTRICAL—**Before Firing:** Insulation resistance is greater than 200 megohms. Minimum breakdown voltage 600 volts.

Firing: 2 volts minimum required. Actual voltage dependent upon closing time desired.

After Firing: Circuit resistance less than 0.3 ohm.

ALTITUDE—Any.

OPERATING TEMPERATURE: −55°C to +125°C.

For additional information please write: Hughes Products, Semiconductor Division, Thermal Relays, Newport Beach, California.

Creating a new world with ELECTRONICS

HUGHES PRODUCTS

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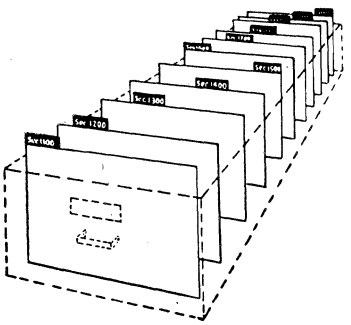

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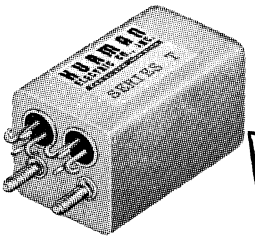
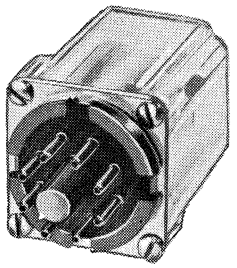
FOR RELIABILITY... FOR QUALITY... FOR SERVICE

Specify KURMAN RELAYS

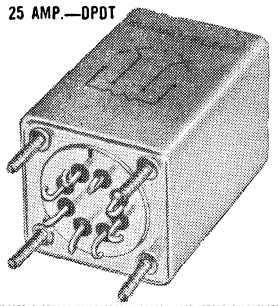
SERIES T—SUB-MINIATURE
SENSITIVE—DPDT



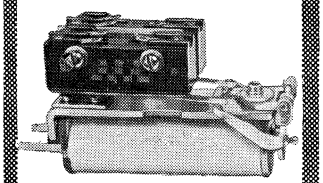
SERIES 26D—DUST COVER
10 AMP.—3 PDT



=26S20—HEAVY DUTY POWER
25 AMP.—DPDT



SERIES AS—SNAP ACTION
TELEPHONE



Immediate delivery from stock at factory prices thru

KURMAN FRANCHISED DISTRIBUTORS

Here are some of the leading distributors stocking Kurman relays

EAST

Almo Radio Co., Philadelphia
Arrow Electronics, Inc., Mineola
Cramer Electronics Inc., Boston
Hi-C Electronics, Inc., Rochester
Higgins & Sheer, Poughkeepsie
Milo Electronics Corp., New York
Quad Electronics, Inc., Brooklyn
Radio Equipment Corp., Buffalo
Radio Wire Television, Inc., Boston
Schenectady Electronic Dist. Corp., Schenectady
Stack Electronics, Inc., Binghamton
Terminal Radio Corp., New York
Valley Electronic Labs., Inc., Utica
Wholesale Radio Parts Co., Baltimore

SOUTHEAST

Goddard Supply, West Palm Beach

MIDWEST

Industrial Electronic Supply of Grand Rapids, Grand Rapids
Interstate Supply Co., St. Louis

MIDWEST (Cont.)

Pioneer Electronic Supply Co,. Cleveland
Radio Parts Co., Inc., Milwaukee
Relay Sales, West Chicago
Sun Radio Co., Akron

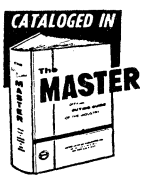
SOUTHWEST

Busacker Electronic Equipment, Houston
Central Electronics, Dallas
Lenert Co., Houston
Trice Wholesale Electronics, Oklahoma City

WEST

Ballard Supply Co., Ogden
National Electronic Supply, Cheyenne
Frank Quement, Inc., San Jose
Sacramento Electronic Supply, Sacramento
Silvergate Radio Supply, San Diego
Universal Radio Supply Co., Los Angeles

In areas not covered by a Kurman distributor — contact the factory directly

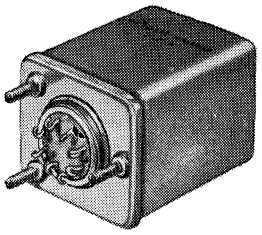


Shown here are only a few of the many KURMAN RELAYS stocked by the leading distributors throughout the country.

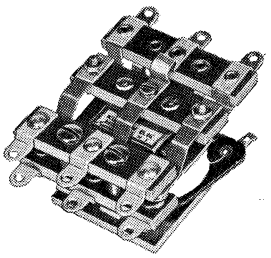
See our catalog pages L630-633 in the new
1959 *Radio-Electronic* **MASTER**
orders shipped same day as received

CONTACT YOUR DISTRIBUTOR for your specific requirement or write to the factory for literature.

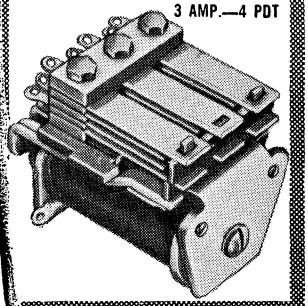
SM004F—MINIATURE TELEPHONE
400 CYCLE—4PDT



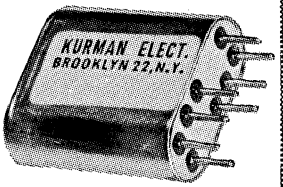
SERIES 26—MEDIUM POWER
20 AMP.—3 PDT



SERIES M—MINIATURE TELEPHONE
3 AMP.—4 PDT



SERIES KX—MICRO-MINIATURE



*NEW RELAY—REQUEST LITERATURE

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Division of Norbute Corp. Quality Relays Since 1928

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TIME DELAY RELAYS

Time delay relays produced by the E. V. NAYBOR LABORATORIES are of two basic types.

A pneumatic type is offered which provides delay periods, upon release of coil power, up to ten seconds. Operation is immediate and delay is completely independent of line voltage. The use of snap-action switches in conjunction with an air dashpot, results in a device which resists shock and vibration, to a high degree. An AC version is available (in all but three pole, double throw models) for operation to 115 volts — 50 to 400 cycles.

A "slugged" type of time delay relay is also offered. Delay periods are offered to 200 milliseconds, upon release of coil power. This unit is very compact for its switching power and delay period attained. A copper slug, or very low resistance circuit, is used around the polepiece to obtain a retardation of magnetic flux, and thus provide a delay period.

TD SERIES

2⅝Hx1⅝ x1⅝

The TD Series time delay relay, uses the air dashpot principle to provide delay. This unit provides 5 amp. switching capacity, up to three pole double throw. Available in open version, and hermetically sealed (suffix H), which provides resistance to extreme ambient conditions and operation at altitudes to 70,000 feet.

SPECIFICATIONS

CONTACT ARRANGEMENT—Single pole—double throw, double pole—double throw and three pole—double throw (except for AC operation).

DELAY AVAILABLE—Standard range—to 2 seconds for 3 pole—to 4 seconds for 2 pole—and to 6 seconds for single pole units. Recycle time less than .025 seconds.

CONTACTS—Rated at 5 amperes resistive load at 125 or 250 VAC for 100,000 operations. Rated at 4 amperes resistive load at 30 VDC for 50,000 operations.

COIL—Standard coil resistance for 26.5 VDC operation 300 ±10% ohms. Other values available to 12,000 ohms. Coil operation from .5 watt to 3 watts depending upon operating conditions.

TEMPERATURE RANGE—Standard at —55 degrees C. to +85 degrees C.

VIBRATION—Ten G. from 10 to 500 cycles.

2⅝Hx1⅝x1½

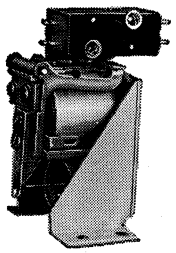
SHOCK—Operating to 50 G.—mechanical resistance to 100 G.

DIELECTRIC—Test at 1,000 volts RMS.

WEIGHT—4.5 ounces.

ACCURACY—Above 1.0 second ±20%. Below 1.0 second ±40%.

TD310 SERIES



2⅝Hx1⅝x2

Providing the same general characteristics as the TD Series, the TD310 series offers a 10 amp., single pole, double throw switching capacity and high life. When operated at pilot load, 1 ampere, a life of over 10,000,000 operations can be expected. The TD310 is the open version. The TD310H is the hermetically sealed version, with altitude rating to 70,000 feet.

SPECIFICATIONS

CONTACT ARRANGEMENT—Single pole—double throw, double break.

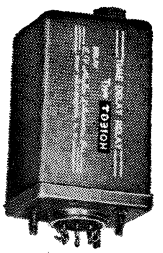
DELAY AVAILABLE—Standard range—to 10 seconds. Recycle time less than .025 sec.

CONTACTS—Rated at 10 amperes resistive load at 125 or 250 VAC, or 10 amperes inductive load at 30 VDC. Probable life at 10 amperes 30 VDC., L/R=.01, 200,000 operations. Probable life at 10 amperes 125 VAC, 75% P.F., 750,000 operations.

COIL—Standard coil resistance for 26.5 VDC operation, 300 ±10% ohms. Other values available to 12,000 ohms. Coil operation from .5 watt to 3 watts depending upon operation conditions.

VIBRATION—Ten G. from 10 to 500 cycles.

TEMPERATURE RANGE—Standard at —55 degrees C. to +85 degrees C.



2⅞Hx1⅞x1½

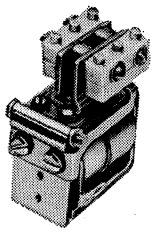
SHOCK—Operating at 50 G.—mechanical resistance to 100 G.

DIELECTRIC—Test at 1,000 volt RMS.

WEIGHT—4.25 ounces.

ACCURACY—Above 1.0 second ±20%. Below 1.0 second ±40%.

TDS SERIES



1¾Hx1⅜x1⅛

The TDS series time delay relay uses a copper slug to provide a delay period. Contact rating is 5 amp. in single or double pole, double throw. Available in both open and hermetically sealed (suffix H) versions. Hermetically sealed units provide operation to 70,000 feet.

SPECIFICATIONS

CONTACT ARRANGEMENT—Single pole—double throw (TDS3H), and double pole—double throw (TDS6H).

DELAY AVAILABLE—Standard range to 100 milliseconds. Under certain conditions to 200 milliseconds.

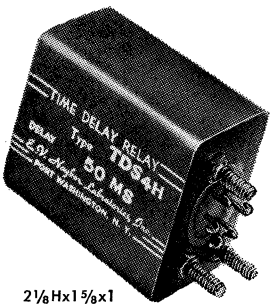
CONTACTS—Rated at 5 amperes resistive load at 125 or 250 VAC for 100,000 operations. Rated at 4 amperes resistive load at 30 VDC for 50,000 operations.

COIL—Standard coil resistance for 26.5 VDC operation 425 ±10% ohms. Other values available to 10,000 ohms.

TEMPERATURE RANGE—Standard at —55 degrees C. to +85 degrees C.

ALTITUDE—To 70,000 feet.

ACCURACY—±10% at rated voltage and 25 degrees C.

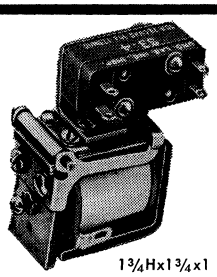


2⅛Hx1⅝x1

WEIGHT—5 ounces.

DIELECTRIC—Test at 1,000 volts RMS.

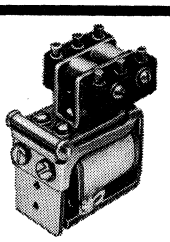
POWER RELAYS



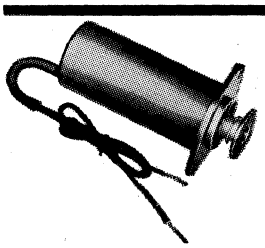
1¾Hx1¾x1

The Type R310 power relay is a unit with high switching capacity for relatively small coil power. Rated at 10 amperes, this unit is the relay and switch assembly of the TD310 series time delay relay and follows the characteristics of the TD310, except for delay available and weight. A hermetically sealed relay, Type R310H, is available. Its physical dimensions are identical to the TD310H, except for a height reduction of ¾ inch.

The Types R3, R6 and R9, have 5 amp. switching capacity and are respectively, single, double and triple pole, double throw relays. These relays are available hermetically sealed (suffix H), with physical dimensions identical to the TD series hermetically sealed units, except for a height reduction of ¾ inch.

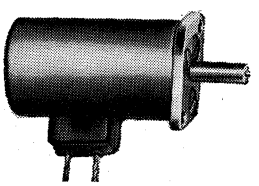


1¾Hx1⅜x1⅛



SPECIAL SOLENOIDS

Special solenoids, flag indicators and other magnetic devices, are also manufactured by the E. V. NAYBOR LABORATORIES. The numerous variations and special nature of these devices, do not permit cataloging, however, we welcome your inquiries on all of your electro-magnetic requirements.



E. V. NAYBOR LABORATORIES, INC.

PORT WASHINGTON, NEW YORK POrt Washington 7-4300

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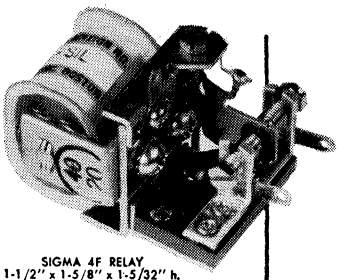
SIGMA SENSITIVE RELAYS

PLATE CIRCUIT RELAY . . . SERIES 4

Single-pole, double-throw, general purpose relay with 20 and 50 mw. sensitivity. Balanced armature. Operates in any position. Spring tension and air gaps screwdriver adjustable in open style only. Silver (SIL) contacts rated 2 amp. 28 VDC/120 VAC for 100,000 operations. 4F-8,000-S SIL widely used for radio controlled models. Available in other mountings and enclosures.

TYPICAL ADJUSTMENTS

	Coil Ohms	Operate Ma. DC	Net Each
4F-1,000-S SIL	1,000	4.5	$5.50
4F-2,500-S SIL	2,500	3.0	5.50
4F-5,000-S SIL	5,000	2.0	5.75
4F-8,000-S SIL	8,000	1.6	6.00



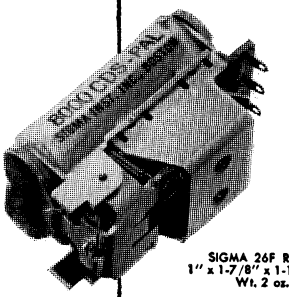
SIGMA 4F RELAY
1-1/2" x 1-5/8" x 1-5/32" h.
Wt. 2-1/4 oz.

RADIO CONTROL MODEL RELAY . . . SERIES 26

Single-pole, double-throw, balanced armature relay with adjustments from 4 mw. to 20 mw. sensitivity. Silver (SIL), gold alloy (GSP), and palladium (PAL) contacts for CDS adjustment rated 0.5 amp. at 28 VDC/120 VAC. 26F-8,000-CDS SIL (unenclosed only) exceptionally rugged and especially designed for R/C models. Uses less plate current thus prolonging tube life.
"S", "G" and "W" adjustments available unenclosed or hermetically sealed.

TYPICAL ADJUSTMENTS

Relay	Operate Ma. DC	Net Each
26F-1,000-S SIL	2.3	$6.80
26F-8,000-CDS SIL	0.7	8.30
26F-12,000-G SIL	0.9	9.80



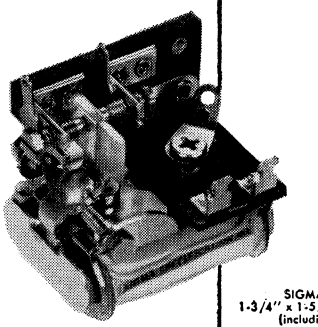
SIGMA 26F RELAY
1" x 1-7/8" x 1-1/16" h.
Wt. 2 oz.

EXTRA SENSITIVE PRECISION RELAY . . . SERIES 5

Extremely precise, rugged AC* and DC general purpose sensitive relay. Balanced armature, single-pole, double-throw. Suitable for wide range of adjustments from 1.0 mw. to 2.0 watts. Contact rating varies up to 3 amp. at 28 VDC/120 VAC for 100,000 operations, depending on contact material and adjustment.
*AC operation accomplished by means of built-in rectifiers.
Available in other mountings and enclosures.

TYPICAL ADJUSTMENTS

	Coil Ohms	Operate Ma. DC	Net Each
5F-1,000-S SIL	1,000	2.3	$7.50
5F-2,500-S SIL	2,500	1.4	7.50
5F-5,000-S SIL	5,000	1.0	8.00
5F-10,000-S SIL	10,000	0.7	8.75



SIGMA 5F RELAY
1-3/4" x 1-5/16" x 1-11/16" h.
(including terminals)
Wt. 4-1/4 oz.

SMALL LOW-COST RELAY . . . SERIES 11

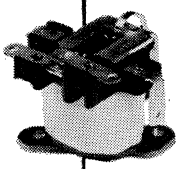
Small, single-pole double-throw AC and DC relay. DC operating sensitivities 50 mw. in "G" Adjustment, 200 mw. in "W" Adjustment. AC version: 0.3 v-a. in "ACS" Adjustment. Contacts rated 1 amp. ("G" and "ACS"), 5 amp. ("W") at 28 VDC/120 VAC. Available unenclosed only in four mounting styles:

11F — 2 tapped holes, uninsulated

11F3 — Insulated base, interchangeable with relays of other manufacture

11F2 — Insulated base

11FP — Solder lug mounting for use in printed circuits



SIGMA 11F RELAY
1-5/32" x 1-5/32" x 1" h.
Wt. 1 oz.

TYPICAL ADJUSTMENTS

AC Type	Coil Volts	Operate Voltage	Net Each
11FZ-40-ACS SIL	6	4.9	$2.00
11FZ-150-ACS SIL	12	9.5	2.00
11FZ-550-ACS SIL	24	18	2.00
11FZ-9,000-ACS SIL	120	75	2.35

DC Type	Coil Ohms	Operate Ma. DC	Net Each
11F-1,000-G SIL	1,000	7.0	$1.50
11F-2,300-G SIL	2,300	4.6	1.50
11F-6,000-G SIL	6,000	2.9	1.70
11F-9,000-G SIL	9,000	2.4	1.85

Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.

SIGMA

SIGMA INSTRUMENTS, INC. 70 Pearl St., So. Braintree 85, Mass.

Order from Local Electronic Parts Distributors or Write for List.

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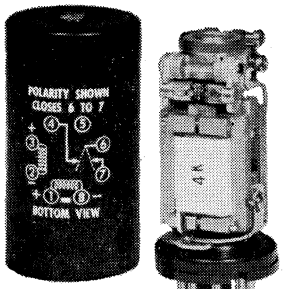
SIGMA SENSITIVE RELAYS

HIGH SPEED POLAR SWITCHING RELAY . . . SERIES 72

For high speed switching and pulse repeating applications. Capable of switching 500 pulses per second with virtual elimination of contact bounce. High immunity to extremes of temperature, vibration and shock. Form "Z" side-stable. Maintenance and adjustment manual available for easy field repair and adjustment. Removable nylon cover.



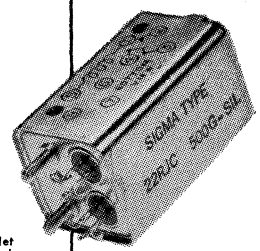
SIGMA 72AOZ RELAY
1-7/16" dia. x 2-5/8" h.
Wt. 3-1/2 oz. max.

TYPICAL ADJUSTMENTS

Relay	Operate Ma. DC either way, either coil	Recommended Drive for Max. Speed Operate Current, Ma. DC	Source Voltage	Net Each
72AOZ-160-TS TCP	1.4	15	50 VDC	$30.00
72AOZ-160-TG TCP	3.6	6.0	50 VDC	30.00

MISSILE TYPE RELAY . . . SERIES 22

Miniature DC relay widely used in special commercial and military applications. "G" adjustment operates at sensitivities of 20 mw. SPDT and 40 mw. DPDT. Contact rating at 28 VDC/120 VAC silver (SIL) 2 amp; palladium (PAL) and gold (GSP) 0.5 amp. New "HG" adjustment operates at 20 and 40 mw. "W" adjustment operates at 40 and 80 mw. Silver alloy (SGP) contact rated 1.0 amp at 28 VDC/120 VAC. Both adjustments vibration resistant: "HG" 10 g to 500 cps, "W" 15 g to 500 cps, 5 g to 2,000 cps.



SIGMA 22RJC RELAY
1" square x 1-3/4" h.
Wt. 3 oz.

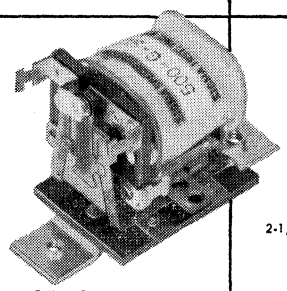
TYPICAL ADJUSTMENTS

SPDT	Coil Ohms	Operate Ma. DC	Net Each
22RJC-1,000-G SIL	1,000	4.5	$16.00
22RJC-2,500-G SIL	2,500	2.8	16.50
22RJC-5,000-G SIL	5,000	2.0	17.00
22RJC-8,000-G SIL	8,000	1.6	17.50

DPDT	Coil Ohms	Operate Ma. DC	Net Each
22RJCC-1,000-G SIL	1,000	6.3	17.50
22RJCC-2,500-G SIL	2,500	4.0	18.00
22RJCC-5,000-G SIL	5,000	2.8	18.50
22RJCC-8,000-G SIL	8,000	2.3	19.00

SINGLE-POLE AC AND DC RELAY . . . SERIES 41

General purpose, highly sensitive, rugged design. Quiet enough for electric blanket controls. Contact rating from 0.5 amp. to 5.0 amp. at 28 VDC/120 VAC.
AC operation by pole shading with sensitivity down to 0.06 volt-ampere. "K" adjustment adapted for high speed keying, largely free of contact bounce when operated SPST, normally open. Tungsten (TUN) contacts only, rated at 1.0 amp. 28 VDC/120 VAC. Other mountings and enclosures available.



SIGMA 41F RELAY
2-1/4" x 1-1/4" x 1-5/16" h.
Wt. 2-1/2 oz.

TYPICAL ADJUSTMENTS

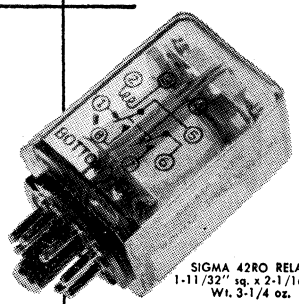
AC TYPES	Operate Voltage	Nominal Voltage	Contact Rating amp.	Net Each
41FZ-10-ACG SIL	4.0	6	5	$3.50
41FZ-35-ACS SIL	5.0	6	2	3.50
41FZ-200-ACG SIL	18	24	5	3.50
41FZ-500-ACS SIL	19	24	2	3.50
41FZ-5,000-ACG SIL	90	115	5	3.65
41FZ-10,000-ACS SIL	85	115	2	3.85
41FZ-12,000-ACG SIL	140	230	5	4.15

DC TYPES	Coil Ohms	Operate Ma. DC	Net Each
41F-5-S SIL	5	90	$3.50
41F-50-S SIL	50	30	3.50
41F-200-S SIL	200	15	3.50
41F-1,000-S SIL	1,000	6.5	3.50
41F-5,000-S SIL	5,000	3.0	3.65
41F-10,000-S SIL	10,000	2.0	3.85

Contact rating — 2 amp.

DOUBLE-POLE AC AND DC RELAY . . . SERIES 42

General purpose, double-pole version of Series 41. Shown with plastic dust cover. Operates under 0.2 watt DC and under 0.5 volt-ampere AC.



SIGMA 42RO RELAY
1-11/32" sq. x 2-1/16" h.
Wt. 3-1/4 oz.

TYPICAL ADJUSTMENTS

AC TYPES	Coil Volts	Operate Voltage	Contact Rating amp.	Net Each
42ROZ-8-ACG SIL	6	4.0	5	$6.20
42ROZ-25-ACS SIL	6	5.0	2	6.20
42ROZ-200-ACG SIL	24	19.0	5	6.20
42ROZ-340-ACS SIL	24	19.0	2	6.20
42ROZ-4,000-ACG SIL	120	90.0	5	6.20
42ROZ-7,000-ACS SIL	120	90.0	2	6.40

DC TYPES	Coil Ohms	Operate Ma. DC	Net Each
42RO-5-G SIL	5	200	$6.20
42RO-50-G SIL	50	65	6.20
42RO-200-G SIL	200	32	6.20
42RO-1,000-G SIL	1,000	14	6.20
42RO-5,000-G SIL	5,000	6.5	6.40
42RO-10,000-G SIL	10,000	4.5	6.60

Contact rating — 5 amp.

Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.

SIGMA

SIGMA INSTRUMENTS, INC. 70 Pearl St., So. Braintree 85, Mass.

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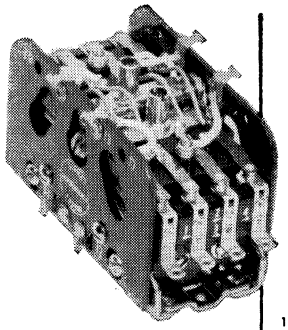
SIGMA SENSITIVE RELAYS

POLARIZED MULTIPOLE RELAY . . . SERIES 6

Up to four pole, double-throw in either single or dual coil arrangement. Sensitive enough for low power electronic circuits. Fast enough for follow-up systems.
Contacts rated 2 and 5 amp. at 28 VDC/120 VAC.
"X" — 3-position center stable (up to 4 Form K)
"Y" — Magnetic bias (up to 4 Form C)
"Z" — Magnetic latching (up to 4 Form C)
Available hermetically sealed or unenclosed.

TYPICAL ADJUSTMENTS

Relay	Coil Ohms	Operate Ma. DC	Net Each
Single coil			
6FX2A2A-5,000-G SIL	5,000	1.9	$26.00
6FX2A2A-10,000-G SIL	10,000	1.5	26.50
Dual Coil			
6FX2A2A-2,500-GD SIL	2500/2500	4.2	26.75
6FX2A2A-5,000-GD SIL	5000/5000	3.0	27.50



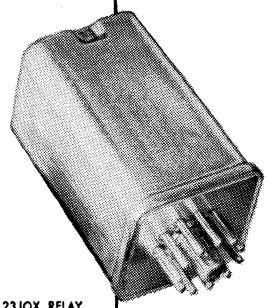
SIGMA 6FX4C RELAY
1-7/8" x 3-7/16" x 1-7/8" h.
Wt. 10 oz.

DOUBLE-POLE 3-POSITION POLAR . . . SERIES 23

For single or double pole 3-position switching with single or dual coils. Unusual magnetic circuit restores armature to mid-position between fixed contacts improving mechanical and thermal stability. Sensitivity varies from 6 mw. to 24 mw. Silver (SIL) contacts rated 2 amp. at 28 VDC/120 VAC for 100,000 operations. Hermetically sealed only.
Also available Form "Y" Magnetic bias.

TYPICAL ADJUSTMENTS

Relay	Coil	Operate Ma. DC	Price
Single Coil			
23JOXC-4,000-G SIL	4,000	1.2	$30.50
23JOXCC-6,000-G SIL	6,000	1.4	31.00
Dual Coils			
23JOXC-2,500-GD SIL	2500/2500	2.2	31.50
23JMXCC-4,200-GD SIL	4200/4200	2.3	34.00



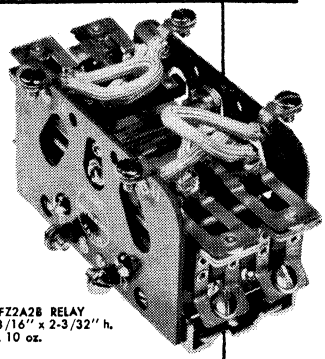
SIGMA 23JOX RELAY
1-5/8" sq. x 2-9/16" h.
Wt. 8-5/8 oz.

LATCHING POWER RELAY . . . SERIES 61

Heavy duty Form "Z" 2-position, single or dual coil; modification of Series 6. For switching heavy loads with small coil power. Load switched by momentary signal of appropriate polarity. Remains magnetically latched until signal of opposite polarity received. 2A2B only. Silver cadmium (SC) contacts only, rated 20 amp. at 28 VDC/120 VAC.
Also available Form "Y" Magnetic bias

TYPICAL ADJUSTMENTS

	Operate Each Polarity	Net Each
Single Coil		
61FZ2A2B-10,000-G SC	48 VDC	$19.00
Dual Coil		
61FZ2A2B-10,000-GD SC	65 VDC	21.00



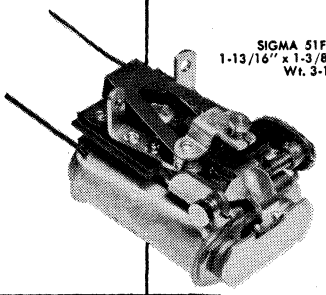
SIGMA 61FZ2A2B RELAY
3-1/2" x 2-3/16" x 2-3/32" h.
Wt. 10 oz.

SENSITIVE POWER RELAY . . . SERIES 51

Single-pole, double-break, normally closed DC, for control of loads from 10 amp. to 1 kw. Used in commercial photoelectric streetlighting control. Rated for 1,000 watt incandescent 120 VAC loads with inrush currents in the order of 100 amp. Double-break contact construction eliminates faulty circuit operation due to sticking contacts. Unenclosed style (FB) only.

TYPICAL ADJUSTMENTS

Relay	Operate Ma. DC	Net Each
51FB-5,000-G SIL	4.5	$8.50

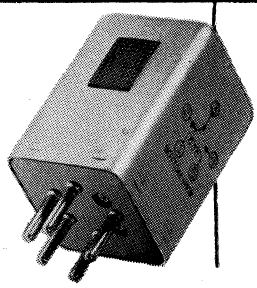


SIGMA 51FB RELAY
1-13/16" x 1-3/8" x 1-5/16" h.
Wt. 3-1/4 oz.

CdS PHOTORELAY . . . MODEL #1

A miniature tubeless photorelay with a cadmium sulfide photocell. For furnace flame-out controls, pinball machines, elevators, conveyors, etc. 5-pin plug-in base, dust-proof can, operates at 5 foot-candles or less, releases at 0.1 foot-candle or more. 2 operations per second guaranteed minimum.
120 VAC 50/60 cps at temperature range of −40° to 75°C.

Model #2 for slowly changing light source also available.



SIGMA CdS PHOTORELAY, MODEL #1
1-1/2" square x 1-7/8" h.
Wt. 3 oz. . . . Price $12.00

Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.

Order from Local Electronic Parts Distributors or Write for List.

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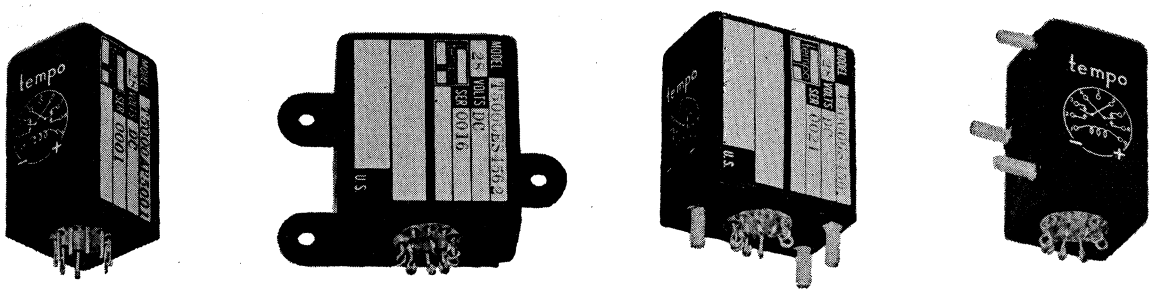
ELECTRONIC TIMERS

- RELIABLE TRANSISTOR CIRCUIT
- NO MOVING PARTS EXCEPT RELAY CONTACTS
- SUB-MINIATURE SIZE & WEIGHT
- VIBRATION TO 20 G's, 2000 CPS
- SHOCK TO 50 G's, 11 MILLISECONDS
- ACCELERATION TO 20 G's
- CONTACT RATINGS TO 10 AMPS
- STANDARD ACCURACIES FROM 3% TO 10% (or better if required)
- DELAY TIMES FROM .02 TO 300 SECONDS
- TEMPERATURES TO 125°C
- MEETS OR EXCEEDS MIL SPECS
- 100,000 CYCLES MINIMUM LIFE



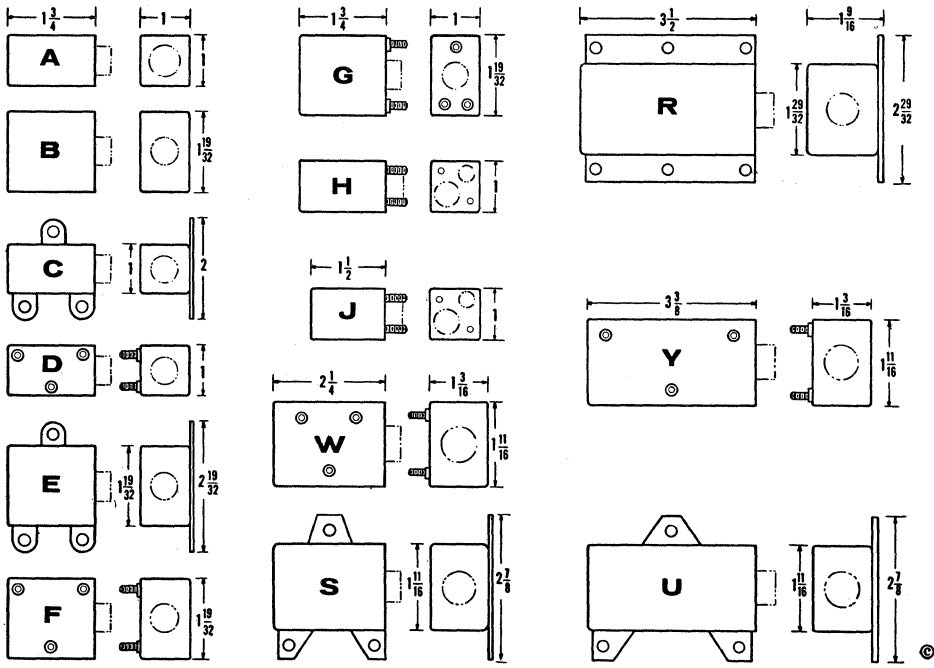
Tempo Time Delay Relays are engineered, manufactured and quality-controlled to meet the highest performance and reliability requirements in missile, space, aircraft and ground support electronic equipment.

These precision units are of electronic design, utilizing highest quality transistors and RC time-constant circuit elements. There are no moving parts except the relay contacts. The relay, in its own hermetically sealed can, and all other components and wires are potted in poly-urethane foam to insure maximum environmental resistance. The potting also provides support and damping under severe vibration, shock and acceleration. The complete unit is hermetically sealed.

TEMPO QUALITY CONTROL INCLUDES 100% TESTING AT EXTREMES OF TEMPERATURE & VOLTAGE.

QUOTED ACCURACIES ARE GUARANTEED UNDER ANY COMBINATION OF RATED VOLTAGE VARIATIONS, TEMPERATURES, VIBRATION, SHOCK & ACCELERATION.

AVAILABLE MOUNTING STYLES



WEIGHTS:

"A" — .12 lb.
"B" — .18 lb.
"C" — .13 lb.
"D" — .16 lb.
"E" — .20 lb.
"F" — .22 lb.
"G" — .19 lb.
"H" — .13 lb.
"J" — .11 lb.
"R" — .75 lb.
"S" — .38 lb.
"U" — .57 lb.
"W" — .44 lb.
"Y" — .63 lb.

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Creating New Concepts in Advanced Electronics

tempo

TEMPO INSTRUMENT INCORPORATED
Commercial Street, P.O. Box 338
Hicksville, New York
OVerbrook 1-2280 • TWX: Hicksville NY 429

STATIC SWITCHING CONTROLS
ENGINE CONTROL COMPUTERS
STATIC ANALOG TO DIGITAL CONVERTERS
DIGITAL SERVO LOOPS

DIGITAL DELAY GENERATORS
PYROTECHNIC CONTROLS
VOLTAGE & CURRENT SENSORS
PULSE TRAIN GENERATORS

CYCLE TIMERS
FUZING TIMERS
FLASHERS
INTERVAL TIMERS

INTERVALOMETERS
PULSE SHAPERS
PROGRAMMERS
SEQUENCE TIMERS

See YELLOW SECTION for Local Offices, Telephone, etc.

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tempo 28 vdc TIME DELAY RELAYS

TYPE	TEMP. RANGE	② RELAY CONTACTS & RATING	① TIMING ACCURACY (% of nominal)	③ AVAILABLE TIME DELAYS (seconds)	AVAILABLE MOUNTING STYLES
T5000	−55°C to 125°C	2 PDT 2 amps	±10%	.020 to 3.00 3.01 to 15.0 15.1 to 60.0 60.1 to 180 181 to 300	J only A, C, D or H B, E, F or G S or W U or Y
T5001			±5%	.040 to 3.00 3.01 to 15.0 15.1 to 60.0 60.1 to 180	J only A, C, D or H B, E, F or G S or W
T5005			±3%	.070 to 3.00 3.01 to 30.0 30.1 to 60.0	A, C, D or H B, E, F or G S or W
T5010		1 PDT 10 amps	±10%	.050 to 30.0 30.1 to 180 181 to 300	U or Y R only
T5011			±5%	.100 to 30.0 30.1 to 180	U or Y
T5015			±3%	.200 to 15.0 15.1 to 60.0	U or Y
T5030		3 PDT 10 amps	±10%	.050 to 90.0 90.1 to 300	R only
T5031			±5%	.100 to 90.0 90.1 to 180	R only
T5035			±3%	.200 to 30.0 30.1 to 60.0	R only
T4001	−55°C to 100°C	2 PDT 2 amps	±5%	181 to 300	U or Y
T4005			±3%	60.1 to 90.0 90.1 to 180	S or W U or Y
T4011		1 PDT 10 amps	±5%	181 to 300	R only
T4015			±3%	60.1 to 180	R only
T4031		3 PDT 10 amps	±5%	181 to 300	R only
T4035			±3%	60.1 to 180	R only
T1000	−55°C to 70°C	2 PDT 2 amps	±10%	.020 to 4.00 4.01 to 20.0 20.1 to 100 101 to 300	J only A, C, D or H B, E, F or G S or W
T1001			±5%	.040 to 4.00 4.01 to 20.0 20.1 to 100 101 to 300	J only A, C, D or H B, E, F or G S or W
T1005			±3%	.070 to 20.0 20.1 to 100 101 to 300	A, C, D or H B, E, F or G S or W
T1010		1 PDT 10 amps	±10%	.050 to 50.0 50.1 to 300	U or Y
T1011			±5%	.100 to 50.0 50.1 to 300	U or Y
T1015			±3%	.200 to 50.0 50.1 to 300	U or Y
T1030		3 PDT 10 amps	±10%	.050 to 150 151 to 300	R only
T1031			±5%	.100 to 150 151 to 300	R only
T1035			±3%	.200 to 150 151 to 300	R only

① **TIMING ACCURACIES** shown are in percent of nominal time delay, and are guaranteed under any combination of rated voltage variations, temperatures, vibration, shock and acceleration. **Special order types are available with accuracies better than 3%.**

② **CONTACT RATINGS** shown are for resistive loads at 28 vdc or 115 v 400 cps. For inductive loads (with L/R ratio of .025 max) the contact rating is one-half of resistive rating shown.

CONTACT LIFE is 100,000 cycles minimum at rated loads.

CONTACT RESISTANCE is 50 milliohms maximum initially, 100 milliohms maximum after rated life.

③ **TIME DELAY** selected by customer is pre-set at factory and is not adjustable in the field. Special types are available with provision for external potentiometer adjustment of delay period. Special types are also available with time delay periods longer than 300 seconds.

TIMING ACTION is delay on pull-in. Special types are available with delay on drop-out.

DROP-OUT TIME is 10 milliseconds maximum for 2 amp types, 20 milliseconds maximum for 10 amp types.

④ **RECYCLING CHARACTERISTICS.** Under normal operating conditions, these units may be recycled by interrupting the input voltage after pull-in for a minimum period of 10 milliseconds. Detailed information is available for various types describing their recycle characteristics under other modes of operation.

⑤ **INPUT VOLTAGE** is 28 vdc nominal (18 to 31 vdc). Special types are available for 60 cps and 400 cps input voltages.

CURRENT DRAIN before pull-in is 9.3 milliamps ±15% for all types. Current drain after pull-in varies with relay type—
For 2PDT, 67.5 ma ±15%
For 1PDT, 86.0 ma ±15%
For 3PDT, 132 ma ±15%
(measured at 25 deg. C. 28 vdc)

⑥ **VIBRATION RATING** is 10 to 80 cps at .06 inch peak double amplitude, 80 to 2,000 cps at 20 g's.

SHOCK RATING is 50 g's, 11 milliseconds.

ACCELERATION RATING is 20 g's, steady state, any axis.

⑦ **MIL SPECIFICATIONS.** All types listed will meet or exceed all applicable requirements of MIL-E-005272B, MIL-E-5400B, MIL-R-5757C, MIL-R-6106C, MIL-R-25018.

NOTE: Above specifications supercede Tempo Tech Data 1357 and Engineering Bulletin 0558

ORDERING INFORMATION

Basic type number (T5000, T4001, T1000, etc.) defines temperature range, contacts and rating, and accuracy. For a complete ordering part number, customer must specify mounting style, terminals and exact time delay period required. A complete part number is determined as follows:

TXXXX X X XXXX

TYPE	MOUNTING STYLE (see tabulation)	TERMINALS "P"—plug-in "S"—solder hooks	TIME DELAY—First 3 digits are significant figures in milliseconds. Last digit is number of zeros following first three.

EXAMPLES:

T5030RS9502 is a 125°C unit, 3PDT-10 amp relay, 10% accuracy, mounting style "R", solder hook terminals, with a time delay of 95,000 milliseconds (95 sec.).

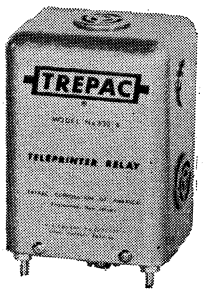
T1005AP0700 is a 70°C unit, 2PDT-2 amp relay, 3% accuracy, mounting style "A", plug-in terminals, with a time delay of 70 milliseconds (.070 sec.).

RELIABLE TIMING CONTROLS

See YELLOW SECTION for Local Offices, Telephone, etc.

REPLACE TROUBLESOME ELECTRO-MECHANICAL RELAYS

WITH *RELIABLE* TREPAC® (TRANSISTORIZED RELAY ELIMINATOR PACKAGE, UTILIZING SOLID STATE ELECTRONIC RELAYS)



TREPAC
Model 530-B
TELEPRINTER
RELAY

SPECIAL FEATURES:

Reliability and Ruggedness built-in. Freedom from Maintenance. Continuous Operation—Long Life Tested. Proved in over three years use in the field by important and busy circuits of Communications and Telephone Companies, News Services, Railroads, Government Agencies.

Solid State Electronic Relay and Internal Power Supply can operate both old and new teleprinters, eliminating the spark suppressors, rectifier, *line relay*. No Radio interference. Mounts in teleprinter housing.

Standard replacement for WE-209, 215, & 255 Polar Relays. Operates in all Teletype Machines. Models, 14, 15, 19, 26, 28 etc.

Purely Resistive Input, Eliminates All Interaction Between Printers on same signal line.

Perfect Repeating of Signal. No Distortion. Accepts Polar or Neutral Signals of Either Polarity. 20 to 100 mils to Deliver Constant Current to Selector Magnets of any machine.

Static Unit—No Moving Parts—No Contacts—No Armature—Nothing to Wear Out—Replace, Maintain or Adjust.

FACTORS COMMON TO ALL TREPACS

- RELIABILITY and RUGGEDNESS, built-in
- FREEDOM FROM MAINTENANCE—proved in over three years of service of continuous duty
- INDEFINITELY LONG LIFE —
- SOLID STATE ELECTRONICS — No Moving Parts to wear out or adjust
- EXPLOSION PROOF—NO ARCING NO CONTACTS to clean
- NO RADIO or electrical interference generated
- PLUG-In self-contained units heavy gauge triple rust-proofed steel containers with heavy baked enamel finish.
- All components dip coated after assembly, MOISTURE and GREASE PROOFED, TROPICALIZED.
- HIGH SPEED OPERATION—perfect REPEATING OF INPUT SIGNAL (NO DISTORTION INTRODUCED) (Standard units to better than 10 MICROSECONDS—high speed units available Milimicroseconds)
- STANDARD OPERATING TEMPERATURE RANGE —55° to +85° Cent. (other ranges available on special order)
- PRECISELY ENGINEERED FOR APPLICATION—CONSERVATIVE RATINGS—PRE-TESTED COMPONENTS —MEET or EXCEED APPLICABLE MIL-SPECS.
- PURELY RESISTIVE INPUT (NON-INDUCTIVE)
- OPERATION UNAFFECTED BY HIGH LEVELS OF VIBRATION, ACCELERATION
- DESIGNED TO HANDLE INDUCTIVE LOADS
- Full range of Sensitivities from few MICROWATTS UP
- MODULAR CONSTRUCTION

TREPAC Model 540 ELECTRONIC RELAY

SPECIAL FEATURES:

- Full range of sensitivities available from a few microwatts up.
- Ultra - miniature hermetically sealed units—Encapsulated with wide choice of standard mountings and plug-in bases for MICRO-SECOND Switching of up to several watts. SPST, SPDT.
- POWER-RELAYS (photo shown) capable of handling up to several hundred watts of resistive or *inductive* loads. SPST, SPDT, DPDT available.
- SOLENOID DRIVERS—Self-contained solid state electronic Switch for high-speed Remote control of *Inductive* loads. Internal power supply for operating solenoids, valves, sorters, levels, batching, counters & other automation operations, etc.

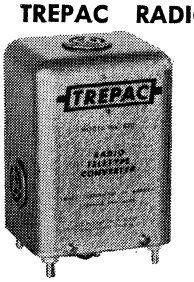
TREPAC Model 560 TELETYPE REPEATER

SPECIAL FEATURES:

Designed to accept a high-speed D.C. pulse over a telephone wire pair, amplify and deliver without distortion a high speed D.C. pulse to further line repeaters and Trepac Model 530-B teleprinter relays operating monitor printers or readout equipment.

TREPAC RADIO TELETYPE CONVERTER

Model 570



Designed to work directly from communications receiver replacing polar relay in teletypewriter and providing internal D.C. power for selector magnets. Also used on wire lines and in carrier teletype systems or wherever high speed control of remote inductive load desired through use of selected audio tone signals.

TREPAC SYSTEMS ENGINEERS are thoroughly qualified through know-how and field operating experience to provide exactly the right TREPACS to handle any existing facilities or future needs. Any teletype communications system, data processing, automation or similar operation can benefit through using TREPACS by INCREASING THE RELIABILITY of any system through IMPROVED PERFORMANCE.

The ELIMINATION OF MAINTENANCE (and constant readjustments) associated with old type electro-mechanical relays will pay large dividends in INCREASED PROFITS.

SOLID STATE ELECTRONICS for TELECOMMUNICATIONS

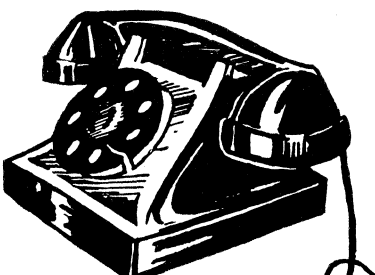
TREPAC CORPORATION OF AMERICA

30 WEST HAMILTON AVE. **ENGLEWOOD, NEW JERSEY**

Telephone: LOwell 7-3810 **TWX: Englewood, N. J.**

See YELLOW SECTION for local offices, telephones, etc.

LOCAL SALES OFFICES JUST A PHONE CALL AWAY



Only ELECTRONIC ENGINEERS MASTER — *eem* gives you this comprehensive listing of manufacturers' sales offices and sales representatives.. 5,000 manufacturers listed are just a phone call away.

Refer to the YELLOW SECTION for MANUFACTURERS and their SALES OFFICES

Tell Them You Saw It In **eem**

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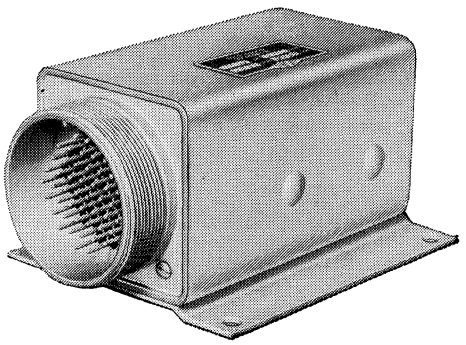
U.S. RELAY

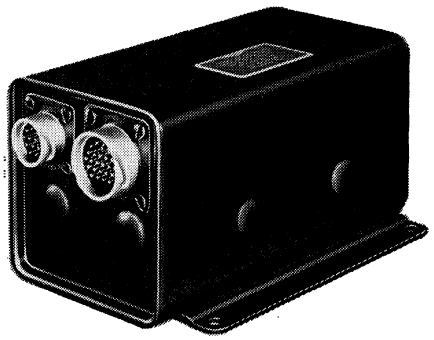
Rely on U.S. Relay for Reliability

New Space Age requirements demand the extremes in reliability. As a result of exacting design and rigidly controlled manufacturing quality, U. S. Relay predicts the dependable performance of its products.

MODEL L 502
MULTIPLE CONTROL RELAY ASSEMBLY

Provides for control of 14 channels with independent functions. Each circuit is rated for 3 Amp. Res. Load at 29 VDC. Designed for maximum environmental conditions and airborne applications. Hermetically sealed.



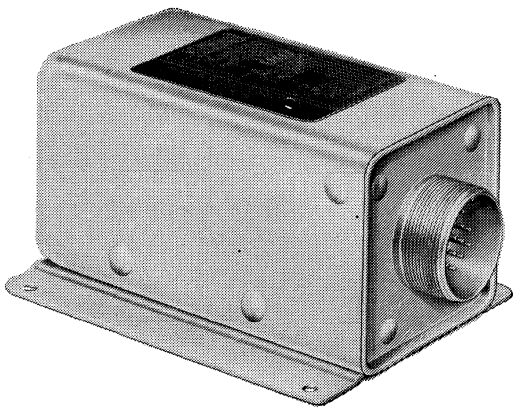


MODEL L 511
TEST AND DIM CONTROL ASSEMBLY

Provides for testing, controlling and dimming of indicating lights. The sixteen channels are capable of handling 0.5 Amp. Lamp Load at 29 VDC. Hermetically sealed.

MODEL L 545
FIRE CONTROL SWITCH ASSEMBLY

This package consists of a solenoid-operated rotary selector switch, coupled to five 4 PDT 10 Amp. relays and provides sequencing to connect selected groups of circuits hermetically sealed.



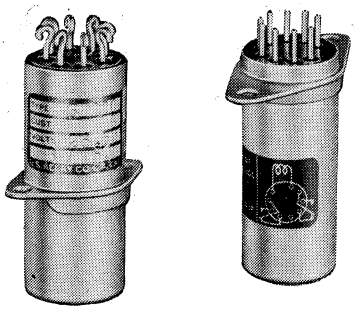
Rely on U. S. Relay to design "customerized" control systems.

U. S. RELAY CO. THE ELECTRONIC DIVISION OF A·S·R PRODUCTS CORPORATION
717 N. Coney Ave., Azusa, Calif. • Phone EDgewood 4-8206; CUmberland 3-8241

U.S. RELAY

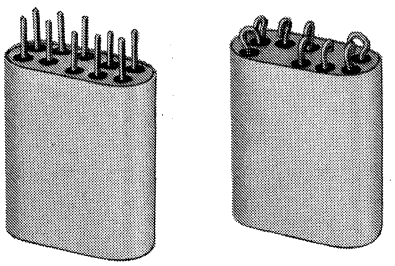
Rely on U.S. Relay for Non-Contamination

Expanded facilities to manufacture non-contaminated products allow U. S. Relay Co. to maintain its Space Age forwardness. Products are assembled in a dust-free atmosphere, electrostatically filtered to eliminate 95% of all airborne particles. Test laboratories simulate extremes of humidity, temperature, altitude and random-noise vibrations encountered in jet and rocket flight.



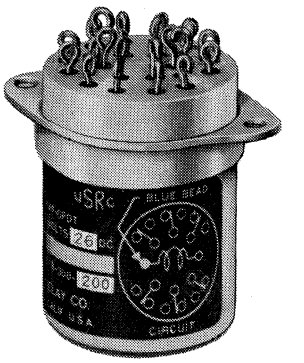
TYPE S-310 SERIES, 2 PDT

Voltage	to 110 VDC
Sensitivity	to 100 m. w.
Contact Load at 29 VDC—3 Amp.	
Temperature	to 125° C.
Terminals and mounting optional.	
Hermetically sealed.	



TYPE M-101 AND M-102, 2 PDT

Magnetic latch or Standard.	
Crystal case size.	
Voltage	to 110 VDC
Contact Load at 29 VDC—5 Amp Res.	
Temperature	to 125° C.
Terminals and mounting optional.	
Hermetically sealed.	



TYPE S-308-200 SERIES, 6 PDT

Voltage	to 200 VDC
Contact Load at 29 VDC 5 Amp. Res.	
Temperature	125° C.
Available in 4 PDT 10 Amp.	
Terminals and mounting optional.	
Hermetically sealed.	

TYPE S-316-208, 4 PDT
Transistorized—Sensitive

Normal Operating Voltage: 24-28 VDC.	
Pickup signal current—3 m. a. max.	
Pickup signal power—50 m. w. max.	
Contact Load at 29 VDC 10 Amp.	
Temperature to 125° C.	
Available in 6 PDT 5 Amp.	
Hermetically sealed.	

Rely on U. S. Relay to meet missile age vibration requirements.

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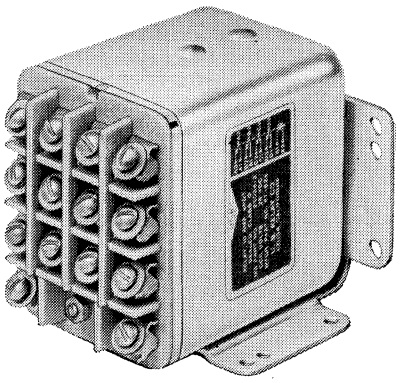
U.S. RELAY

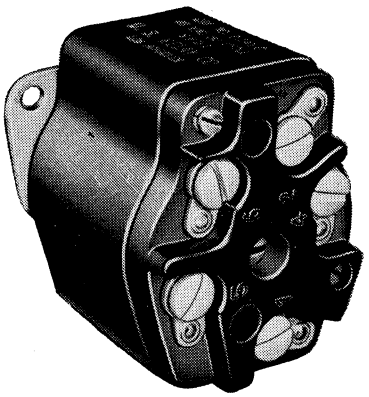
Rely on U.S. Relay for Performance

New manufacturing methods and assembly techniques give U. S. Relay products outstanding performance. A comprehensive engineering service is available to "customerize" relays to the most exacting specifications. Performance is assured by "miss-detection" tests before final shipment.



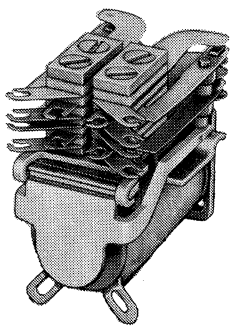
TYPE 47-624, 4 PDT

Voltage	to 200 VDC
Contact Load at 29 VDC – 10 Amp.	
Temperature	to 125°
Meets minimum current requirements of MIL-R-6106B.	
Screw terminals.	
Also available – 115 VAC, 400 Cy.	
Hermetically sealed.	



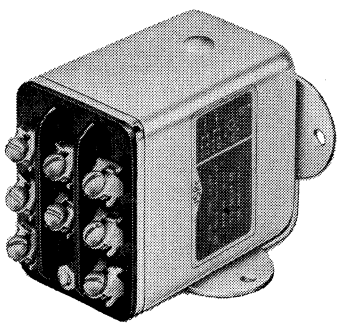
TYPE C-141, SPDT FORM A, B, or C

General purpose Motor Starter.
Listed by Underwriters' Laboratories, Inc.
Std. coil Voltages to 220 VAC, 60 Cy.
Contact Load: 1 H.P. at 115 VAC; 1½ H.P. at 220 VAC.
Available for DC coil operation.
Dust-proof enclosure.



TYPE T12, 4 PDT TELEPHONE

Voltage	to 150 VDC
Contact Load at 29 VDC 5 Amp.	
Temperature to 125° C.	
Mounted by four 3-48 screws.	
Available hermetically sealed.	



TYF " 20-611, 2 PDT

Voltage	to 200 VDC
Contact Load at 29 VDC 10 Amp.	
Temperature to 125° C.	
Meets minimum current requirements of MIL-R-6106B.	
Screw terminals.	
Also available: 115 VAC, 400 Cy.	
Hermetically sealed.	

And rely on U. S. Relay for a complete line of relay types.

U. S. RELAY CO. THE ELECTRONIC DIVISION OF A·S·R PRODUCTS CORPORATION
717 N. Coney Ave., Azusa, Calif. • Phone EDgewood 4-8206; CUmberland 3-8241

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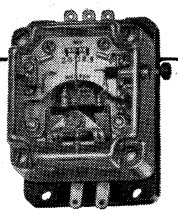
WESTON *Sensitive* RELAYS

instrument mechanism types

A DAYSTROM UNIT

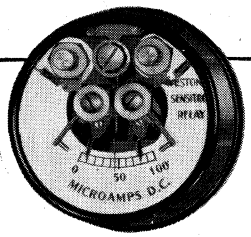


MINIATURE SENSITIVE RELAYS

Make contact on as little as 50-0-50 microamps d-c or 50-0-50 millivolts d-c. Non-magnetic (non-locking) contacts — Contact Capacity: 35 ma at 6 volts d-c non-inductive—Over-all Size: 2.16" x 1.55" x 1.34"—Wt.: approx. 3.5 oz.

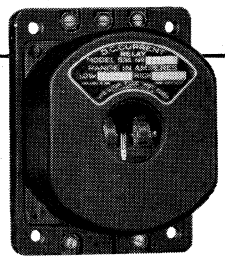
FULLY ADJUSTABLE SENSITROL RELAYS

Low cost, all-purpose relays offer accurately repeatable range settings with single adjustment. Can be set to close at any d-c value from 5 to 50 micro-amps or 10 to 100 millivolts . . . handle 100 milliamps at 120 volts a-c without chatter. Built-in re-set mechanisms and locking magnetic contacts. 3½" round flush case — 1½" deep. Wt.: approx. 3 oz.



SENSITROL RELAYS

Make contact on as little as ¼-0-¼ microamp d-c or 0.5-0-0.5 millivolts d-c (A-C rectifier types available). Magnetic (locking) contacts — Solenoid (remote) or manual reset. Single or double contact types with preset of adjustable contacts available. Contact Capacity: 100 ma at 120 volts A-C or D-C. 3" diameter surface mounting or 3½" diameter flush mounting cases. Sealed or unsealed types. Wt.: 0.7 to 1.3 lbs.

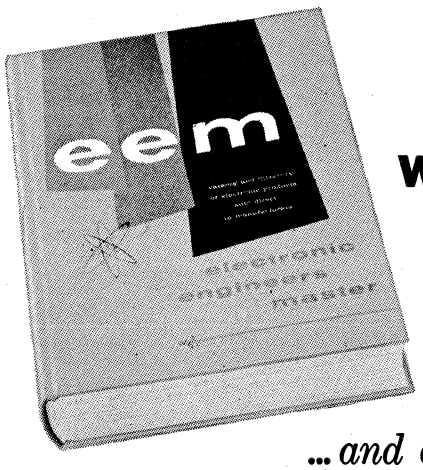


SENSITIVE RELAYS

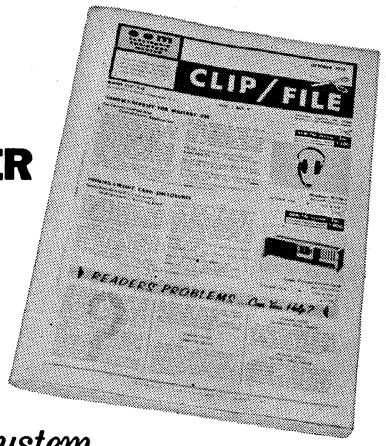
Make contact on as little as 7.5-0-7.5 microamps d-c or 7.5-0-7.5 millivolts d-c. Non-magnetic (non-locking) contacts. Single or double contact types available. Contact Capacity: 50 to 200 ma (depending upon relay sensitivity) at 6 volts d-c non-inductive. Size: Surface case 3.25" x 4.5" x 2.88" or 3½" diameter flush case.

Complete relay catalog available by writing WESTON INSTRUMENTS, Newark 12, N. J. . . . Division of Daystrom Inc.

Order from Local Electronic Parts Distributor or Write for List.



WORKING TOGETHER TO GIVE YOU COMPLETE PRODUCT INFORMATION



... and a self-indexing filing system

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See complete details on inside back cover.

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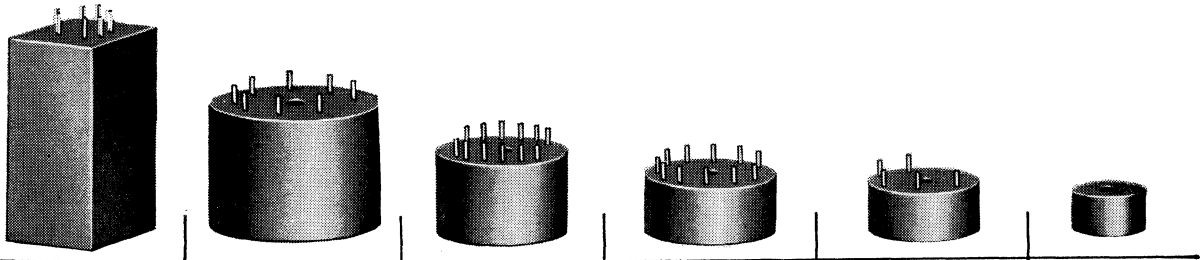
ARNOLD TRANSFORMERS

INDUCTORS / MAGNETIC AMPLIFIERS

—built for maximum precision and reliability . . . to military standards

Arnold builds small-size, lightweight units designed for exacting performance in precision military circuits. Fully encapsulated and hermetically sealed, these units withstand environment of MIL-E-5272A and MIL-T-27A. Units are furnished for either chassis mounting or printed circuit boards.



0.95" x 1.12" x 1.87" hi. 1.8 oz.	1⅝" OD x 1⅛" hi. 2.6 oz.	1¼" OD x ¾" hi. 1.1 oz.	1¼" OD x 17/32" hi. 0.6 oz.	1⅛" OD x 15/32" hi. 0.5 oz.	11/16" OD x ⅜" hi. 0.2 oz.

POWER TRANSFORMERS

Series	pri. voltage	sec. voltage	sec. power	size
535	115V 400 ~	any, 1 to 100	1 watt	1.062" OD x 0.469"
533	115V 400 ~	any, 1 to 1000	20 watts	1.625" OD x 1.125"
77	115V 400 ~	any, 1 to 1000	50 watts	15/16" x 2 5/16" x 2⅞" high

(other types available at 100, 150 and 200 watts.)

SIGNAL TRANSFORMERS

Series	turns ratio	input imp.	output imp.	size
791	any, 1:1 to 1:1000	from 120K to 720K	120K to 0.72K	1.062" OD x 0.469"

(other types available for transistor, servo and modulator circuits.)

INDUCTORS

Series	inductance	max. "Q"	freq. range	size
781	any, 1 to 7000mh	from 55 to 145	100cps to 80KC	1.062" OD x 0.469"
782	any, 0.1 to 500mh	from 50 to 168	10 KC to 100 KC	1.062" OD x 0.469"
783	any, 1 to 3000mh	from 50 to 190	10 KC to 500 KC	1.062" OD x 0.469"
784	any, 1 to 17000mh	from 52 to 175	60 cps to 50 KC	1.437" OD x 0.750"
785	any, 1 to 7000mh	from 50 to 240	1 KC to 100 KC	1.437" OD x 0.750"

(other types available for filter, oscillator and choke applications.)

MAGNETIC AMPLIFIERS

Series	control voltage	output voltage	output power	size
800	from 0.7 to 20VDC	from 30 to 300VDC	12 watts	1.437" OD x 1.250"

(These and other types available for servomotor, regulator and static relay applications. Other powers also available.)

Send For Complete Catalog

ARNOLD MAGNETICS CORPORATION

4613 West Jefferson Blvd., Los Angeles, Calif. • REpublic 1-6344

See YELLOW SECTION for Local Offices, Telephone, etc.

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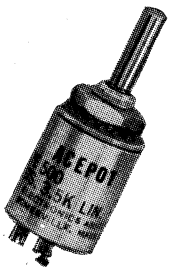
ACE Potentiometers - Trimmers - Relays

RELIABILITY IN MINIATURIZATION

ACEPOT®-500 ACEPOT X-500*

Sub-miniature, linear and non-linear potentiometers. Single turn unit, ½" size, ±2% resistance tolerance and ±0.3% ind. linearity.



actual size

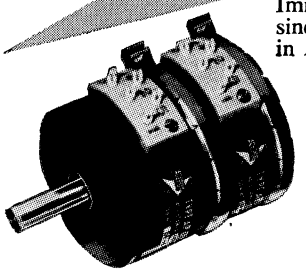
Size	½" x ½"
Weight	0.25 ounce
Resistance Range	2Ω to 500K
Resistance Tolerance	±2%
Linearity	±0.3% Ind. standard
Temperature*	−55°C to 125°C*
Mechanical Rotation	Continuous or with stops
Electrical Angle	325° std. ≷ available
Resolution	0.12% for 50 K Others comparable
Torque**	.05oz./in. at 20°C (Bronze) .035oz./in. (Ball bearing)
Power	2W for 60°C rise or 2.5W for 65°C (X-500)
Mounting	Threaded bushing, servo, flush or flanged. Ganged up to 6 cups.

* X-500 standard high temperature potentiometer. Range: −55°C to 150°C.

**Jewel bearing Acepot torque of .014 ounce/inch.

ACEPOT®

Standard non-linear and linear potentiometers. 0.25% terminal conformity with out padding resistors. Immediately available in sine, cosine, square law and log functions in AIA sizes.



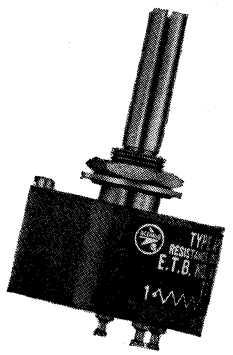
Typical Spec's:

	Sine-cosine	Double Sided Square-law
Size	3"	3"
Resistance	20K ±5% driving	25K ±5% driving
Conformity	½% pk-pk	±0.25%
Function angle	360°	±180°
Power	4 watts	3 watts
Mounting	Servo	Servo

Submit your design requirements to our Engineering Group for evaluation and quotations.

ACEMHO*

Conductive plastic element. Infinite resolution. Extremely long life. No sudden open-circuit failure possible. Low, low noise. Meets JAN & MIL specs.

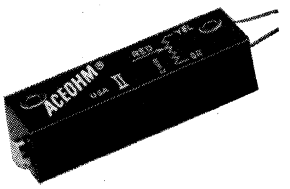


Size	1⅝"
Weight	1.6 ounce
Resistance	to 5 megohm
Linearity	.5% Independent
Resolution	essentially infinite
Power	2W at 20°C
Mounting	Bushing

*Reg. applied for

ACEOHM®

Sub-miniature trimmers . . . high temperature, humidity proof for severe environment.



actual size

Size	1¼" x ¼" x 5/16" Standard Mounting holes
Weight	0.2 ounce
Resistance Range	10Ω to 75K — Special to 150K
Mechanical Rotation	25 Turns on lead screw, adjustable over 100% of winding
Power Rating	1.6W at 40°C Derates to 0 at 225°C
Temperature Range	−55 to 225°C
Resolution	.13% for 75K. Other resistances comparable
Dielectric Strength	1000 volt DC for 60 sec.
Load Life	1000 hours at 180°C
Capacitance	Extremely low distributed capacity (moulded hi temp. phenolic case & cover)

Completely sealed element. Meets and surpasses all applicable requirements of MIL-E-5272A and MIL STD. 202A.

ACESET®

Sub-miniature Trimmers. Heat dissipation . . . 2 watts at 60°C. Immediate delivery in resistances of 50Ω to 50 K.

actual size

Size	½" x 5/16"
Weight	⅓ ounce, including lock washer and nuts
Resistance Range	50Ω to 100K ±10% std. tol.
Linearity	±5%
Temperature Range	−55°C to +125°C
Mechanical Rotation	330° Nominal
Electrical Angle	320° Nominal
Power	2 watts for 60°C. rise
Mounting	¼"-32 threaded bushing

ACETRIM®

Sub-miniature trimmers . . . A wide range of resistances are available in this low-cost, space and weight saving unit.

actual size

Size	½" x ½"
Weight	0.25 ounce
Resistance Range	2Ω to 250K ±5% std. tol.
Linearity	±3%
Temperature	−55°C to 125°C (to 150°C (X-500)
Mechanical Rotation	continuous or with stops
Electrical Angle	325° std. ≷ available
Power	2W for 60°C rise or 2.5W for 65°C
Mounting	Threaded bushing, printed circuit, flush, flanged, ganged.

Exact requirements for your particular applications, can be custom designed and mass produced with short lead time. All units are anti-fungus treated and fully sealed against dust, moisture and humidity. Meets applicable JAN-MIL specs including shock and vibration. Send us your specifications for engineering assistance on designs and applications. Complete Fact File and Application Data Sheets available on request. CALL, wire or teletype Dept. A3 at Ace Electronics Associates, Inc., 99 Dover Street, Somerville, Mass. SOmerset 6-5130, TWX SMVL 181.

ACEPOT®
ACETRIM®
ACESET®
ACEOHM®

ACE ELECTRONICS ASSOCIATES INC.

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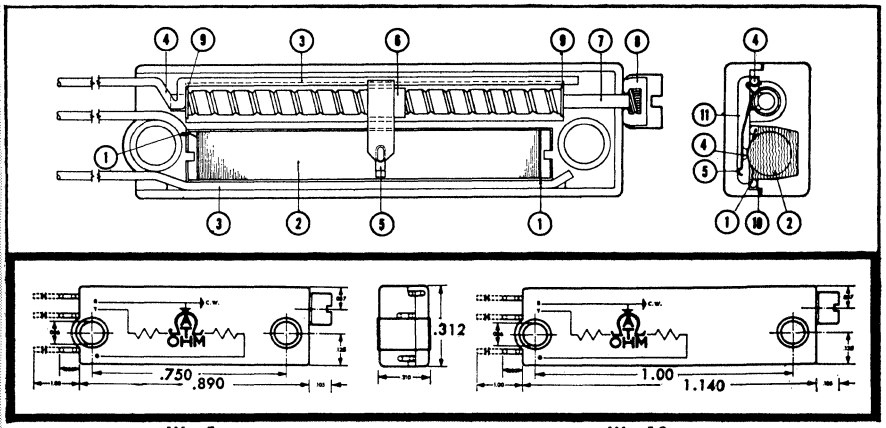
ATOHM ELECTRONICS

MINIATURE POTENTIOMETERS and TEST EQUIPMENT

Wire-wound completely miniaturized trimmer potentiometers, combining accuracy, stability, ruggedness and dependability. Once set, they will remain AT OHM setting through a wide range of environmental conditions. A component worthy of incorporation into any electronic or control system having stringent design requirements. See "How to Specify", below.

Quality control throughout manufacture is maintained in accord with MIL-Q-5923. You are assured a dependable source of supply and on-time delivery from our production facilities and stock.

1. All-welded internal connections.
2. Welded connections and winding potted in high-temperature epoxy.
3. Full length terminals dissipate heat.
4. Double connection — rotating and sliding for positive contact with wiper.
5. Wiper arm made of precious metal, completely damped.
6. New ratcheting design, no backlash at any point, constant wiper pressure.
7. Stainless steel adjustment screw.
8. Kel-F insulator provides moisture and dust barrier.
9. "U" washers maintain positive screw tension.
10. Interlocking case has high-temperature epoxy seal, stainless steel eyelets.
11. Ratio of mass to interior space is 9 to 1 for extra strength.



W - 5 W - 10

PHYSICAL SPECIFICATIONS

Terminals . . . stainless steel solder lugs or 1" x 0.020" solid leads (both plated gold on copper) or flexible wire leads.

Head Screw . . . stainless steel with Kel-F seal and insulator.

Mechanical Stops . . . none (wiper assembly ratchets).

Mounting . . . two #2 screws through stainless steel eyelets.

Case Material . . . heat resistant to 500° F.

Shaft Torque . . . 7 in.-oz. maximum.

Connections . . . welded.

Wiper Arm . . . precious metal.

Wiper Arm Adjustment . . . slotted screw, 25 turns, W-10; 18 turns, W-5.

Backlash . . . none in any position.

Marking . . . manufacturer's name, wiring diagram, resistance, and either mfr.'s or customer's part number and date coding.

STANDARD RESISTANCE VALUES

W — 5		W — 10	
Ohms	Ohms	Ohms	Ohms
10	5 K	10	5 K
20	10 K	20	10 K
50	20 K	50	20 K
100	25 K	100	25 K
200	30 K	200	30 K
500	40 K	500	40 K
1 K	50 K	1 K	50 K
2 K		2 K	100 K
2.5 K		2.5 K	150 K

ELECTRICAL SPECIFICATIONS

Power Rating . . . (W-10) 2 watts @ 70° C. to 0 @ 200° C.; (W-5) 2 watts @ 70° C. to 0 @ 200° C.

Resistance Values . . . (W-10) 10 Ω to 150K Ohms; (W-5) 10 Ω to 50K Ohms.

End Resistance . . . 1% max.

Insulation Resistance . . . 500 VDC @ room temp., 1,000 megohm min.

Resistance Tolerance . . . ± 5% to 1% (special).

Resolution . . . .91% to .088% (W-10).

Load Life . . . 1,000 hrs. @ 125° C., MIL-R-19A.

Temperature Coefficient of Wire . . 0.00002/°C.

Temperature Coefficient of W-5 and W-10 . . . 0.00002/°C. to 0.00005/°C.

HOW TO SPECIFY

Model	Type Lead	Resistance in Ohms
W- 5	L (solder lugs)	(specify)
W-10	P (printed circuit solid leads)	resistance required)
	F (flexible, insulatel wire)	
	Others—specify	

Example: W-10 — L — 10 (W-10, solder lugs, 10 ohm)

ENVIRONMENTAL SPECIFICATIONS

Temperature Range . . . —55° C. to 200° C., MIL-E-005272B.

Vibration . . . 20 G's @ 125° C., MIL-E-005272B.

Acceleration . . . 30 G's, MIL-E-005272B.

Shock . . . 100 G's @ 10 M.S., MIL-E-005272B.

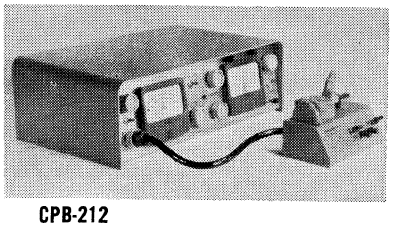
Altitude . . . 900 V M.S.L., 450 V-75,000 Ft. MIL-STD-202, Method 105.

Noise . . . NAS-710.

Humidity . . . 10 days, MIL-STD-202A, Method 106.

Salt Spray . . . 50 hrs. MIL-E-005272B.

Rotational Life . . . 500 cycles, 25,-000 rev. MIL-R-19A.



CPB-212

CONTINUITY PERCENTAGE BRIDGE POTENTIOMETER TESTER

Available for the first time — a complete Motorized Trimmer Potentiometer Tester. The CPB - 212 is singularly unique in that it provides Accurate and Sensitive Measurements on all of the electrical characteristics normally required for Production Line Testing, or for Incoming Inspection Testing of precision trimmer potentiometers. Measures 19¼" wide, 6¼" high, 12" deep.

CONTROL HEAD (Finger Tip Control) will give the following:

- Total Resistance, as compared to Standard, expressed in percentage.
- Selection of Voltage Divider Circuit, Ohmeter Circuit, or End Resistance.
- Forward and Reverse Control of constant speed motor.

HP - 217 HIGH POTENTIAL TEST SET

One of a series of Matched Test Equipment by Atohm Electronics. For accurate testing to MIL Specifications, or for general laboratory use. Measures 9½" wide, 6¼" high, 8" deep.

- Provides positive, non-destructive Hi-Pot checking, with special current limiter design.
- Voltage is infinitely variable — from 0 to 1500 VAC. Other ranges avaliable.
- Leakage is indicated by a panel light controlled by a highly sensitive circuit.
- Direct shorts are indicated by a panel light controlled by a guarded circuit.
- The Atohmized Case Design is engineered and styled for operator efficiency, comfort and safety.

ATOHM Electronics

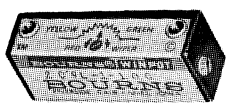
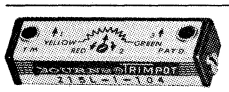
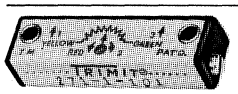
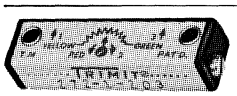
7648 San Fernando Road
Sun Valley, California
STanley 7-9873

See YELLOW SECTION for Local Offices, Telephone, etc.

©Electronic Engineers Master (eem) 1959

ONLY BOURNS—ORIGINATOR OF TRIMPOT®—

14 standard models to fit your circuit design

DESCRIPTION AND MODEL	Reg. Trademark	Terminals ①	Resistances (Ohms) ②	End Settings (%)	Power Rating (Watts)	Max. Oper. Temp. (°C)	Humidity Proof (Mil Specs) ④	Size (Inches) H	Size (Inches) W	Size (Inches) L	Standard Resist. (Ohms)	Price 1-9	Price 10-24	Price 25-49
General Purpose Wirewound — 200	Trimpot	L, S, P	10Ω to 50K	0-0.7③	0.25	105	No	5/16	1/4	1 1/4	10 to 10K 20K & 25K 50K	$ 4.86 6.48 7.56	$ 4.50 6.00 7.00	$ 4.05 5.40 6.30
High Resistance Wirewound — 207	Hi-R	L	100Ω to 100K	0-0.2⑤A	2.0	175	No	1 3/16	9/32	1 1/4	100 to 50K 100K	10.26 11.88	9.50 11.00	8.55 9.90
 Dual Element Wirewound — 209	Twinpot	L	10Ω to 20K	0-0.1③	0.25	105	No	5/16	1/2	1 1/4	10 to 10K 20K	12.96 14.58	12.00 13.50	10.80 12.15
 General Purpose Carbon — 215	Trimpot	L, S, P	20K to 1 Meg	0-1.0	0.25	125	Yes	5/16	1/4	1 1/4	20K to 1 Meg	4.86	4.50	4.05
Micro Miniature Wirewound — 220	Trimpot Jr.	L, W	100Ω to 20K	0-0.1③	1.0	175	Yes	.315	.17	1	100 to 10K 20K	8.64 10.26	8.00 9.50	7.20 8.55
High Temperature Wirewound — 224	Trimpot	L, S, P	100Ω to 50K	0-0.1③	1.0	175	Yes	.31	.19	1 1/4	10 to 10K 20K 50K	7.02 8.64 9.18	6.50 8.00 8.50	5.85 7.20 7.65
Humidity-Proof Wirewound — 236	Trimpot	L, S, P	10Ω to 50K	0-0.1③	0.8	135	Yes	.36	.30	1.34	10 to 10K 20K 50K	7.02 8.64 9.18	6.50 8.00 8.50	5.85 7.20 7.65
High Temperature Wirewound — 260	Trimpot	L, S, P	10Ω to 50K	0-0.1③	1.0	175	No	5/16	1/4	1 1/4	10 to 10K 20K 50K	5.94 7.56 8.10	5.50 7.00 7.50	4.95 6.30 6.75
 Commercial Potentiometer Wirewound — 271, 273, 275	Trimit	L S P	100Ω to 10K	—	0.25	85	No	5/16	1/4	1 1/4	100 to 10K	1.94	1.80	1.62
 Commercial Potentiometer Carbon — 272, 274, 276	Trimit	L S P	20K to 1 Meg	—	0.2	85	No	5/16	1/4	1 1/4	20K to 1 Meg	1.94	1.80	1.62

Near-as-your-phone technical service, immediate delivery—

ALABAMA
HUNTSVILLE
Curle Radio Supply No. 2
101 Winston Street
Phone: JE 4-6511

ARIZONA
PHOENIX
Radio Specialties & Appliance Corp.
Post Office Box 2229
917 North Seventh Street
Phone: AL 8-6121

CALIFORNIA
GLENDALE
R. V. Weatherford Co.
6921 San Fernando Road
Phone: THornwall 5-3551
Victoria 9-2471
INGLEWOOD
Liberty Aircraft, Inc.
9817 Inglewood Avenue
Phone: ORegon 8-7163
LOS ANGELES
Kierulff Electronics, Inc.
820-30 W. Olympic Blvd.
Phone: RIchmond 7-0271
ZEnith 0271
OAKLAND
Elmar Electronics
140 Eleventh Street
Phone: HIgate 4-7011
TWX: OA-73
RIVERSIDE
■**Bourns Laboratories, Inc.**
Post Office Box 2112
6135 Magnolia Avenue
Phone: OVerland 4-1700
TWX: RZ 9266
SACRAMENTO
Sacramento Electronic Supply Co.
1219 S. Street
Phone: HU 1-4821
SAN DIEGO
Western Radio and Television Supply Co.
Post Office Box 1728
1415 India Street
Phone: BEImont 9-0361
SAN FRANCISCO
Pacific Wholesale Co.
1850 Mission Street
Phone: KLondike 2-0700
■**William J. Purdy Co.**
312 Seventh Street
Phone: UNderhill 3-3300

COLORADO
DENVER
Denver Electronic Supply Co
1254 Arapahoe Street
Phone: AMherst 6-1671
TWX: DN 941
■**Hyde Electronics Co.,**
888 South Lipan St.
Phone: WEst 6-3456
TWX: DN 888

CONNECTICUT
NEW HAVEN
□**Gerber Sales Co.**
443 Winthrop Ave.
Phone: SPruce 7-6279
Radio Shack Corp.
230-234 Crown St.
TWX: NH 466

D. C.
WASHINGTON
Capitol Radio Wholesalers, Inc.
2120-22 Fourteenth Street, N.W.
Phone: HObart 2-0800

FLORIDA
MIAMI
Electronic Supply
61 N.E. Ninth Street
Phone: FRanklin 9-4512
TWX: MM 186
MELBOURNE
Electronic Supply
Post Office Box 1655
909 Morningside Drive
Phone: 1735
TWX: 7138
ORLANDO
□**V. Avis McCorvey Co.**
708 San Juan Blvd.
Goddard — Orlando
631 W. Central Avenue
Phone: GA 5-5531
ST. PETERSBURG
Electronic Supply
Suite 810, Times Building
440 First Avenue South
Phone: ORange 1-5171
TAMPA
Goddard — Tampa
601 Morgan Street
Phone: 2-1595
WEST PALM BEACH
Goddard Distributors, Inc.
Post Office Box 829
1309 North Dixie
Phone: TEmple 3-5701

GEORGIA
ATLANTA
Electro Air Corporation
645 Antone Street, N.W.
Phone: TRinity 3-1651
DECATUR
■**V. Avis McCorvey Co.**
215 Church Street
Phone: CRescent 6167
ELBERTON
□**V. Avis McCorvey Co.**
211 Highland Drive

ILLINOIS
CHICAGO
Allied Radio Corp.
100 North Western Ave.
Phone: HAymarket 1-6800
■**Gassner and Clark Co.**
6644 North Western Ave.
Phone: ROgers Park 4-6121
TWX: CG 2328

INDIANA
FORT WAYNE
Ft. Wayne Electronics Supply, Inc.
3606 Maumee Ave.
Phone: EAstbrook 3431
INDIANAPOLIS
Graham Electronics Supply, Inc.
122 South Senate
Phone: MElrose 4-8488
■**Robert O. Whitesell & Assoc.**
6620 East Washington St.
Phone: FLeetwood 9-5374
SOUTH BEND
Radio Distributing Co., Inc.
1212 High St.
Post Office Box 1499
Phone: ATlantic 8-4779

IOWA
CEDAR RAPIDS
Gifford-Brown, Inc.
Post Office Box 1668
618 First St., N.W.
Phone: EMpire 4-2491

MARYLAND
BALTIMORE
Kann-Ellert Electronics, Inc.
Howard & Redwood Streets
Phone: SAratoga 7-4242
TWX: BA 587
SILVER SPRING
Kann-Ellert Electronics, Inc.
11222 Triangle Lane
Phone: LOckwood 5-5200
TOWSON
■**Thomas H. Closs Co.**
21 West Pennsylvania Ave.
Phone: VAlley 5-4445

MASSACHUSETTS
BOSTON
Radio Shack Corporation
730 Commonwealth Ave.
Phone: LAfayette 3-3700
TWX: BS 262
BROOKLINE
■**Gerber Sales Co.**
48 Pearl St.
Phone: BEacon 2-2425
TWX: BKN 1073
CAMBRIDGE
Electrical Supply Corp.
205 Alewife Brook Parkway
Phone: UNiversity 4-6300
TWX: CAMB MASS 429

MICHIGAN
DETROIT
■**ABM Sales Co.**
10116 Puritan Ave.
Phone: UNiversity 2-1300
Ferguson Electronic Supply
2306 Puritan Street
Phone: UNiversity 1-6700
TWX: DE 803

MINNESOTA
MINNEAPOLIS
Lew Bonn Co.
1211 LaSalle
Phone: FEderal 9-6351
■**Fred B. Hill Co.**
6110 Excelsior Blvd.
Phone: WEst 9-6727
TWX: MP 418

MISSOURI
FLORISSANT
■**McDowell Redlingshafer Sales Co.**
Post Office Box No. 177
Phone: Temple 7-7558
KANSAS CITY
□**McDowell Redlingshafer Sales Co.**
Suite 327, Jewell Building
1103 East Armour
Phone: WEstport 1-5622
ST. LOUIS
Insterstate Supply Co.
4445 Gustine Ave.
Phone: Flanders 1-7585

NEW JERSEY
CAMDEN
■**Boenecke Assoc.**
638 Penn Street
Phone: WOodlawn 4-8650 (N.J.)
LOmbard 3-3518 (Phila.)
General Radio Supply Co., Inc.
600 Penn Street
Phone: WOodlawn 4-8383 (N.J.)
WAlnut 2-7037 (Phila.)
CLIFTON
Eastern Radio Corp.
312 Clifton Ave.
Phone: GRegory 1-6600

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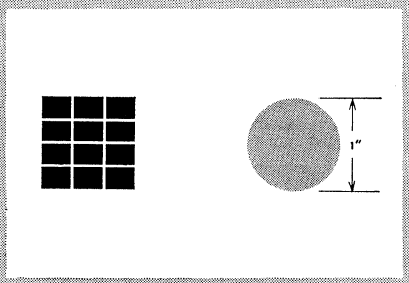
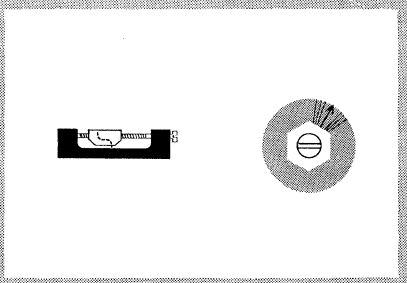
OFFERS THIS MUCH IN MINIATURE POTENTIOMETERS

...and to solve these 3 basic problems



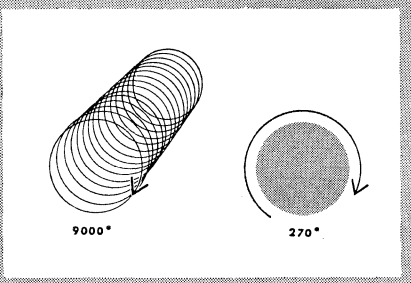
PROBLEM 1—TIGHT SPACE

Bourns potentiometers are rectangular and most are so small you can pack from 12 to 17 into a one-square-inch panel space. They fit into corners, between other components, flat against a chassis or printed circuit—even in stacked assemblies.



PROBLEM 2—ADJUSTMENT STABILITY

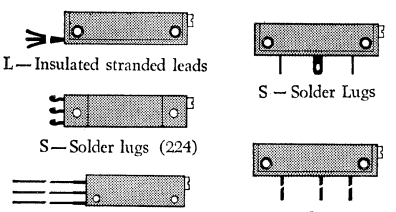
Bourns potentiometers are virtually immune to shock or vibration—screw-type shaft locks at any position, without use of lock nuts. Circuit adjustments made at your factory remain stable in the field.



PROBLEM 3—SETTING ACCURACY

Bourns potentiometers are 33 times as accurate as conventional single-turn rotary types. Repeat settings, circuit balancing, calibration—adjustments of all types are easier, faster, more precise.

① Key to terminal types.



② Standard resistances (ohms)

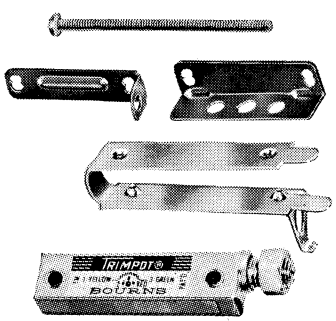
10	200	5K	100K
20	500	10K	200K
50	1K	20K	500K
100	2K	50K	1 meg

Units are available in these resistances within resistance limits shown in chart. Other resistances available on special order.

③ or 0 to 0.5 ohms, whichever is greater.

④ or 0 to 1.0 ohms, whichever is greater.

⑤ All models listed except commercial potentiometers are sealed against sand and dust and are splash-proof.



Mounting screws, mounting brackets, and clip brackets for panel mounting are available from factory or local distributor stock to adapt Bourns potentiometers to virtually any mounting situation.

approximately 500,000 units stocked in over 90 key U.S. locations

MOUNTAINSIDE
Federated Purchaser, Inc.
1021 U.S. Route 22
Phone: ADams 2-8200
TWX: WSFD NJ 319

NEW MEXICO
ALAMAGORDO
Radio Specialties Co.
209 Penn Ave.
Phone: HEmlock 7-0370
ALBUQUERQUE
Electronic Parts Co.
222 Truman St., N.E.
Phone: ALpine 6-0946
□**Hyde Electronics Co.**
5206 Constitution Ave., N.E.
Phone: AMherst 8-1111

NEW YORK
BUFFALO
Radio Equipment Corp.
312 Elm Street
Phone: MAdison 9676
JAMAICA
Peerless Radio Dist., Inc.
92-32 Merrick Road
Phone: REpublic 9-6080
MINEOLA, L.I.
Arrow Electronics, Inc.
525 Jericho Turnpike
Phone: Pioneer 6-8686
TWX: G CY NY 460
Schweber Electronics
Post Office Box 669
60 Herricks Road
Phone: Pioneer 6-6520
NEW YORK
Harrison Radio Corp.
225 Greenwich Street
Phone: BArclay 7-7777
TWX: NY 1-177
Harvey Radio Company, Inc.
103 West 43rd Street
Phone: JUdson 2-1500
Hudson Radio and TV Corp.
37 West 65th Street
Phone: TRafalgar 3-2900
Milo Electronics Corporation
530 Canal Street
Phone: BEekman 3-2980
TWX: NY 1-1839
Sun Radio and Electronics
650 Sixth Ave.
Phone: ORegon 5-8600
TWX: NY 1-4022
Terminal Radio Corp.
85 Cortlandt Street
Phone: WOrth 4-3311
ROCHESTER
Rochester Radio Supply Co., Inc.
600 East Main St.
Phone: LOcust 2-9900
SYRACUSE
■**Wally B. Swank**
2310 Bellevue Ave.
Phone: GRanite 8-2141
Syracuse Radio Supply Co.
620 South Salina Street
Phone: 74-2927
VALLEY STREAM, L.I.
■**D. R. Bitton Co.**
104 South Central Ave.
Phone: LOcust 1-2444
TWX: Valley Stream, N. Y. 1046

NORTH CAROLINA
WINSTON-SALEM
Dalton-Hege Radio Supply Co., Inc.
912 West 4th St.
Phone: 5-8711
TWX: W-Sal 373

OHIO
AKRON
Akron Electronic Supply, Inc.
107-117 South Arlington St.
Phone: POrtage 2-8818
CINCINNATI
Herrlinger Distributing Co.
Fifteenth and Vine Streets
Phone: CHerry 1-7273
□**Robert O. Whitesell & Assoc.**
Beerger Building
Post Office Box 2717
Phone: MElrose 1-9210
COLUMBUS
Thompson Radio Supplies, Inc.
182 East Long St.
Phone: CApitol 1-7434
DAYTON
□**Neal Bear Corp.**
2801 Far Hills Ave.
Phone: AKminster 9-3566
TWX: DY 212
The Stotts-Friedman Company
108-112 North Jefferson Street
Phone: BAldwin 4-1111
WEST RICHFIELD
■**Neal Bear Corp.**
3435 Streetsboro Rd.
Phone: OLiver 9-3321
TWX: W. Richfield Ohio 212

OKLAHOMA
TULSA
Indel Supply, Inc.
Post Office Box 3443
538 South Lewis Avenue
Phone: WE 9-7585

PENNSYLVANIA
(Note: See Camden, N. J. also)
MONROEVILLE
□**Neal Bear Corp.**
1974 Gregory Ave.
Phone: VAlley 3-5117
PHILADELPHIA
Albert Steinberg & Company
2520 North Broad Street
Phone: BAldwin 3-9400
PITTSBURGH
Cameradio Co.
1121 Penn St.
Phone: EXpress 1-4000
TWX: PG 438

RHODE ISLAND
PROVIDENCE
Wm. Dandreta & Co.
28 Wolcott Street
Phone: UNion 1-2800

SOUTH CAROLINA
GREENVILLE
Carolina Radio Supply Co., Inc.
221 W. Washington St.
Phone: CEdar 2-6740

TENNESSEE
NASHVILLE
Electra Distributing Corp.
1914 W. End Ave.
Phone: ALpine 5-8444

TEXAS
DALLAS
Engineering Supply Company
6000 Denton Drive
Phone: Fleetwood 7-6121
■**Southwest Electronic Ind.**
4515 Prentice St.
Phone: FOrest 8-8306
HOUSTON
Harrison Equipment Company, Inc.
Post Office Box 2514
1422 San Jacinto Street
Phone: CApitol 4-9131

UTAH
SALT LAKE CITY
Standard Supply Co.
Post Office Box 1047
225 East Sixth South St.
Phone: ELgin 5-2971

WASHINGTON
SEATTLE
■**Burt C. Porter Co.**
1209 Poplar Place
Phone: EAst 3-8330
TWX: SE 36X
Seattle Radio Supply, Inc.
2117 Second Avenue
Seattle, Washington

CANADA
SCARBOROUGH, ONTARIO
■**Douglas Randall (Canada) Ltd.**
123 Manville Rd.
Phone: PL. 9-2291

EXPORT
EUROPE AND AUSTRALIA
■**Painton and Co., Ltd.**
Kingsthorpe
Phone: 32354-5-6
Cable: Cail, Northampton, England

■Representative, Main Office. □Representative, Branch Office.

All other firms listed are stocking distributors.

Detailed literature available

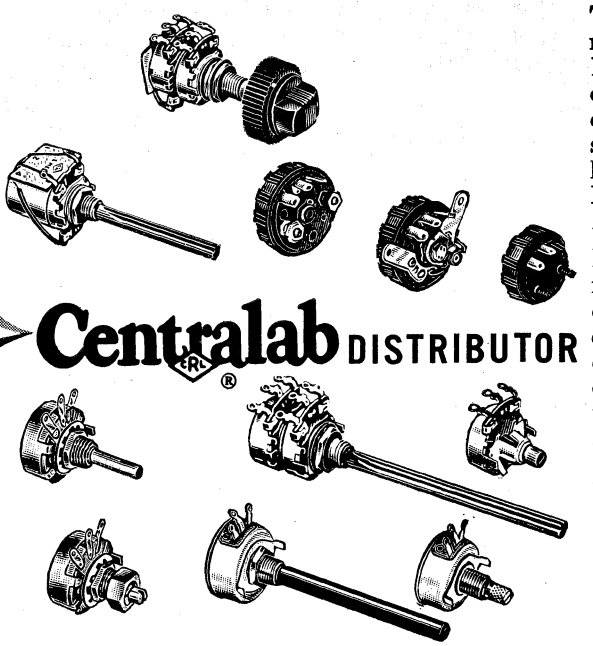
BOURNS

Laboratories, Inc.

P. O. Box 2112X, Riverside, Calif.

See YELLOW SECTION for Local Offices, Telephone, etc.

the VARIABLE RESISTOR you need is listed in the Radio-Electronic MASTER and carried in stock by your



Centralab DISTRIBUTOR

The CENTRALAB line of variable resistors includes the unit *you* need. For military, industrial, communications and many specialized applications, you'll find a CENTRALAB stock variable resistor for the job, listed on pages 1149 to 1153 of the 1959 Edition of *The Radio-Electronic Master.*

Miniature, sub-miniature, ultra-miniature units, wirewound and composition, are available from your distributor's stock. For industrial quantities, your distributor can call on the largest variable resistor inventory in the industry for fast—almost immediate—delivery.

Special variable resistors, built to your specifications, can also be supplied.

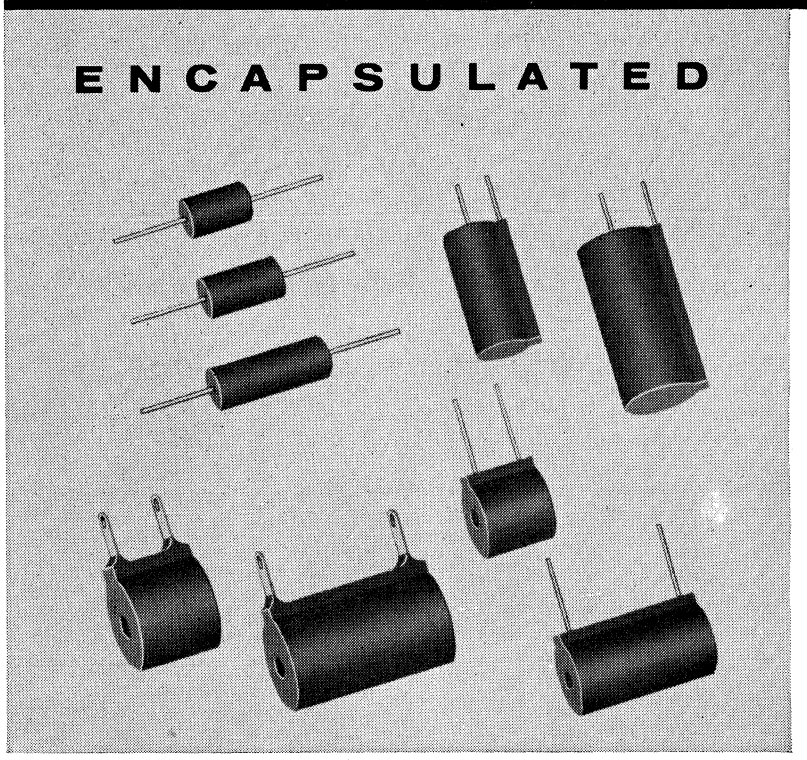
Centralab
B-5915
A Division of Globe-Union Inc.
984 E. Keefe Ave. • Milwaukee 1, Wis.
In Canada: 804 Mt. Pleasant Rd., Toronto, Ont.

Order from Local Electronic Parts Distributor or Write for List.

CINEMA

PRECISION, WIRE-WOUND RESISTORS

ENCAPSULATED



Military and Industrial Types: CE200 and CE400 Series in Cinema's Encapsulated Resistors represent the ultimate in wire-wound resistors exceeding MIL-R-93 and MIL-R-9444 Specifications. Continuous quality control assures resistor capabilities meeting long term applications, rigid environmental tests and specific ratios of resistance and voltage. Accuracies of 1% to .05%. Resistance range from .1 ohm to several megohms. Catalog 14R is available, or send us your specifications.

Ceramic Bobbin Types: Widely used in industrial applications, the Cinema CE500 is consistently the answer to high quality for commercial and industrial laboratories. These resistors meet the economic standards of commercial applications while relaxing only in a few of the most abusive military requirements. Accuracies to .025%. Resistance range from .1 ohm to several megohms. Catalog 14R is available, or send us your specifications.

CINEMA ENGINEERING
DIVISION AEROVOX CORPORATION
1100 CHESTNUT STREET • BURBANK, CALIFORNIA

See YELLOW SECTION for local offices, telephones, etc.

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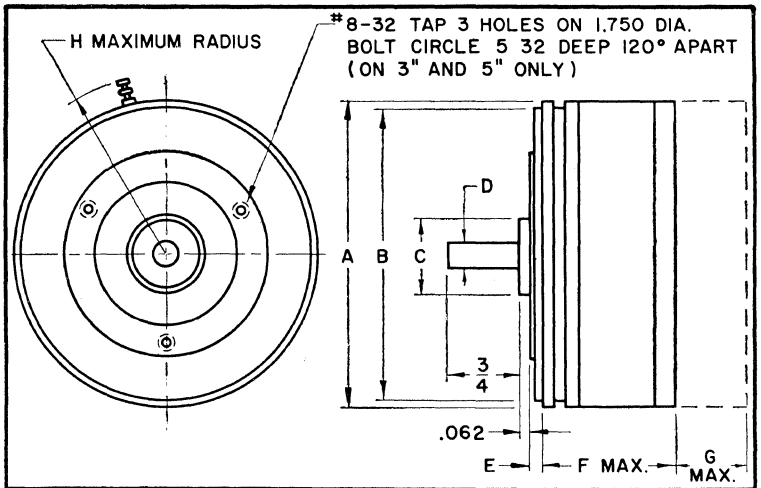
PRECISION

CARBON FILM • POTENTIOMETERS

Infinite Resolution • Long Life • High Accuracy • Low Noise • Low Torque

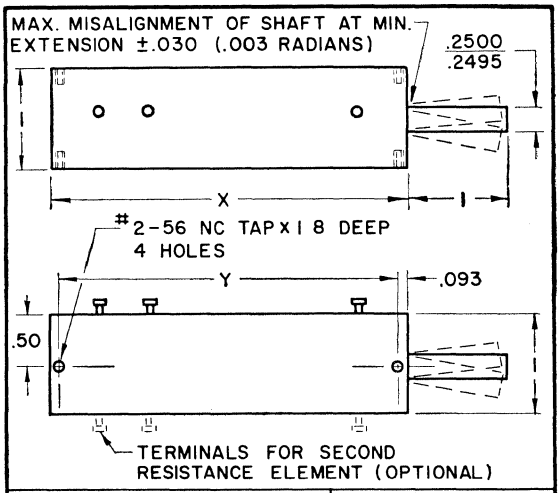
ROTARY



DIMENSIONS					
MODEL	78	105 & 106	205 & 206	305 & 306	505 & 506
A	7/8	1 3/32	2	3	5
B	.7500	1.0300	1.8750	2.8750	4.8750
C	———	———	———	.7500	.7500
D	.1250	.1250	.2500	.2500	.2500
E	.040	.040	.060	.060	.060
F	.635	.635	.985	1.350	1.870
G	.635	.635	.985	1.350	1.870
H	.570	.670	1.125	1.800	2.800

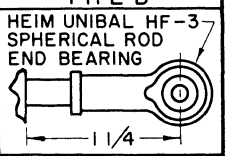
SPECIFICATIONS		
MODEL	LINEAR	SINE-COSINE
MECHANICAL ROTATION	360° CONTINUOUS	
ELECTRICAL FUNCTION ANGLE	350° NOMINAL	360°
RESISTANCE RANGE	1K-250K	500Ω-50K QUAD
BEST LINEARITY OR CONFORMITY	.1% INCH OF DIA.	.3% P-P INCH OF DIA
VIRTUAL RESOLUTION	1/75,000 PER INCH OF DIAMETER	
WATTAGE	DIAMETER x 2	
TEMPERATURE RANGE	-55°C TO 85°C	
TAPS, MAXIMUM NO.	DIAMETER x 6	
STARTING TORQUE (IN.-OZ.)	DIAMETER X .15	DIAMETER X .2
GUARANTEED LIFE	TO 30 MILLION CYCLES	

LINEAR MOTION

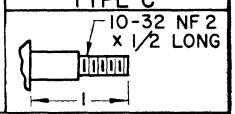


DIMENSIONS		
STROKE	X	Y
1/4" TO 1"	2.125	1.937
1" TO 2"	3.125	2.937
2" TO 3"	4.125	3.937
3" TO 4"	5.125	4.937
4" TO 5"	6.125	5.937
OVER 5"	1.125 +STROKE	.937 +STROKE

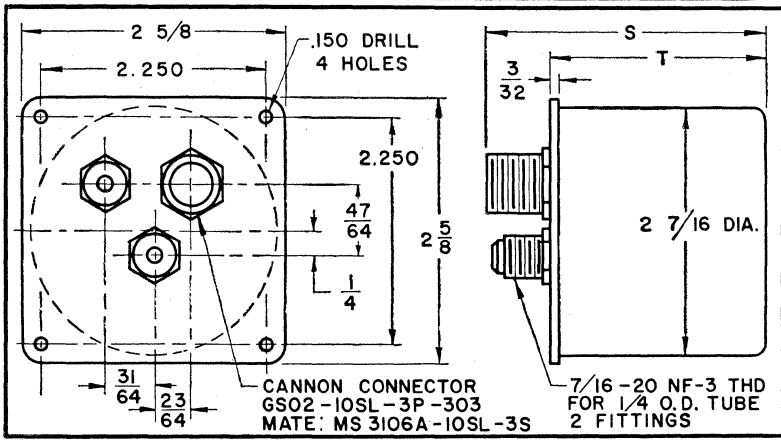
TYPE B



TYPE C



SPECIFICATIONS	
RESISTANCE RANGE	250 MIN. TO 125K MAX. PER INCH OF STROKE
BEST LINEARITY	.2% ÷ LENGTH OF STROKE
VIRTUAL RESOLUTION	1/35,000 PER INCH OF STROKE
WATTAGE	1 WATT PER INCH OF STROKE
TEMPERATURE RANGE	-55°C TO 85°C
TAPS, MAXIMUM NO.	4 PER INCH OF STROKE
STARTING FORCE	.5 LB. MAX. AT 25° C
LIFE	TO 30x10⁶ STROKES DEPENDING ON CIRCUITRY



PRESSURE

SERIES 6000

1	INFINITE RESOLUTION POTENTIOMETER OUTPUT
2	PRESSURE RANGE 0-5 TO 0-5000 P.S.I. GAGE, DIFFERENTIAL, ABSOLUTE
3	LINEARITY ±0.3%
4	DIRECT COUPLED PRESSURE CAPSULE ELIMINATES BACKLASH, FRICTION AND REPEATABILITY ERRORS
5	TEMPERATURE SENSITIVITY LESS THAN .005% °C
6	HIGH OUTPUT VOLTAGE (50 VOLTS MAX. AC OR DC)
7	RUGGEDIZED FOR WORST ENVIRONMENTAL CONDITIONS

DIMENSIONS	0-100 PSI	100-5000 PSI
S	3 3/8	2 3/8
T	2 19/32	1 19/32

FIRST IN FILM POTS

CIC

WRITE FOR COMPLETE CATALOG

COMPUTER INSTRUMENT CORPORATION

90 Madison Avenue, Hempstead, L. I., N. Y.

See YELLOW SECTION for local offices, telephones, etc.

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CRCA SERIES "200" RESISTORS

Precision-Wire-Wound.

Encapsulated Hermetically in Epoxy Resin.

±1% to ±.005%—absolute resistance accuracy at 25°C.

±.001%—max. resistance match in same resistance value.

±.001%/year—maximum drift when shelved.

±.003%—maximum drift subsequent to 5 cycles between —55°C to +125°C. also .01% drift in less critical applications.

±5 ppm/°C—Standard temperature coefficient (over range 0 to 80°C). Also ±10 ppm/°C and ±20 ppm/°C.

±1 ppm/°C—maximum temperature coefficient match.

External temperature limits at rated wattage: —55°C to +125°C.

External temperature limits at double rated wattage: —55°C to +71°C.

Maximum safe operating temperature: +145°C.

Negligible phase angle in resistance values up to 40K ohms.

Conformance to MIL-R93A; MIL-R93B and MIL-R9444.

Regular Delivery: 3 to 5 weeks.

Special Delivery Service: 48 hrs.; 1 week.

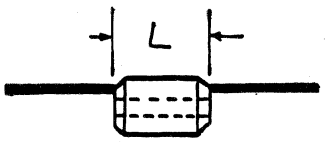
SPECIFICATION CHART

STOCK TYPES AVAILABLE FOR IMMEDIATE DELIVERY
OTHER SIZES, TYPES, STYLES MADE PROMPTLY TO ORDER

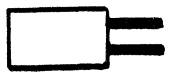
CRCA TYPE			Watts (Comm.)	Dimensions		Max. Resist. .0008" Wire	Center Mounting Screw
Code Number "RB" Type to MIL-R93B		Terminal Style		D Dia. (Inch)	L Length (Inch)		
2	19	AW, OW, RW, AL, OL, RL	2.00	.875	2.125	15M ohms	#6
2	18	AW, OW, RW, AL, OL, RL	1.25	.687	1.312	5M ohms	#6
2	17-1	AW, OW, RW, AL, OL, RL	1.	.687	1.062	5M ohms	#6
2	17	AW, OW, RW, AL, OL, RL	.875	.532	1.062	3M ohms	#6
2	16	AW, OW, RW, AL, OL, RL	.750	.687	.687	2M ohms	#6
2	15	AW, OW, RW, AL, OL, RL	.500	.532	.562	1.5M ohms	#6
2	88	CAW, OW, RW	.330	.312	.750	600K ohms	None
2	87	CAW, OW, RW	.250	.312	.562	300K ohms	None
2	75	CAW, OW, RW	.200	.250	.500	250K ohms	None
2	63	CAW, RW	.200	.187	.625	250K ohms	None
2	61	CAW, RW	.150	.187	.438	150K ohms	None
2	51	CAW, RW	.100	.125	.438	100K ohms	None

TERMINAL STYLES

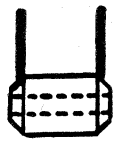
"CAW"—Axial Wire (center)
"CAR"—Axial Rod (center)



"AW"—Axial Wire (off-center)
"AL"—Axial Solder Lug (off-center)
"AR"—Axial Rod (off-center)



"OW"—One Sided Wire
"OL"—One Sided Solder Lug
"OR"—One Sided Rod



"RW"—Radial Wire
"RL"—Radial Solder Lug
"RR"—Radial Rod

Wire lead terminals are solid tinned copper #20AWG x 2" long except for types #287 and #275 which are #22AWG x 1½" long.

Rod terminals are .058" dia. tinned brass. They are available to order in types #215; #216; #217; #218 and #219 for applications requiring rigid mounting by terminals.

The lugs are hot tinned brass .16" thick x 3/32" wide x 5/8" long (measured from resistor axis.)

SERIES "300" MULTISTACKS are similar to Series "200" units in characteristics and identification except that they are slightly longer and are provided with a pair of radial holes for secure mounting and stacking.

SUGGESTED APPLICATIONS: Reference Standards of Resistance and Ratio; Digital to Analog conversion; Wheatstone Bridges; Voltage Dividers; Resistance Decades; Transducer Calibration; Digital Voltmeters; Potentiometer trimming and many others.

DATA REQUIRED FOR A FIRM QUOTATION:

CRCA type & Terminal Style.
Tolerance (%); Max. Drift (%).
Temp. Coeff. (ppm/°C); Temp. Range (°C)
Max. inductance (if critical)
Quantity & Delivery.

SPECIAL PRODUCTS: Wheatstone Bridges, Voltage Dividers, Resistance Decades, Microminiature Resistance Networks.

PRECISION RESISTANCE TRIMMERS

(pats. pend.)

Range: 1 ohm to several Megohm.

Resolution at any setting: .1 ohm.

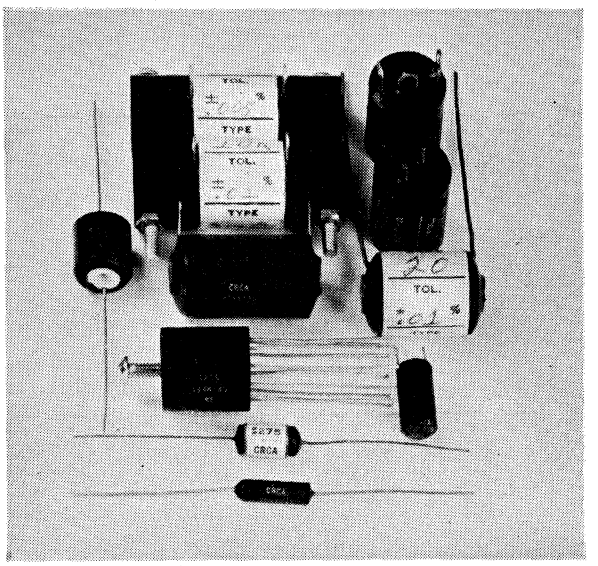
Resistance Stability at any setting: ±.003%.

Unique Dial arrangement permits resistance or ratio adjustment to ±.005% absolute without auxiliary measuring equipment.

Hermetic encapsulation in Epoxy Resin.

Sizes: from 5/16" dia. and up.

For further information request Bulletin R-40.



CRCA Resistor Types shown in the picture are from left to right: #215AW; 2x#316RL; #218RL; 9 section voltage divider network; #275CAW; #263CAW; #287OW; #217-1RW; #216OR; #216OL.

CONSOLIDATED RESISTANCE COMPANY OF AMERICA, INC.
44 PROSPECT STREET, YONKERS, N. Y. • YONKERS 3-5900

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CONTINENTAL WIRE

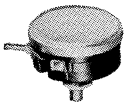
COMPONENTS

POTENTIOMETERS • RHEOSTATS • RESISTORS

POTENTIOMETERS AND RHEOSTATS

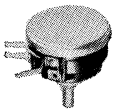
PHENOLIC HOUSED SINGLE CONTROL

Stable dependable. Maximum heat conduction and radiation. Nominally rated for maximum power dissipation in an ambient temperature of 40° C.



4 watt, 10 to 100,000 ohms.
Style WCA: ±10% standard, ±5%.
Style GCA: ±5% standard.

PHENOLIC HOUSED DUAL CONTROL



5 watt, to 25,000 ohms front panel, to 50,000 ohms rear panel.
Style WCD: ±10% standard, ±5%.
Style GCD: ±5% standard.

METAL HOUSED STANDARD SIZE

Inexpensive controls for dependability and long life. 2 Watts, 5 to 15,000 ohms with linear winding. ±15%.

WC 801 Rheostat. 1⅛" dia., ⅝" thick.

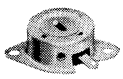
WC 802 Thin Potentiometer. 1⅛" dia., ⅝" thick.

WC 804 Rheostat. Adjustable front or back. 1$\frac{3}{32}$" dia., ½" thick.

METAL HOUSED MINIATURES

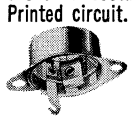
For hum balancing and sensitivity applications. 1.5 watts, 5 to 5,000 ohms. ±20%. Wt. 0.2 oz. each. Dimensions ¾" x ⅜" or smaller.

WC 816B Rheostat. Printed circuit.



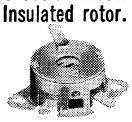
WC 807A Rheostat. Grounded rotor.

WC 808A Rheostat. Insulated rotor.



WC 815A Rheostat. Terminal back of panel.

WC 817A Potentiometer. Grounded rotor.



WC 818A Potentiometer. Insulated rotor.

SLIDE SWITCHES

Tin plated housing; silver plated terminals and contacts. Shield for terminal protection or electrostatic shielding available. Black phenolic or colored buttons. 1" d., 1$\frac{13}{32}$" l., $\frac{35}{64}$" w. 125 volts, AC-DC.

SW 723 SPST. .75 Amps.

SW 724 SPDT. .75 Amps.

SW 725 DPST. .5 Amps.

SW 726 DPDT. .5 Amps.

Type	Circuit	Rating/Amps AC	DC
SW723 (UL)	SPST	.75	.75
SW724 (UL)	SPDT	.75	.75
SW725 (UL)	DPST	.5	.5
SW726 (UL)	DPDT	.5	.5

Type	Circuit	Rating/Amps AC	DC
SW734 (3 Pos.)	SP-CO	.5	.5
SW736 (3 Pos.)	DP-CO	.5	.5
SW323 (UL)	SPST	3.0	1.0
SW324 (UL)	SPDT	3.0	1.0

Technical literature is available. Additional details are available in Radio Master 7-page listing. Write us for complete technical information or to inquire about specials. Please list your specifications and requirements in detail.

AUTOMOBILE SUPPRESSORS, CONDENSERS

Full line. Easy to install. Well insulated. Fit all cars.

RESISTORS

WIRE WOUND FIXED (POWER TYPE)

Ceramic core, vitreous enamel coated. All standard values 5 to 200 watts. ±5% standard. Special types also available.

WIRE WOUND ADJUSTABLE (POWER TYPE)

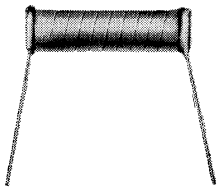
Ceramic base, tough moisture-resistant high temperature coating. 3 to 20 watts. ±10% standard. Specials available.

WIRE WOUND (LOW POWER)

Axial lead, insulated, molded in phenolic. ⅓ watt (.27 ohms to 10 ohms); ½ watt and 1 watt (.27 to 24 ohms). ±2, 5 or 10% standard. 1% available on special order.

METAL FILM

Noblette (NA)—Axial leads. Exclusive patented manufacturing process assures low inductance, accuracy and stability. ±½, 1, 2, or 5% tolerances. ½, 1 or 2 watts.

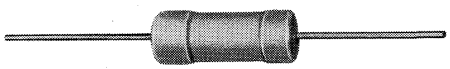


Nobleloy (NR)—Same features as Noblette but has radial leads. Low loss ceramic carrier and vitreous enamel coating. ½, 1, 2 and 5 watts.

DEPOSITED CARBON

Hermetically Sealed—Conform to MIL-R-10509. Fully insulated for hi-frequency use. Carbon deposited on ceramic and encased in non-hygroscopic ceramic tube. High temperature solder sealed. ±½, 1, or 5%. ¼, ½, 1 or 2 watts.

Coated—Low cost precision. Highly recommended for test equipment, meters or hi-frequency circuits. ±1, 2 or 5%. ¼, ½, 1 or 2 watt sizes.



Molded—Rugged construction for high production handling and excellent moisture protection. ±½, 1 or 5%. ½ or 1 watt sizes.

COMPOSITION

Carbomite. Fully insulated. Rating to 1000 volts max. Small in size, but unusually stable under severe service. ±10%. ½, 1 or 2 watts.

CONTINENTAL CARBON

DIVISION OF WIRT CO.

5219 Greene St., Phila. 44, Pa.

Telephone: GErmantown 8-9334

CONTINENTAL WIRE

Order from Local Electronic Parts Distributors or Write for List.

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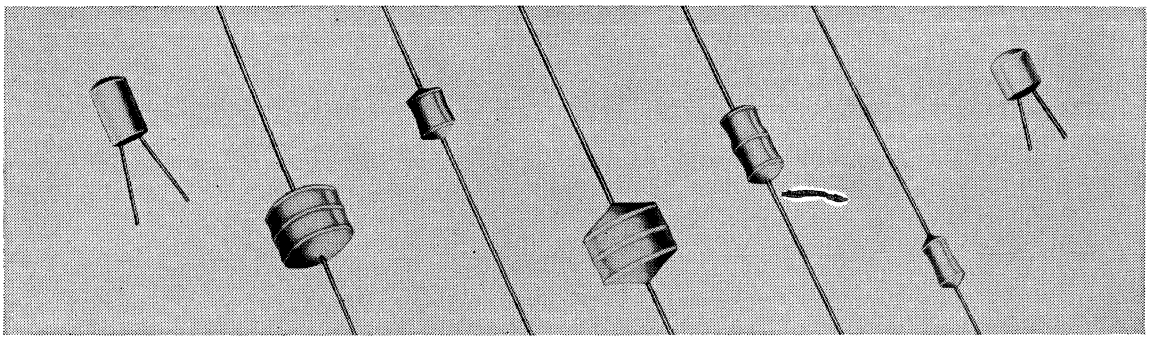
DAVEN *encapsulated wire wound resistors*

MINIATURE TYPES

TYPE	DIAMETER INCHES	LENGTH INCHES	MAXIMUM WATTS*	MAXIMUM VOLTS	MAXIMUM OHMS	NON-INDUCTIVE
1274	3/16	3/8	0.25	100	105K	NO**
1273	1/4	5/16	0.25	200	470K	NO**
1283	1/4	5/16	0.25	200	470K	NO**
1284	1/4	27/64	0.25	200	620K	NO**
1250	1/4	1/2	0.33	400	1 Meg	YES
1170A	7/16	1/2	0.50	400	1.45 Meg	YES
1170	1/2	1/2	0.50	400	2 Meg	YES



*Maximum wattage rating is at 25°C through 125°C. Consult factory for Wattage Derating Curve.

**All types can be made non-inductive on special order.

All Daven resistors can meet and exceed requirements of MIL-R-93A and MIL-R-9444.

AXIAL LEAD TYPES

TYPE	DIAMETER INCHES	LENGTH INCHES	MAXIMUM WATTS*	MAXIMUM VOLTS	MAXIMUM OHMS	NON-INDUCTIVE
1195	1/4	3/4	0.50	400	1.8 Meg	YES
1192	1/4	1	0.75	800	2 Meg	YES
1251	3/8	3/4	0.60	400	2.75 Meg	YES
1252	3/8	1	1.00	800	5 Meg	YES
1171A	7/16	5/8	0.60	400	2.35 Meg	YES
1172A	7/16	1	1.25	800	5 Meg	YES
1171	1/2	5/8	0.60	400	3.6 Meg	YES
1253	1/2	3/4	0.75	400	5 Meg	YES
1172	1/2	1	1.25	800	5 Meg	YES
1178	1/2	1 1/2	1.50	900	5 Meg	YES
1179	1/2	2	2.00	1,200	5 Meg	YES

*Maximum wattage rating is at 25°C through 125°C. Consult factory for Wattage Derating Curve.

Center tap resistors are available with either wire or lug type leads in dimensions of 1/2" x 1" or greater. All Daven resistors can meet and exceed applicable requirements of MIL-R-93A and MIL-R-9444.

The most popular types and values are available from stock through selected distributors throughout the U. S. A.

DISTRIBUTORS' REPRESENTATIVES: 26 RITTENHOUSE PLACE, ARDMORE, PA.
Available from Stock Through Selected Distributors Throughout the U.S.A.

THE DAVEN CO.
LIVINGSTON, NEW JERSEY

Order from Local Electronic Parts Distributor or Write for List.

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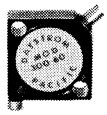
DAYSTROM PACIFIC *Potentiometers*

Products shown are typical of a complete line that offers to instrumentation, project, research and automation engineers the full benefits of reliability and flexibility.

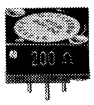
Specifications shown are standard. Special values on request. See representative in your area or contact the factory.

DAYSTROM PACIFIC SQUARETRIMS

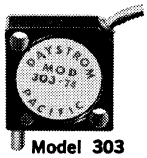
Patents Pending or applied for



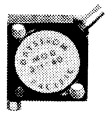
Model 300
10 Ω -50K



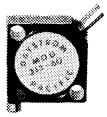
Model 301
10 Ω -50K



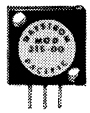
Model 303
100 Ω -150K



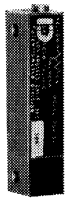
Model 311
20K - 1M



Model 313
10 Ω -50K
@ 200°C

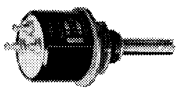


Model 315
10 Ω -50K



Model 308
10 Ω -50K

SUBMINIATURE *Single-turn Potentiometers*



Model 304
10 Ω -50K

Model 314
10 Ω -50K @ 250°C

These two series combine exceptional linearity and maximum reliability and accuracy in lightweight subminiature size. The 314 series high-temperature pots maintain their stability through ranges of —55°C to 250°C. Pots available in resistance values from 10 ohms to 50K for panel or servo use.

Patents Pending

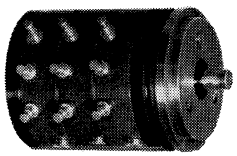
SUBMINIATURE *multi-turn* POTENTIOMETERS

Model 341
1K - 200K

Pat. no. 2-856-493

These 1K to 200K pots are engineered to withstand the rigors of temperature, altitude, and vibration encountered by aircraft and missiles, yet they are extremely lightweight and require but a tiny space.

GANG TYPE *Potentiometers*

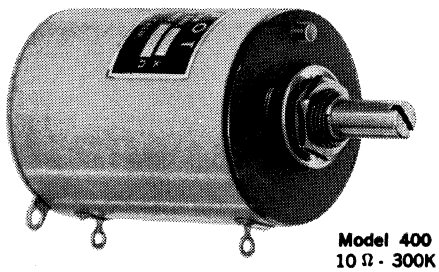


Model 319
100 Ω -50K

These pots can be ganged to meet any phasing need — each wiper positioned independently. They give the optimum in space savings in an exclusive, clampless joining method that assures the ultimate in stability.

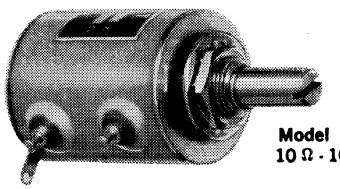
Patents Pending

DAYSTROM PACIFIC *low-cost* MULTIPOTS



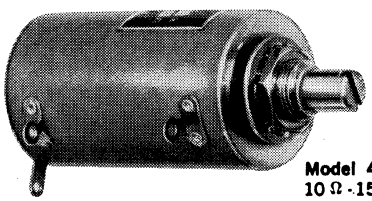
Model 400
10 Ω - 300K

Model 470
1K - 250K

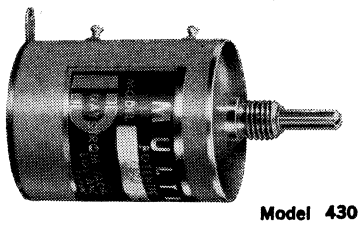


Model 420
10 Ω - 100K

Model 450
1K - 250K



Model 410
10 Ω -150K

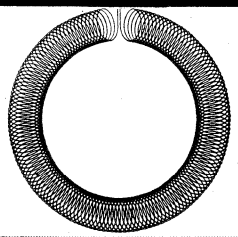


Model 430
10 Ω - 100K

10 turn models shown. Also available in smaller 5, 3 or 1 turn versions

Patents Pending

UNITS APPROX. ⅘ ACTUAL SIZE



DAYSTROM PACIFIC *potentiometers*

a division of DAYSTROM, INC.

9320 Lincoln Boulevard, Los Angeles 45, California

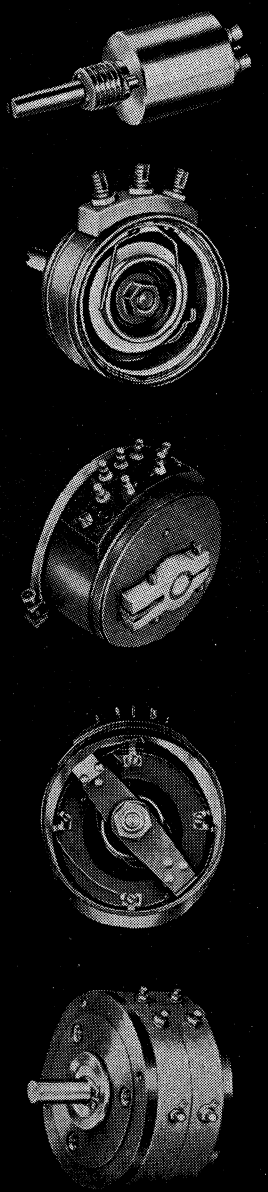
See YELLOW SECTION for Local Offices, Telephone, etc.

DeJUR

..one source for all single turn precision potentiometers...

from ½" to 5"

- LINEAR AND NON-LINEAR
- HIGH PRECISION SINE-COSINE
- EXTERNAL PHASING, BALL BEARING



WIDE RANGE STANDARD LINE – You can solve most design problems with DeJUR'S standard line of precision potentiometers. Chances are we already make the potentiometer you need, or can design one for you. Here are some highlights on three types:

HIGH PRECISION, SINE-COSINE SERIES C-178–1⅞" diameter model is available in accuracies up to ± 0.3% peak-to-peak. Ball bearing construction, anodized aluminum housing. Multi-finger brush contacts. 2" and 3" diameters also available.

EXTERNAL PHASING SERIES C-200–2" diameter, sleeve or ball bearing. Stainless steel clamp ring ganging for unlimited phasing. Taps are field insertable without drilling. Available with any type mounting and shaft configuration.

HIGH RESOLUTION, HIGH ACCURACY – Available in 2", 3" and 5" diameters (Series HP-200, HP-300, HP-500). Linearity to ± 0.05%. Any electrical angle. Up to 30 taps. Ganging multiple, 0.368. Housings are of one-piece, glass reinforced Alkyd, and have anodized aluminum end plates.

DeJUR WINDINGS PROVIDE OPTIMUM RELIABILITY – All potentiometers are made by exclusive DeJUR bonding and cleaning methods that add to their high precision and long life. These production methods mean improved linearity, no loose turns, and no change in wire contour and winding resistance.

you're always sure with **DeJUR**

FREE TECHNICAL CATALOG

For complete information on DeJUR Potentiometers write to:

Electronic Sales Division
DeJUR-AMSCO CORPORATION
45-01 NORTHERN BOULEVARD
LONG ISLAND CITY 1, N. Y.

manufacturers of precision potentiometers for over 30 years

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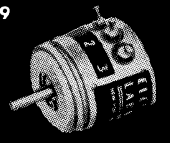
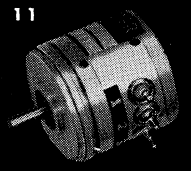
ELECTRO-MEC
POTENTIOMETERS — DIGITOMETERS

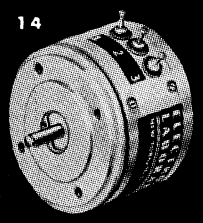
POTENTIOMETER
TYPE 9



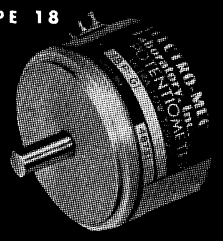
TYPE 11



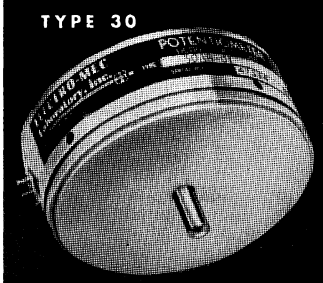
TYPE 14



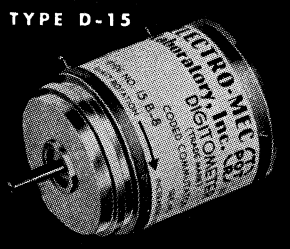
TYPE 18



TYPE 30



DIGITOMETER
TYPE D-15



ULTRA-LOW TORQUE

Ball bearings or, in some cases, jewel bearings combined with carefully controlled brush pressure provide lowest operating torque. Standard non-critical torque is equal to the Type Number times .01 (i.e. Type 11 $\times .01 = .11$ oz. in.). Torques down to 25% of this computed value are available.

EXTREME ACCURACY

The ultimate in mechanical precision plus the most rigid control of all procedures winding and assembly provide the ultimate in accuracy. Resolution as small as .015% is available.

DIGITOMETER: an anolog to digital converter of the most advanced design for airborne computers.

PRECISION

Close mechanical tolerances, an all metal housing, and the best available ball bearings (ABEC Class 5 or 7) make these instruments compatible with the finest Servo components.

ACCURATE LINEARITY

Meticulous care in the selection of resistance wire and the application of the most advanced winding techniques maintained with merciless inspection procedures assure accurate characteristics to meet the most exacting specifications. Each instrument receives a preliminary linearity test prior to final assembly and with shipment a linearity recording accompanies each Potentiometer. The accuracy of the linearity test equipment is maintained at .01%.

RELIABILITY

Imaginative design, sound engineering and rigid control of all materials and processes contribute to an extraordinary measure of reliability. The internal electrical connections are welded; slip rings of 18 carat gold, and the terminal insulation of glass assure an extra degree of stability and long trouble-free life. A point inspection of all mechanical and electrical characteristics is made of each instrument prior to shipment.

RUGGEDNESS

Electro-Mec Potentiometers have been used for almost a decade aboard combat aircraft of every type. Repeated environmental tests substantiate the ruggedest characteristics of these instruments and their ability to maintain the inherently precise output functions under severe ambient conditions.

Our engineers are daily solving design problems by adopting standard Potentiometers to meet particular requirements. For further information send details of your application to our Engineering Department so that we can recommend the best solution to your problem. A compromise is undesirable and never necessary. Data sheets covering each instrument are available upon request.

ELECTRO-MEC LABORATORY, INC.

47-51 33 Street, Long Island City 1, N. Y.

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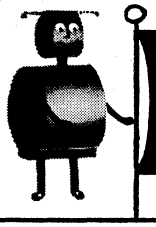


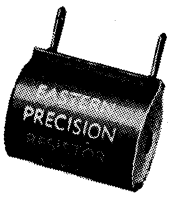
EASTERN PRECISION RESISTOR CORP.

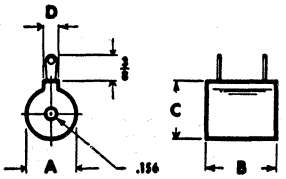
EASTERN PRECISION RESISTOR CORP.
675 BARBEY STREET
BROOKLYN, N. Y.

EPR

FOR LIST PRICES, REFER TO RADIO MASTERS, PAGE R-1183

"N-CAP" Series — ENCAPSULATED LUG TYPE



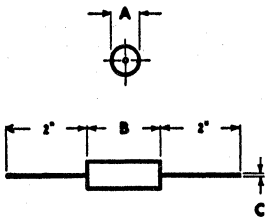


EPR STYLE	A	B	C	D	MIL EQUIV.	MIL WATT	COMM WATT	MIL MAX RES.	MAX COMM RES.
N-109E	1/2"	1/2"			RB-09	.125	.25	250K	1.5M
N-109	9/16"	1/2"	11/16"	3/16"			.25		2.5M
N-110E	5/8"	1/2"			RB-15	.25	.5	400K	3M
N-110	5/8"	1/2"	3/4"	3/16"			.5		3M
N-111E	9/16"	19/32"			RB-16	.33	.66	750K	4M
N-111	3/4"	11/16"	7/8"	3/16"			.66		5M
N-112E	5/8"	1"			RB-17	.5	1	1 MEG	5M
N-112A	13/16"	1"	27/32"	5/16"			1		8M
N-113E	11/16"	1-1/4"			RB-18	.75	1.5	3 MEG	10M
N-113	7/8"	1-1/4"	1"	3/16"			1.5		10M
N-114E	7/8"	2-1/8"			RB-19	1.0	2	6 MEG	15M
N-114	1-1/16"	2-1/8"	1-3/16"	1/4"			2		20M

"N-CAPS" are manufactured to surpass the requirements of MIL-R-93B characteristics **"A" & "C"**. Wound on plastic bobbins and totally encapsulated in the same material these resistors represent the optimum in precision wire wound resistors.

*Clearance for a #2 screw

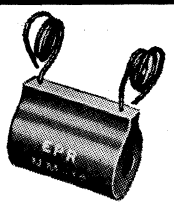
"NS" Series — ENCAPSULATED AXIAL LEAD TYPE

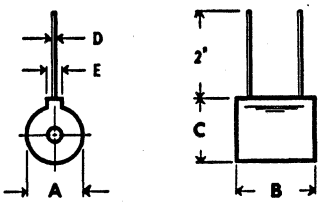


EPR STYLE	A	B	C (AWG)	MIL WATT	COMM WATT	MIL EQUIV.	MIL MAX RES.	MAX COMM RES.
NS-6AV	.150"	3/8"	#24		.2			150K
NS-6AV-SP	3/16"	1/2"	#24 a		.25			400K
NS-6AWE	1/4"	5/16"	#22	.125	.25	RB-56	125K	400K
NS-6AWM	1/4"	1/2"	#20	.15	.3	RB-55	225K	500K
NS-6AWG	1/4"	5/8"	#22		.4			650K
NS-6AH	7/16"	1/2"	#20		.4			1.4 MEG
NS-6AW	1/4"	3/4"	#20	.25	.5	RB-54	330K	800K
NS-6AF	3/8"	3/4"	#20	.33	.6	RB-53	750K	2.0 MEG
NS-6A	3/8"	1"	#20	.4	.8	RB-52	1 MEG	3 MEG
NS-6B	1/2"	1"	#20		1			5 MEG
NS-6C	1/2"	1-3/4"	#20		1.75			8 MEG
NS-6D	1/2"	2"	#20		2			10 MEG
NSH-2A	1/2"	1/2"	#20		.5			1.5 M
NSH-2B	1/2"	5/8"	#20		.6			1.7 M
NSH-2D	1/2"	1-1/2"	#20		1.5			7 MEG

Wound on plastic bobbins and encapsulated to meet the requirements of characteristics "A" & "C" of MIL-R-93B specification. Suitable where point to point wiring is indicated "NS" series resistors are adaptable to automation assembly.

"NM" Series — ENCAPSULATED RADIAL LEAD TYPE





EPR STYLE	MAX RES.	WATT	A	B	C	D (AWG)	E
NM-2	130 K	.125	1/4"	1/4"	11/32"	#24	3/32"
NM-3	360 K	.17	1/4"	7/16"	5/16"	#22	3/32"
NM-4	1 meg	.25	1/4"	3/4"	5/16"	#22	3/32"
NM-5	1.5 meg	.33	1/4"	1"	5/16"	#22	3/32"
NM-6	720 K	.25	5/16"	7/16"	3/8"	#22	1/8"
NM-7	1.8 meg	.33	5/16"	3/4"	3/8"	#22	1/8"
NM-10	480 K	.25	3/8"	5/16"	19/32"	#22	5/32"
NM-12	1.9 meg	.5	3/8"	5/8"	1/2"	#22	1/8"

"NM" series resistors are encapsulated to the requirements of MIL-R-93 characteristic "A". Sub-miniature in size these resistors are designed to meet the specifications of critical applications wherein space and stability is a prime factor.

See YELLOW SECTION for Local Offices, Telephone, etc.

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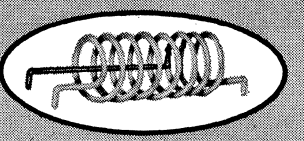
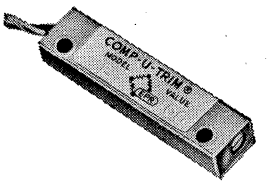
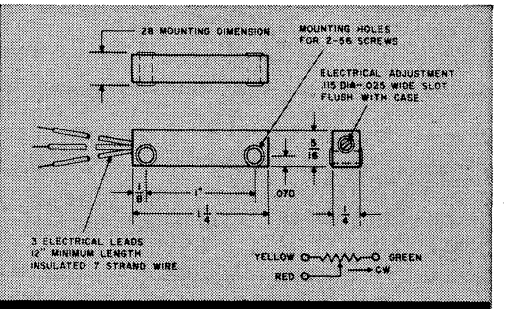
COMP-U-TRIM®



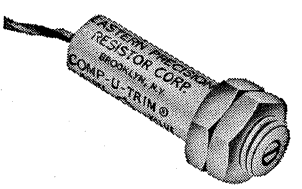
A COMPLETE LINE OF ENCAPSULATED WIRE WOUND TRIMMING POTENTIOMETERS

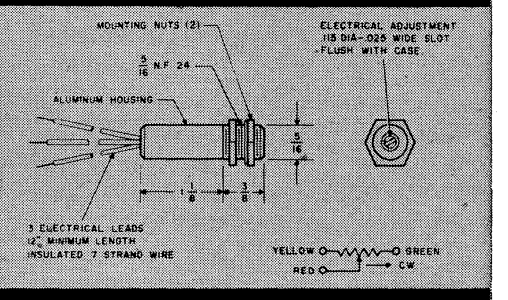
Comp-U-Trim® Model "E" is totally encapsulated within a metal housing to afford maximum protection against environmentals and vibration. Designed to be mounted singularly or stacked, this rugged model is available in resistance values from 10 ohms to 50,000 ohms with 0% end resistance.
Rated at 1.0 watt with ambients up to 125°C, Comp-U-Trims® are wound on dimensional and heat stable steatite.



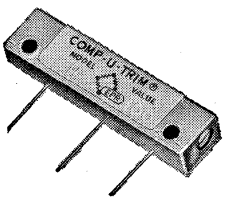


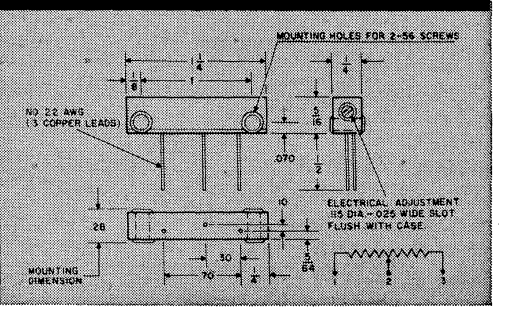
Comp-U-Trim® Model "F" was specifically designed for panel or below chassis mounting. It requires less mounting area than any other comparable unit. Model "F" has all the unique advantages of Model "E" including the radically new internally positioned wiper contact that makes possible a resistance element 250% greater in area than other types of trimming potentiometers.





Comp-U-Trim® Model "H" is ideally suited for printed circuit applications. Epoxy plastic rigidly supports the printed circuit pins and prevents the entrance of moisture.
Internal connections are so positioned that solder dip baths are not deleterious if standard precautionary methods used throughout the industry are observed. Model "H" is equal in all other respects to Model "E".





FEATURES

- One-piece metal housing.
- 0% end resistance.
- Totally encapsulated — not coated.
- Internally positioned wiper contact.
- Self-locating recessed adjustment screw-head.
- Positive end stops make obsolete the "free wheeling" methods.
- Temperature and voltage cycled for maximum stability.
- 250% greater winding area on dimensionally stable form gives increased reliability.

COMPLETE 12-PAGE COMP-U-TRIM® BROCHURE AVAILABLE ON REQUEST.

EPR **EASTERN PRECISION RESISTOR CORP.**

675 Barbey Street, Brooklyn 7, N. Y.

Order from Local Electronic Parts Distributor or Write for List.

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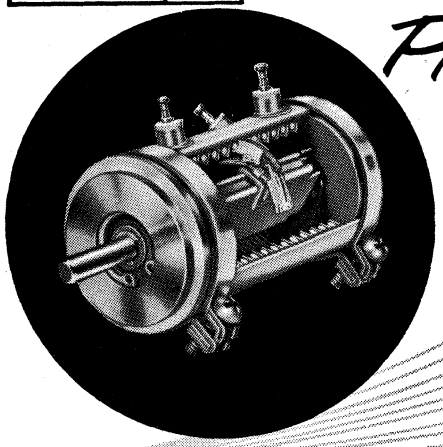

Proven in flight... ATLAS POLARIS JUPITER RASCAL REDSTONE MARK II THOR SNARK CORPORAL REGULUS BOMARC FALCON

FAIRCHILD PRECISION POTENTIOMETERS

Fairchild precision potentiometers are proven performers. They are flying with predicted excellence in some of the most important missiles as shown above. They have a reputation for sustained high accuracy, lowest noise level and long life.

Call or write Fairchild's nearest office or sales representative for more information on the complete line. Let us show you how and why Fairchild Reliability is fast becoming an industry standard.

NOMINAL DIA.	DESCRIPTION	TYPE NO.	FUNCTION	RESISTANCE RANGE OHMS	LINEARITY OR CONFORMITY	EFFECTIVE ELECTRICAL ANGLE	STARTING TORQUE	WATTAGE
SINGLE-TURN POTENTIOMETERS								
3/8"	High Reliability, metal case, to 150° C. Exceeds MIL Std. 202A	926	Trimmer	to 25K	± 3°	300°	.5 to 5 oz-in	1.25 watts
1/2"		927	Trimmer	to 50K	± 3°	320°	.5 to 5 oz-in	1.5 watts
7/8"	High Reliability, metal case, std. or high temp. available in AIA Standard Servo, or Threaded Bushing Mount	751M	Linear	400 to 75K	± .5 to ± .25%	350°	.25 oz-in	2 watts
		751C	Non-linear	200 to 100K	± .5 to ± .3%	350°	.25 oz-in	2 watts
1 1/8"	High Reliability, metal case, std. or high temp. available in Servo or Threaded Bushing Mount	741M	Linear	500 to 100K	± .5 to ± .25%	350°	.25 oz-in	2 watts
		741C	Non-linear	300 to 150K	± .5 to ± .25%	350°	.25 oz-in	2 watts
	High Resolution, gangable	741SC	Sine-cosine	250 to 12K/quad	± 1%	360°	.5 oz-in	2 watts
1 3/4"	High accuracy, metal case, available with AIA Servo or 3-Hole Pilot Mount	746	Non-linear	500 to 200K	± 1 to ± .25%	320°	1.5 oz-in	4.5 watts
		746E	Non-linear	500 to 250K	± 1 to ± .25%	350°	1.5 oz-in	4.5 watts
		756	Linear	1K to 125K	± .5 to ± .2%	350°	1.5 oz-in	4.5 watts
	High Resolution, and Reliability, metal case, std. or high temp, AIA Servo Mount	757M	Linear	1K to 250K	± .25 to ± .15%	354°	1.0 oz-in	6 watts
		757C	Non-linear	1K to 300K	± .5 to ± .25%	350°	1.0 oz-in	6 watts
2"	High Resolution, Resistance and Reliability, metal case, std. or high temp. AIA Servo or Threaded Bushing Mount	754M	Linear	800 to 300K	± .15 to ± .10%	356°	1.0 oz-in	8 watts
		754C	Non-linear	1K to 350K	± .5 to ± .2%	350°	1.0 oz-in	8 watts
	Excellent conformity, gangable	754SC	Sine-cosine	500 to 25K/quad	± .65%	360°	1.5 oz-in	6 watts
	Long life, phenolic case, 3-hole pilot—Servo Mount	747	Linear	1K to 250K	± .25%	351°	1 oz-in	7 watts
3"	Outstanding accuracy, metal case, 3-Hole Pilot Mount	743M	Linear	1K to 150K	± .15 to ± .10%	356°	1 oz-in	8 watts
		743C	Non-linear	1K to 340K	± .5 to ± .25%	340°	1.5 oz-in	6 watts
	High Resolution, accuracy, gangable, metal case	753	Sine-cosine	500 to 45K/quad	± .35%	360°	2 oz-in	8 watts
	High accuracy, phenolic case, 3-hole pilot—Servo Mount	748F	Linear	2K to 375K	± .10%	354°	1 oz-in	8 watts
MULTI-TURN POTENTIOMETERS								
7/8"	Unique, all-metal construction, std. or high temp. Linear or non-linear; gangable, available from 3 to 20 turns	906	3-turn	100 to 100K	± 0.5 to ± 0.1%	1080°	.7 oz-in	1.5 watts
		909	10-turn	250 to 250K	± .5 to ± .05%	3600°	.7 oz-in	2.5 watts
	High Reliability, metal case, std. or high temp.	908	10-turn	100 to 100K	± .25 to ± .05%	3600°	.75 oz-in	2.5 watts
1"	High accuracy—metal case	920	10-turn	1K to 750K	± .25 to ± .05%	3600°	1 oz-in	3.5 watts
1 3/4"	Unique, all-metal construction, std. or high temp. Linear or non-linear available from 3 to 20 turns	934	3-turn	100 to 150K	± .5 to ± .05%	1080°	1 oz-in	3 watts
		931	10-turn	200 to 500K	± .5 to ± .025%	3600°	1 oz-in	5 watts
NOBL-OHM® INFINITE RESOLUTION FILMPOTS®								
3/4"	225° C; Infinite Resolution	771	Linear	100 to 50K	± 2.0 to ± 1.5%	Std. 240°	.1 to .5 oz-in	3 watts
7/8", 1 1/8" and 2"	150° C; Infinite Resolution	762 761 766	Linear	100 to 50K	± 2.0 to ± 1.5%	340°	1 oz-in	1 watt
28 1/2 Turn, Infinite Resolution Trimmer Filmpots, in two standard sizes, 175° C.		768 769	Trimmer Trimmer	50 to 25K 50 to 25K	± 5% ± 5%	28 1/2 turns 28 1/2 turns	—— ——	1 watt 1 watt

NOTES:

STANDARD UNITS RATED AT FULL WATTAGE at 40°C derating to 15% at 85°C. HIGH TEMP UNITS rated at full wattage at 85°C derating to 5% at 150°C.

RELIABILITY INSIDE THE BLACK BOX

FAIRCHILD CONTROLS CORPORATION
COMPONENTS DIVISION

GYROS
PRESSURE TRANSDUCERS
POTENTIOMETERS
ACCELEROMETERS

Write Dept. 30

225 Park Ave., Hicksville, L. I., N. Y. • 6111 E. Washington Blvd., Los Angeles, Cal.

A Subsidiary of Fairchild Camera and Instrument Corporation

See YELLOW SECTION for Local Offices, Telephones, etc.

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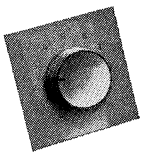
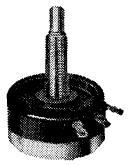
FEDTRO L-Pads and STEREO L-Pads

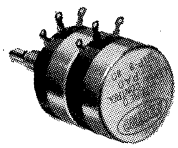
for High Fidelity Monaural and STEREO Applications

LEVEL CONTROLS • CONCENTRIC STEREO BALANCE CONTROLS • BRILLIANCE CONTROLS

• NEW COMPACT SPACE-SAVING DESIGN • BUILT FOR CRITICAL REQUIREMENTS







Model	Type	Impedance	Peak Audio Watts	Body Size Depth x Diam.	Bushing Diam.	Bushing Length	Shaft Size Length x Diam.
LP-8	Standard L-Pad	8 ohms	25	53/64"x141/64"	3/8"-32P	1 inch	27/64"x1/4"
LP-16	Standard L-Pad	16 ohms	25	53/64"x141/64"	3/8"-32P	1 inch	27/64"x1/4"
STLP-8	Dual Stereo L-Pad	8 ohms	25	147/64"x141/64"	3/8"-32P	1 inch	27/64"x1/4"
STLP-16	Dual Stereo L-Pad	16 ohms	25	147/64"x141/64"	3/8"-32P	1 inch	27/64"x1/4"

NOTE: L-Pads can be supplied with or without plate and knob. All units are supplied with mounting hardware.

FEDTRO L-Pad, Level, Brilliance, and Balance controls afford an efficient method of providing and controlling the audio level of low impedance circuits. A constant impedance is provided to the source assuring no circuitry unbalancing. The impedance of the output varies with the setting of the control knob.

The precision wire-wound resistance elements are concentrically mounted and housed in a single moulded base, securely sealed with a metal cover. This unique superior design provides a much shallower unit than conventional double-potentiometer types which require far more physical space.

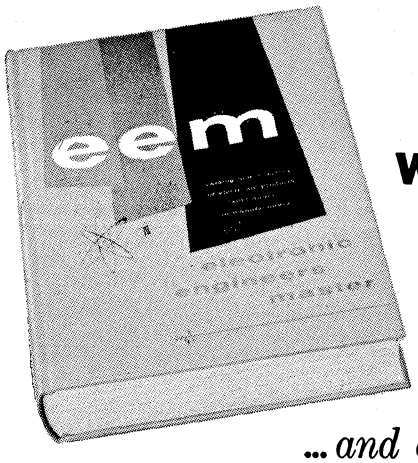
The FEDTRO STEREO L-PADS and STEREO BALANCE CONTROLS are dual units with two L-Pads (four wire-wound resistance elements) mounted on the same shaft. They permit an extremely simple, efficient and inexpensive method of providing a CONCENTRIC STEREO BALANCE CONTROL. Thus, with single knob control, the speaker system of one stereo channel can be increased while the other speaker system is lowered. The Fedtro Stereo L-pads may also be used in a conventional manner in a Stereo system as level controls, etc.

AVAILABILITY FROM STOCK. QUANTITY QUOTATIONS UPON REQUEST.

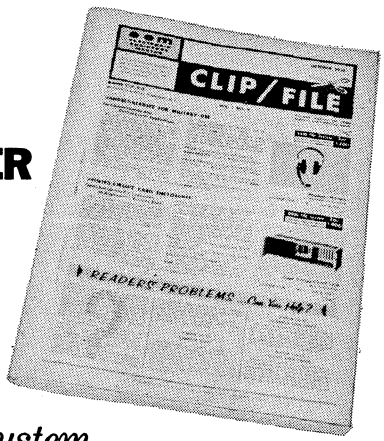
KNOB AND PLATE: Of magnificent, elegant design and appearance, the matching knob and plate are finished in a brilliant gold and black motif. The satin finished plate is calibrated with inlaid black numbers from 0 to 10 (size: 2 9/16" x 2 9/16"). Knob is of rich gold inlay with black trim (O.D. 1 1/4"). Supplied with recessed screw.

FEDERAL ELECTRONICS SALES DIVISION OF FEDTRO INC.
Federal Electronics Building, Rockville Centre, N. Y.

Order from Local Electronic Parts Distributor or Write for List.



WORKING TOGETHER TO GIVE YOU COMPLETE PRODUCT INFORMATION



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GENERAL ELECTRIC THERMISTORS, THYRITE® VARISTORS, PERMANENT MAGNETS

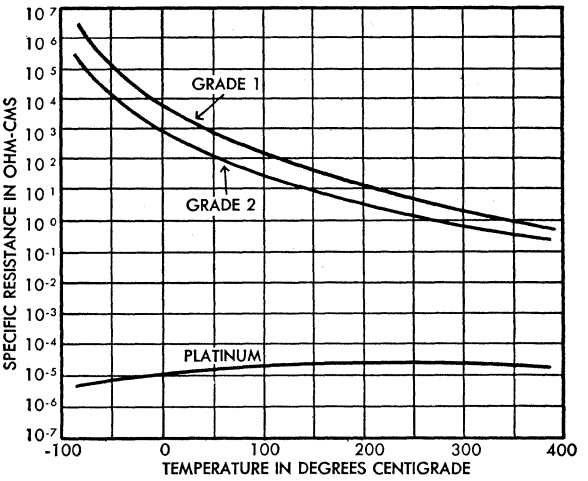
THERMISTORS

Semi-conductors used to detect, measure, and compensate for minute changes in temperatures

G-E thermistors are *thermal*-sensitive semi-conductors with large *negative* temperature coefficients of resistance. As circuit elements they provide highly sensitive response to relatively minute temperature changes.

In addition to temperature measurement and control, G-E thermistors suppress inrush current surges, trip time delay devices, regulate voltage . . . replace far more complex devices.

G-E thermistors can be supplied with resistance values from 1 to 10,000,000 ohms and temperature coefficients of resistance from −1% to −5% at 25°C. They are made as discs, washers, rods and beads in a wide variety of thermistor materials in sizes from 0.05" up to 3".



Temperature resistance values of 2 General Electric thermistor grades compared to a representative metal.

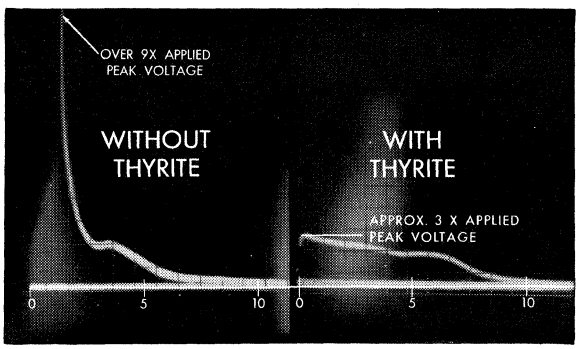
THYRITE® VARISTORS

Non-linear resistance material provides current that varies as a power of the applied voltage

Thyrite varistors are *voltage*-sensitive semi-conductors in which I varies as E^n. Resistance is stable and substantially independent of polarity and frequency. Thyrite varistors limit voltage surges and stabilize current supplied by rectifiers.

You can also use Thyrite to control voltage-sensitive circuits, as a nonlinear resistance parameter, or as a potentiometer.

G-E Thyrite varistors are made with a wide variety of volt-ampere characteristics for components rated from 6 to 4,000 volts. Thyrite is available in rods, discs, or washers with or without leads and as assemblies ready for installation.



Oscillograms (above) show how a Thyrite varistor controls surge over-voltage. With a varistor introduced into the circuit, surge voltage is reduced from 9 to 3 times the applied peak voltage.

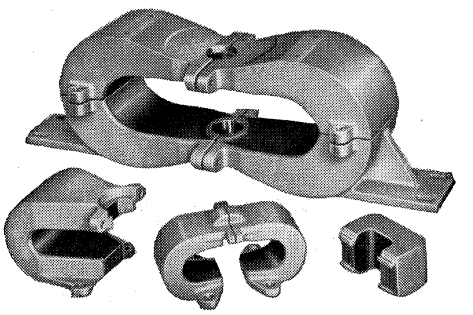
ALNICO PERMANENT MAGNETS

Designed for increased efficiency for a wide range of industrial applications

G-E magnets can be made in almost any shape or size. Where these magnets are to be used in magnetic assemblies, G-E die-cast aluminum sheaths can often simplify the assembly design and fabrication.

Cast permanent magnets are made by General Electric in all seven Alnico grades. G-E sintered magnets are available in Alnico 2, 4, 5 and 7. Sintered magnets have more uniform flux distribution, superior tensile strength, and can be formed into complex shapes.

G-E directional grain Alnico 5 has an energy level 0.5 to 0.75 gauss-oersteds higher than unoriented Alnico 5. G-E P-series alloys now provide magnetic materials with *consistently uniform flux* for hysteresis motors.



G-E cast aluminum sheaths (above) can be turned out in a fraction of the time needed to build assemblies in your own plant.

Thermistors and Thyrite varistors can be supplied in a variety of experimental kits. Write for descriptions and prices.

If you would like more technical information on thermistors, Thyrite varistors, or permanent magnets — or the assistance of a G-E engineer — write: *Magnetic Materials Section, General Electric Company, 7794 N. Neff Road, Edmore, Michigan.*

MAGNETIC MATERIALS SECTION

GENERAL ELECTRIC

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1959 IRC® Electronic Components Guide

IRC Type No.	Ratings	Standard Tolerance Percent	Temp. Rise at Rated Load °C.	Max. Operating Temp. °C.	VALUES AVAILABLE Min.	VALUES AVAILABLE Max.	DIMENSIONS IN INCHES Length	DIMENSIONS IN INCHES O.D.	Catalog Data Sheet
CHOKES, insulated									
CL½		10 & 20		140	0.22 μ.h.	1.0 μ.h.	5/8	3/16	H-1
CLA•		5 & 10		140	0.22 μ.h.	7.5 μ.h.	23/32	¼	H-1
CLI•		5 & 10		140	.47 μ.h.	24 μ.h.	1¼	¼	H-1
CL2		5 & 10		140	1.0 μ.h.	39 μ.h.	1¾	21/64	H-1

CONTROLS & POTENTIOMETERS

CONTROLS

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load °C.	Tapers	Max. Operating Temp. °C.	OHMIC VALUES AVAILABLE Min.	OHMIC VALUES AVAILABLE Max.	Mechanical Rotation	DIMENSIONS IN INCHES Depth	DIMENSIONS IN INCHES O.D. or Width	DIMENSIONS IN INCHES Standard Bushing	Switches	Catalog Data Sheet
2W•	RA-20	2	10	60	Yes‡	100°	1	25,000	300°	5/8‡	1¼	3/8 3/8-32	Yes‡	A-3
Q•	RV-2	¼	20	60	Yes‡	100°	250‡	15 meg.‡√	300°	33/64‡	15/16	3/8 3/8-32	Yes‡	A-4
HVC•		2	20 & 30	60	Linear■	100°	5,000	50 meg.	250°	23/32	2 13/64	3/8 3/8-32	No	A-1

PRECISION POTENTIOMETERS

Standard Multi-Turn—Type H—Combine advantages of reliability, sturdiness and miniaturization. Standard sizes from 1½" dia. to ¾" dia.—1, 5 and 10 turn models—other degrees of rotation available on special order. (A-5)

Moisture-Sealed—Type MS—All cases half hard brass with all joints rolled and bonded. "O" ring seal between shaft and bushing—1" and ¾" dia.—5 and 10 turn models. (A-6)

Hermetically-Sealed—Type HS—Where moisture sealing as above is not sufficient, these precision potentiometers are completely independent of atmospheric conditions—special bellows drive system—¾" and 1" dia.—1, 5 and 10 turn models. (A-7)

Subminiature—Type SM—Offer rugged construction and dependable service where space is at a premium. Both single and multi-turn units available with case dia. of only ½". (A-8)

High Temperature Operation—Type H—HT—Operate at ambient temperatures up to 150° C.—¾" and 1" dia.—1, 5 and 10 turn models. (A-9)

High Precision Single Turn—Type B—Incorporates maximum accuracy and reliability with ultra low torque ball bearings and ganging for in-the-field phasing, 7/8" to 3" dia. (A-10)

DIAL, direct reading, turn-indicating (REVODEX) (new)

Standard in black or clear anodized and available anodized in other colors. Accurate to one part in a thousand. It features easy mounting, positive locking and low ambiguity. (A-11)

PLASTIC PRODUCTS

CABLE, Polystrip® (Flat Wire)

Flexible lightweight multiple conductor cable; will withstand repeated flexing. Adaptable to printed circuit connectors with individual conductors on .100" spacing. Max. operating temp. 85°C.; 1 amp. rating at 25°C.—all conductors carrying current; overall thickness .009". Insulation may be stripped across portion or entire width of cable one or both sides; take-off branch connections at any position along cable. Up to 51 conductors—each .0015" x .030" Other conductor sizes, conductor spacing, insulation thicknesses and materials available. (S-5)

LAMINATES, Copper Clad, Fluorocarbon Insulating Base

FLUOROPLY

Copper foil bonded to fluorocarbon plastics—Five types of base materials: Teflon-glass, Fluorocarbon (T.M.—Kel-F*, Genetron**); XXX-P and Epoxy-glass with fluorocarbon films between copper foil and insulating base. Thickness available from .002" base to ⅛". Electrolytic copper standard weights. Excellent surface resistance, high bond strengths. (LT-2) *M. W. Kellogg Co. **Allied Chemical & Dye Corp.

PRINTED CIRCUITS, Flexible (new)

Etched copper patterns bonded between thin flexible sheets of plastic insulating materials such as Kel-F, Teflon, Epoxy, etc.

Available in single or multiple layers.

Gives lower manufacturing costs, lighter weight, space saving, better product appearance, increases reliability, lowers assembly errors, gives uniform production. (S-7)

RECTIFIERS AND DIODES

Miniature selenium rectifiers and diodes in the microampere and milliampere range. Voltage ratings—26 to 36 volts rms./cell. Inverse resistance up to 20 megohms at 20 volts D.C./cell. 105°C. max. operating temperature. (SR-1)

Special designs 9 LR 2 dual diodes.

RESISTORS, COMPOSITION

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load°C.	Temp. Coefficient %/°C.	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE Min.	OHMIC VALUES AVAILABLE Max. (JAN or MIL)	OHMIC VALUES AVAILABLE Max. (Commercial)	DIMENSIONS IN INCHES Length	DIMENSIONS IN INCHES O.D. or Width	DIMENSIONS IN INCHES Ferrule O.D.X	Catalog Data Sheet
COMPOSITION, fixed													
BTR†•	RC-09	⅓	5, 10 & 20	40	‡	130	10	22 meg.	270 meg.	.400	.095		B-1
GBT-½†•	RC-20	½	5, 10 & 20	45	‡	130	10	22 meg.	100,000 meg.	.390	.140		B-1
GBT-1†•	RC-32	1	5, 10 & 20	70	‡	130	10	22 meg.	270 meg.	.562	.225		B-1
BTAV		½	5, 10 & 20	40	‡	130	0.51 meg.		270 meg.	.730	.244		
BTB†•		2	5, 10 & 20	75	‡	130	100		270 meg.	1.260	.250		B-1

Order from Local Electronic Parts Distributor or Write for List.

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RESISTORS, FILM

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load°C.	Temp. Coefficient %/°C.	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE Min.	Max. (JAN or MIL)	Max. (Commercial)	DIMENSIONS IN INCHES Length	O.D. or Width	Ferrule O.D.x	Catalog Data Sheet
CARBON, deposited													
DCC	RN-20	½	1	75	‡	120	10	2 meg.	25 meg.	9/16	.156		B-4
DCF	RN-25	1	1	80	‡	120	10	5 meg.	50 meg.	15/16	.297		B-4
DCH	RN-30	2	1	95	‡	120	15	10 meg.	100 meg.	2 1/16	.297		B-4
MDA (molded)	RN-60	⅛	1	18	‡	150	50	1 meg.	3.16 meg.	13/32	.130		B-9
MDB (molded)	RN-65	¼	1	30	‡	150	10	1 meg.	3.16 meg.	19/32	.203		B-9
MDC (molded)	RN-70	½	1	50	‡	150	10	2 meg.	25 meg.	23/32	.261		B-9
MDF (molded)	RN-75	1	1	47	‡	150	10	5 meg.	50 meg.	1 7/64	.395		B-9
MDH (molded)	RN-80	2	1	63	‡	150	15	10 meg.	100 meg.	2 15/64	.395		B-9
METAL FILM, precision													
MEA (molded)	RN-60	⅛	1	17	‡	175	100		300 K	13/32	.130		B-3b
MEB (molded)	RN-65	¼	1	25	‡	175	100		500 K	19/32	.203		B-3b
MEC (molded)	RN-70	½	1	30	‡	175	100		1.0 meg.	23/32	.261		B-3b
MEF (molded)	RN-75	1	1	40	‡	175	100		2 meg.	1 7/64	.395		B-3b
MEH (molded)	RN-80	2	1	72	‡	175	250		5 meg.	2 15/64	.395		B-3b

RESISTORS, POWER

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load°C.	Temp. Coefficient %/°C.	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE Min.	Max. (JAN or MIL)	Max. (Commercial)	DIMENSIONS IN INCHES Length	O.D. or Width	Ferrule O.D.x	Catalog Data Sheet
WIRE WOUND, molded													
PW-4• (molded)		4	5 & 10	150	‡	190	1.0		8,200 ohms	1 3/4	21/64		P-1
BW-½•	RU-3	½	5 & 10	50	‡	110	0.24	470	820 ohms	5/8	13/64		B-5
BW-1•	RU-4	1	5 & 10	65	‡	110	0.47	2,200	5,100 ohms	1 1/4	1/4		B-5
BW-2•	RU-6	2	5 & 10	90	‡	130	1.0	3,300	8,200 ohms	1 3/4	21/64		B-5
WIRE WOUND, power													
PW-5•		5	10	150	‡	275	0.24		6,200	7/8	3/8x1 1/32		P-2
PW-7•		7	10	170	‡	275	0.51		15,000	1 25/64	3/8x1 1/32		P-2
PW-10•		10	10	190	‡	275	1.0		25,000	1 7/8	3/8x1 1/32		P-2
PW-15		15	10	220	‡	300	1.0		25,000	1 7/8	½x½		P-6
PW-20		20	10	250	‡	300	0.75		5,100	2½	½x½		P-4
PC-5 (printed circuit)		5	10	125	‡	275	0.51		15,000	1 25/64	3/8x15/32		P-5

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Max. Temp. Rise at Rated Load°C.	Max. Temp. Coefficient %/°C.△	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE Min.	Max. (JAN or MIL)	Max. (Commercial)	DIMENSIONS IN INCHES Length	O.D. or Width	Ferrule O.D.x	Catalog Data Sheet
WIRE-WOUND, power (Resisteg)													
7/8"A		6	5	325	.0050	350	0.1		10K	7/8	5/16		C-1
1A		8	5	325	.0050	350	0.1		15K	1	5/16		C-1
1¾A*•	RW-29	12	5	325	.0050	350	0.1	5,600	50K	1 3/4	5/16		C-1
1C	RW-30	12	5	325	.0050	350	0.1	2,500	20K	1	7/16		C-1
1½C	RW-31	15	5	325	.0050	350	0.1	6,300	50K	1 1/2	7/16		C-1
2C	RW-32	20	5	325	.0050	350	0.1	10K	80K	2	7/16		C-1
3C	RW-33	26	5	325	.0050	350	0.1	18K	150K	3	7/16		C-1
2D*•		25	5	325	.0050	350	0.1	4,500	100K	2	9/16		C-1
2½D*•		30	5	325	.0050	350	0.1	6,500	150K	2½	9/16		C-1
3D*		35	5	325	.0050	350	0.1	8,250	200K	3	9/16		C-1
4D*		50	5	325	.0050	350	0.2	12,000	300K	4	9/16		C-1
5D*		60	5	325	.0050	350	0.25	15,500	400K	5	9/16		C-1
3E*		45	5	325	.0050	350	0.15	11,000	250K	3	¾		C-1
3½E*		50	5	325	.0050	350	0.2	13,500	300K	3½	¾		C-1
4E*	RW-35	60	5	325	.0050	350	0.2	40K	350K	4	¾		C-1
4½E*•		65	5	325	.0050	350	0.25	18,500	400K	4½	¾		C-1
5E*		75	5	325	.0050	350	0.27	21,000	450K	5	¾		C-1
6½E*•		100	5	325	.0050	350	0.36	28,500	600K	6½	¾		C-1
4H*	RW-36	80	5	325	.0050	350	0.3	56K	525K	4	1⅛		C-1
6H*	RW-37	120	5	325	.0050	350	0.47	90K	850K	6	1⅛		C-1
6½H*		130	5	325	.0050	350	0.56	41,500	900K	6½	1⅛		C-1
8H*	RW-38	160	5	325	.0050	350	0.68	140K	1.15 meg.	8	1⅛		C-1
8½H*		175	5	325	.0050	350	0.75	57,000	1.25 meg.	8½	1⅛		C-1
10½H*•	RW-47	225	5	325	.0050	350	0.91	180K	1.5 meg.	10½	1⅛		C-1
12H*		250	5	325	.0050	350	1.0		1.75 meg.	12	1⅛		C-1
RW-10		215	5	325	.0050	350	0.1		1.05M	11 5/8	1 13/32	1⅛	C-1
RW-11		175	5	325	.0050	350	0.1		850K	9 13/16	1 13/32	1⅛	C-1
RW-12		130	5	325	.0050	350	0.1		620K	7 5/8	1 13/32	1⅛	C-1
RW-13		75	5	325	.0050	350	0.1		290K	5 5/16	1 3/32	13/16	C-1
RW-14		60	5	325	.0050	350	0.1		230K	4 5/8	1 3/32	13/16	C-1
RW-15		30	5	325	.0050	350	0.1		78K	3 1/8	2 7/32	9/16	C-1
RW-16		20	5	325	.0050	350	0.1		45K	2 9/16	2 7/32	9/16	C-1
FRW-20	RW-20	30	5	325	.0050	350	0.1	8K	15K	1 1/4‡	1 3/32‡		C-1
FRW-21*	RW-21	40	5	325	.0050	350	0.1	16K	35K	2‡	1 3/32‡		C-1
FRW-22*	RW-22	55	5	325	.0050	350	0.1	35K	75K	3 1/2‡	1 3/32‡		C-1
FRW-23*	RW-23	70	5	325	.0050	350	0.1	50K	110K	4 3/4‡	1 3/32‡		C-1
FRW-24*	RW-24	95	5	325	.0050	350	0.1	71K	140K	6‡	1 3/32‡		C-1

.001 WIRE

.0025 WIRE

△Evanohm or Advance wire only

Order from Local Electronic Parts Distributor or Write for List.

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RESISTORS, POWER (continued)

WIRE WOUND, power, uninsulated

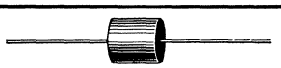
AW (open wire wound resistors) available in ratings of 6 watts per inch, mounting centers up to 3 inches, max. values of 2200 ohms per inch. Standard 10% Tolerance—(B-10)

RESISTORS, PRECISION WIRE WOUND

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Temp. Rise at Rated Load°C.	Temp. Coefficient %/°C.	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE Min.	Max. (JAN or MIL)	Max. (Commercial)	DIMENSIONS IN INCHES Length	O.D. or Width	Ferrule O.D.X	Catalog Data Sheet
WIRE WOUND, precision													
RADIAL LUG TYPE													
WW-2J‡•	RB-19	2.0	1	25	.0022	105	0.1	4.0 meg.	20 meg.	2 1/8	29/32		D-1
WW-3J‡•	RB-16	.5	1	25	.0022	105	0.1	.3 meg.	1.6 meg.	9/16	19/32		D-1
WW-4J‡•	RB-17	1.0	1	25	.0022	105	0.1	.75 meg.	4.0 meg.	1	19/32		D-1
WW-5J‡•	RB-18	1.0	1	25	.0022	105	0.1	1.7 meg.	7.5 meg.	1 1/4	25/32		D-1
WW-8J‡	RB-15	.5	1	25	.0022	105	0.5	.29 meg.	1.5 meg.	15/32	19/32		D-1
WW-11J‡	RB-16	.5	1	25	.0022	105	0.1	.4 meg.	2 meg.	21/32	19/32		D-1
RADIAL LEAD TYPE													
WW-3J		.5	1	25	.0022	105	0.1	.3 meg.	1.6 meg.	9/16	19/32		D-1
WW-4J		1.0	1	25	.0022	105	0.1	.75 meg.	4.0 meg.	1	19/32		D-1
WW-8J		.5	1	25	.0022	105	0.5	.29 meg.	1.5 meg.	15/32	19/32		D-1
WW-10J		.25	1	25	.0022	105	10.	40K	.215 meg.	13/32	9/32		D-1
WW-11J		.50	1	25	.0022	105	0.1	.4 meg.	2.0 meg.	21/32	19/32		D-1
WW-20J		.25	1	25	.0022	105	10.	35K	150K	5/16	1/4		D-1
WW-21J		.25	1	25	.0022	105	10.	70K	500K	3/4	1/4		D-1
WW-22J (center tapped)		.25†	1	25	.0022	105	10.†	35K†	250K†	3/4	1/4		D-1
WW-23J		.5	1	25	.0022	105	0.5	225K	1.5 meg.	3/4	3/8		D-1
WW-24J (center tapped)		.5†	1	25	.0022	105	0.1†	350K†	1.5 meg.†	1	1/2		D-1

†Signifies per tapped section

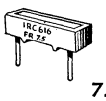
WIRE WOUND, precision, encapsulated



Shock, moisture, temperature proof. Over 50 types—from sub-miniature 0.1 watt, max. resistance 50K ohms to 2½ watt units—20 megohms. Meet all Mil-R-93A requirements. Resistance range from 1.0 ohm to 20 megohms. Tolerances to 0.05%. Temp. Coefficient ±0.0022%/°C. Operating Temperature —65°C. to +125°C. Axial and radial leads, lug types, and units designed for use in printed wiring assemblies. (Series PH)

RESISTORS, SPECIAL APPLICATION

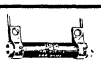
FUSE RESISTORS



FR-7.5•		7.5	10	175	‡	275	‡	—	‡	1 25/64	3/8x13/32		P-3

(Fuse resistors of 4.7, 5.6, 7.5 and 9.0 ohms with Standard fusing current vs. time listed in Bulletin P-3. Special fuses will be engineered to meet circuit requirements.)

HIGH FREQUENCY



MP° IRC manufactures 22 different MP types. Available in wattage ratings from 1 to 90 watts, standard tolerance is 20%, Temp. rise at rated load 77°C., Temp. coefficient from —.005%/°C. to —.07%/°C., Max. operating temp. 100°C. Minimum values available from 10 ohms to 100 ohms, Max. (Commercial) values available from 1.0 meg. to 6.0 meg. Lengths vary from 1" to 19 15/16", diameters from 5/16" to 2". See Data Bulletin F-1 for individual specifications. Prices upon request.

MPF-12°	RF-30	2	20	77	—.005 to—.07	100	20	100,000 ohms	1.5 meg.	1 3/4	5/16		F-1
MPG-16	RF-31	4	20	77	—.005 to—.07	100	20	1 meg.	1.5 meg.	2	9/16		F-1
MPC-1	RF-40	1	20	77	—.005 to—.07	100	20	1 meg.	1.0 meg.	1	5/16		F-1
HRF‡°	RF-50	1/4	20	40	—.005 to—.07	100	20	1 meg.	125 meg.	9/16	3/32		F-1
MPX-2	RF-51	2	20	77	—.005 to—.07	100	30	1 meg.	1.5 meg.	2	1/4		F-1

HIGH VOLTAGE

MV° IRC manufactures 21 different MV types. Available in wattage ratings from 1 to 90 watts, standard tolerance 20%, Temp. rise at rated load 77° C., Temp. coefficient from —.005 to —.07%/°C., Max. operating temp. 100°C. Minimum values available from 2500 ohms to 1.0 megohm, Maximum (Commercial) values available from 1.0 megohm to 20,000 megohms. Lengths vary from 1" to 19 15/16", diameters from 5/16" to 2". See Data Bulletin G-1 for individual specifications. Prices upon request.

MVM-5°	2	77	—.02	100	100 meg.		1,500 meg.	5 1/2	5/16	Solder Lug		G-1
MVM-6°	2	77	—.02	100	100 meg.		1,500 meg.	6	5/16	Solder Lug		G-1

HIGH VOLTAGE, pyrolytic

PVX-1	1	‡	‡	150	1,800		5,000 meg.	15/16	.296		B-7
PVX-2	2	‡	‡	150	5,000		20,000 meg.	2 1/16	.296		B-7
PVX-3	3	‡	‡	150	10,000		20,000 meg.	3 1/16	.296		B-7

Order from Local Electronic Parts Distributor or Write for List.

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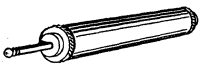
RESISTORS, SPECIAL APPLICATION (continued)

PRINTED RESISTORS (new)

For miniaturization or weight reduction, or where complex-shaped resistors can be applied to flat surfaces, investigate the newly developed IRC printed resistor. Can be supplied in most resistance ranges and tolerances, on various substrates, and with many terminal arrangements. (A-2)

PULSE PROBE, current pulse viewing resistor



For viewing current-wave forms with rise times from 0.5 to 0.01μ seconds with minimum distortion. 0.47 ohms to 100.0 ohms—20% tolerance. 150 volts max. pulse voltage. Inductance not greater than .01 microhenries (S-4)

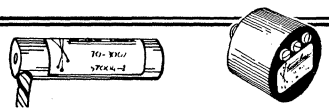
RESISTANCE STRIPS AND DISCS

IRC Resistance strips are available in 6 different widths—from ⅞" to 2¾", lengths 12½". Rated wattage .8/sq. in., Standard Tolerance 20%, Temp. Rise at rated load 55°C., Max. Operating Temp. 80°C. Values available from 19 ohms/sq. in. to 1.0 megohm/sq. in. Special sizes and shapes can be supplied to fit any application with or without silvered terminations. See Data Bulletin T-1 for individual specifications. Prices upon request.

IRC manufactures concentric disc type resistors in 9 different sizes—outer diameters ranging from .240 to 1½". Rated wattage .8/sq. in., Standard Tolerance 20%, Temp. Rise at rated load 55°C., Max. Operating Temp. 80°C. Values available from 5 ohms to 100,000 ohms. See Data Bulletin T-1 for individual specifications. Prices upon request.

IRC Type No.	JAN or MIL Equivalent	Rated Wattage	Standard Tolerance Percent	Max. Temp. Rise at Rated Load°C.	Max. Temp. Coefficient %/°C.△	Max. Operating Temp.°C.	OHMIC VALUES AVAILABLE Min.	Max. (JAN or MIL)	Max. (Commercial)	DIMENSIONS IN INCHES Length	O.D. or Width	Ferrule O.D.×	Catalog Data Sheet
VOLTMETER MULTIPLIERS, sealed precision													
MFA†	MFA	1 ma.	0.5	25	.0022	105	3.5 meg.	6.0 meg.	12.0 meg.	9 25/32	1 25/64	1 1/64	D-2
MFB†	MFB	1 ma.	0.5	25	.0022	105	1.0 meg.	3.5 meg.	6.0 meg.	5 9/32	1 25/64	1 1/64	D-2
MFC†	MFC	1 ma.	0.5	25	.0022	105	0.5 meg.	1.0 meg.	1.2 meg.	2 15/32	1 1/16	1 3/16	D-2

TRANSDUCERS, Pressure and Displacement (new)



A complete line of transducers for converting pressure or position to proportional electrical equivalents (R1 and R3).

*Also supplied with adjustable feature.

†Non-inductive—all other types are inductive to varying degrees. See data bulletin for more details.

‡See data bulletin.

√Available to 500 Meg. on special order.

°MP and MV resistors can be encapsulated to improve voltage and moisture characteristics. Several types are now available. IRC offers engineering assistance for your design and application problems.

•All IRC products may be purchased through Electronic Parts Distributors. Those identified with a • are normally carried in their stocks.

■Tapers available on special order.

(new), indicates new items since January 1959.

×Check catalog for spacing.

FOR ADDITIONAL INFORMATION send for the Technical Bulletin indicated or contact your nearest IRC representative

Wherever the Circuit Says — IRC

INTERNATIONAL RESISTANCE CO.

401 N. BROAD STREET, PHILADELPHIA 8, PA. • WAlnut 2-2166

Branch Offices: NEW YORK 6, N. Y., 165 Broadway, Courtland 7-5020
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SYRACUSE 2, N. Y., 112 Montgomery St., Harrison 2-0274
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Carl Hower
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Main 2-5512

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Circuit Instruments Inc.; St. Petersburg, Fla. (subsidiary)
Hycor Co., Inc.; Vega Baja, Puerto Rico (subsidiary)

CANADIAN LICENSEE:
International Resistance Co., Ltd.
Toronto, Montreal, Ottawa, Calgary

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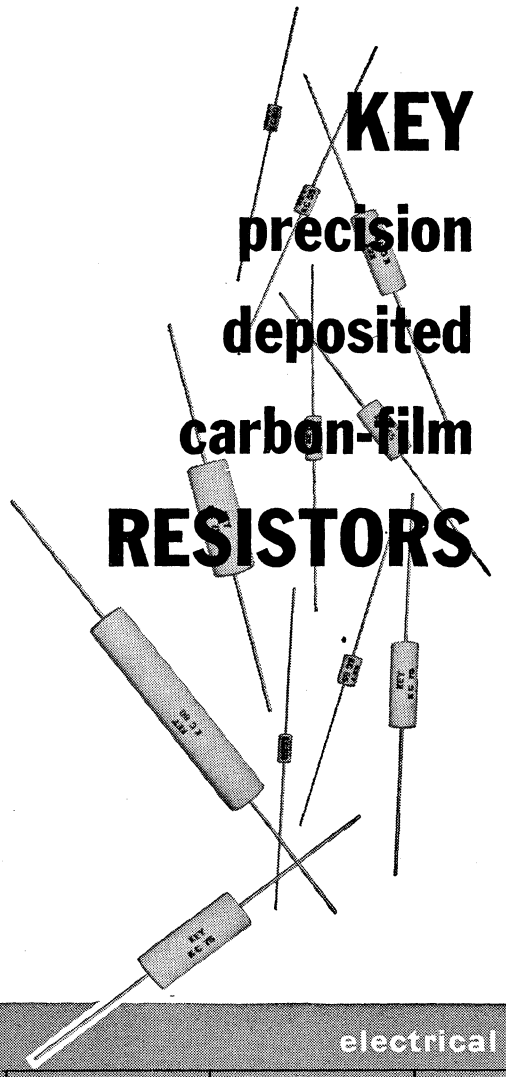
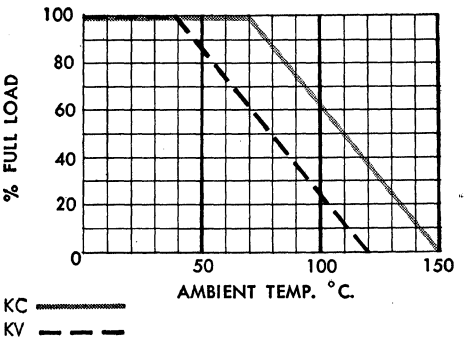
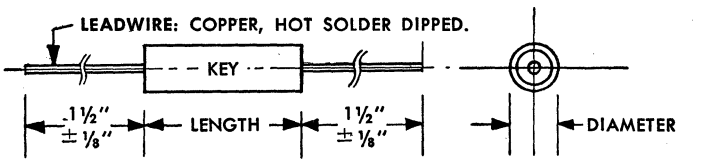


KEY precision deposited carbon-film RESISTORS

Key Precision Deposited-Carbon-Film Resistors are used in electrical equipment requiring the utmost reliability and stability. Materials and processes used in their manufacture are subjected to painstaking quality control procedures. All types easily meet and surpass the requirements of MIL-R-10509B.

DERATING CURVE





electrical and dimensional data

TYPE		RATING		VOLTAGE		RESISTANCE		PHYSICAL DIMENSIONS		
KEY	MIL-R 10509B	KEY WATTS	MIL. WATTS	KEY CONT. V.D.C.	MIL. CONT. V.D.C.	MIN. OHMS	MAX. OHMS	LENGTH MIN./MAX.	DIAMETER MIN./MAX.	LEADS AWG
KC50	...	0.1	...	150	...	50	100K	.234/.266	.094/.125	26
KC55	...	0.125	...	150	...	5	500K	.266/.297	.141/.172	22
KC60	RN60B	0.25	0.125	300	250	5	1 MEG	.429/.437	.145/.165	22
KC65	RN65B	0.5	0.25	350	300	10	2 MEG	.625/.655	.239/.249	20
KC70	RN70B	0.5	0.5	450	350	10	5 MEG	.808/.842	.240/.260	20
KC75	RN75B	1.0	1.0	600	500	10	10 MEG	1.073/1.113	.375/.415	20
KC80	RN80B	2.0	2.0	1000	750	50	20 MEG	2.225/2.275	.375/.415	20
KV2	...	0.1	...	100	...	50	100K	MAX. .250	MAX. .093	26
KV5	...	0.125	...	150	...	5	500K	MAX. .312	MAX. .109	22
KV10	RN10	0.25	0.25	300	300	10	1 MEG	MAX. .430	MAX. .110	22
KV20	RN20	0.5	0.5	350	350	2	2 MEG	MAX. .625	MAX. .170	20
KV22	....	0.5	...	500	...	100	5 MEG	MAX. .812	MAX. .170	20
KV25	RN25	1.0	1.0	1000	500	10	10 MEG	MAX. 1.00	MAX. .295	20
KV30	RN30	2.0	2.0	2000	750	50	20 MEG	MAX. 2.18	MAX. .295	20

KEY RESISTOR CORPORATION
321 West Redondo Beach Blvd., Gardena, California
Telephone: DAvis 3-5000
FAculty 1-2149

key resistors

See YELLOW SECTION for Local Offices, Telephones, etc.

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SUBMINIATURE

PRECISION WIRE WOUND RESISTORS

Type TX (precision)—Type SX (power)...

...made to Fit Your Circuit Design

The use of Sub-Miniature PRECISION Type TX and Type SX Wire Wound Resistors permit you to fit the exact resistor you want to *your* design. No longer is it necessary to accommodate your plan to the resistor.

Both Type TX and SX Resistors come in the widest range of physical sizes and resistance values . . . from 3/32″ in diameter and 3/16″ long and resistance coverages from 0.01 ohm through 1 megohm. According to your need, PRECISION Resistors may be had in larger or smaller diameters and longer or shorter lengths, yet to the resistance value you specify. Terminals may be either axial or radial.

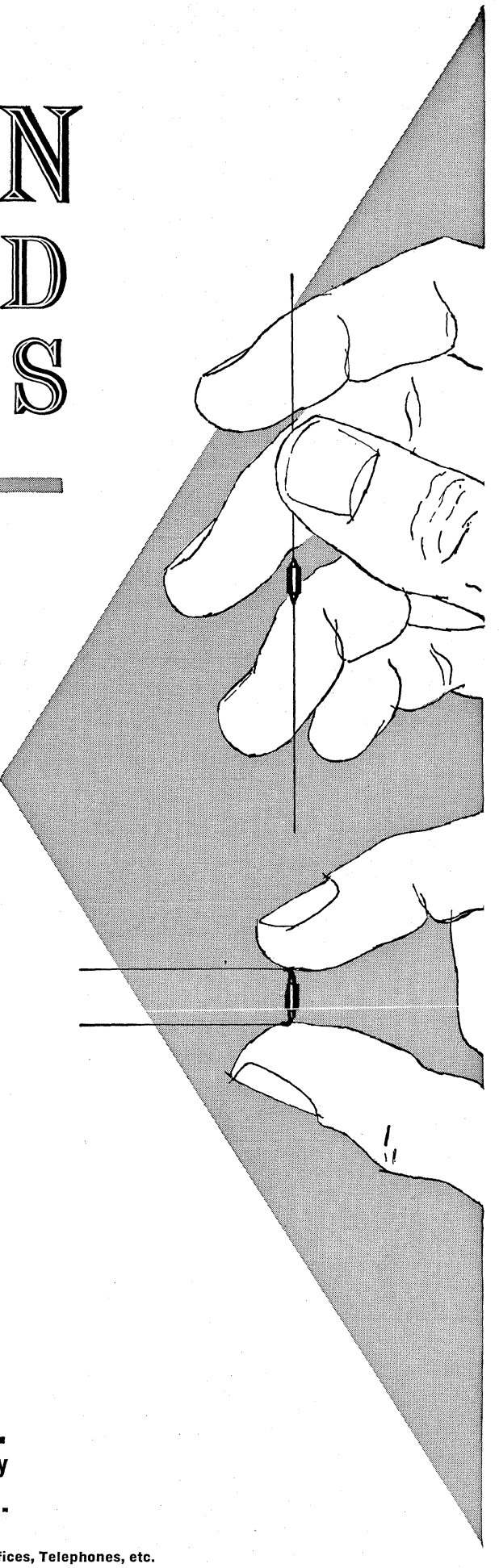
PRECISION Type TX and SX Resistors provide the highest degree of RELIABILITY . . . and at a low, low cost.

PRECISION'S unique winding method prevents the enormous pressures and mechanical stresses found in conventional resistors. Dangerous "cross-overs" and insulation breakdowns are also eliminated.

Type TX and SX Resistors are available inductively or non-inductively wound . . . Type TX in tolerances from ± 1% to ± 1/20% — and, where extreme accuracies are required, to tolerances to ± 1/100% — Type SX in tolerances to ± 1/10%.

Military requirements are to PRECISION specifications.

For complete information about Type TX, Type SX and the other PRECISION Resistors, write to:



PRECISION RESISTOR CO., Inc.
Manufacturers of Wire Wound Resistors, Exclusively
115 U.S. HIGHWAY #22, HILLSIDE, N.J.

See YELLOW SECTION for Local Offices, Telephones, etc.

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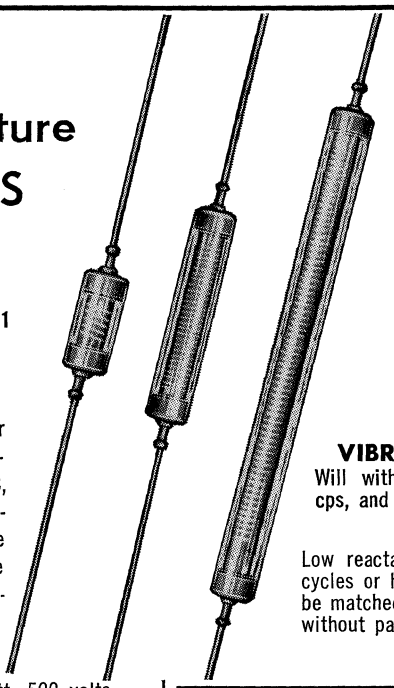
PyroSeal* Ultra-Temperature RESISTORS

RATING:

½ watt — 350 Volts — TYPE UT501
1 watt — 500 Volts — TYPE UT1001



GENERAL SPECIFICATIONS

Derating is linear from full power at 70°C to half power at 160°C, superior to MIL-R 10509C requirements. Although the derating curve indicates zero power at 250°C, the resistors have usable properties to 400°C. The accompanying table illustrates test results for severe conditions under nominal ratings: using critical resistance values, at which maximum rated voltage generates maximum rated power.

UT1001 ($\frac{7}{32}$" diam. x $1\frac{1}{32}$" long) nominal ratings: 1 watt, 500 volts

Resistance Value	Power Watts	Voltage d.c.	Ambient Temp. °C	Time Hours	% Resist. Change
250k	1	500	40	1000	0.1
500k	.5	500	160	1000	0.5
500k	.5	500	400	75	2.0
1 Meg	.25	500	400	75	3.0
1 Meg	0	0	400	1000	—.3

UT501 ($\frac{7}{32}$" diam. x $\frac{17}{32}$" long) nominal ratings: ½ watt, 350 volts

250k	.5	350	40	1000	0.1
1.8 Meg	.07	350	400	75	2.0
250k	.07	125	400	75	2.0
500k	0	0	400	1000	—.3

PyroSeal* Carbon Film RESISTORS

ideal for use in high precision networks

Ratings:
½ watt, 1 watt, 2 watt

FEATURES:

- exclusive fusing process of glass to metal end caps
- Long life stability
- Vibration and shock resistant
- Self insulating
- Moderate price

VIBRATION AND SHOCK RESISTANCE

Will withstand 10G continuous vibration, 55 to 2,000 cps, and 500G in both longitudinal and transverse shock.

NETWORK USE

Low reactances allow simple trimming procedures at 400 cycles or higher frequencies. Temperature coefficients may be matched to .0001%/°C (1 ppm/°C) and ratios to .05% without padding or .005% with padding.

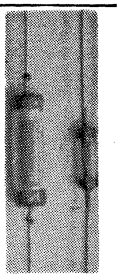
GENERAL SPECIFICATIONS

	MIL-R10509C	PT500	PT1000	PT2000
Diameter ± 1/64"	—	1/16"	3/16"	3/16"
Length over welding studs ± 3/32"	—	7/16"	15/16"	2"
Nominal Power Rating, Watts	—	½	1	2
Maximum Voltage	—	300	500	750
Standard Resistance Range	—	10 ohms 5 megs	10 ohms 30 megs	30 ohms 100 megs
Power Coefficient, %/watt	—	—5	—2.5	—2
Temperature Coefficient	± .05%/°C	—.02%/°C to —.05%/°C		
Voltage Coefficient	—	Less than 2x10—6/volt		
Temperature Cycling	± .5%	Less than .02%		
Low Temperature Exposure	± .5%	Less than .01%		
Short Time Overload	± .5%	Less than .01%		
High Humidity	3%	No effect		
Terminal Strength	5 lbs., 5 twists	15 lbs., 10-360° twists		
Standard Tolerance	—	1% to .1%		

PyroSeal* Mil Size Carbon Film RESISTORS

MIL-R 10509C Characteristic B

TYPE — PT60 — ⅛ watt
PT65 — ¼ watt
PT70 — ½ watt



High precision long life stable resistor, self-insulating with exclusive PyroSeal construction.

GENERAL SPECIFICATIONS

	MIL-R10509C	PT60	PT65	PT70
Diameter ± 1/64"	—	⅛"	1/16"	½"
Length ± 3/32"	—	⅜"	5/8"	¾"
Nominal Power Rating, Watts	—	⅛	¼	½
Maximum Voltage	—	250	300	350
Standard Resistance Range	—	10 ohms 1 megohm	10 ohms 1 megohm	10 ohms 2.37 megohms
Temperature Coefficient	± .05%/°C	—.02%/°C to —.05%/°C		
Voltage Coefficient	—	Less than 2x10—6/volt		
Temperature Cycling	± .5%	Less than .02%		
Low Temperature Exposure	± .5%	Less than .01%		
Short Time Overload	± .5%	Less than .01%		
High Humidity	3%	No effect		
Terminal Strength	5 lbs., 5 twists	15 lbs., 10-360° twists		
Standard Tolerance	—	1% to .1%		

High Stability Glass Sealed

Carbon Film Resistors

for replacement use in existing designs
TYPE PB1h — 2 Watt—5000 volts peak
Ideal for circuits requiring exceedingly high stability . . . high resistance . . . low reactance . . . wide temperature capability

GENERAL SPECIFICATIONS

Stability . . . ± .03% / year @ 100° C operating temperature
Size . . . 1½" long by ⅜" diameter with 1½" tinned leads
Voltage rating . . . 5000 volts peak
Temp. Coef . . . —.02% — .03%/°C from 200 ohms to 10 megohms
Resistance range . . . 10 ohms to 50 megohms
Reactance . . . About .5 uuf shunt capacitance, up to 1 uh series inductance
Tolerances . . . ±1% standard; to .01% special
Humidity . . . Resistors can be treated with silicone finish to minimize surface leakage.

MATCHED NETWORKS

Ratios can be measured to ± .005%, 30 to 3000 cps, and ± .01%, 3000 to 10,000 cps. Temperature coefficients measured to ± .2 part per million per °C(ppm/°C) or ± .00002%/°C. Temperature coefficients can be matched to 1 ppm/°C for ratios up to 100:1 (No limit to number of resistors in a network).

*Pat. Appl. for.

CUSTOM DESIGNS

- Traveling Wave Tube Attenuators
- Flat Plate Wave Guide Attentuators
- Rod and Disc High Frequency Attenuator Elements

Size:
Discs from ¼" OD to 1" OD
Rods from 1/16" to ⅜" diam.
from ¼" to 2" long

Power Ratings: 1 watt to 4 watts made to customer specifications on size and electrode configurations.

WRITE FOR COMPLETE TECHNICAL BULLETINS ON PYROFILM PRECISION RESISTORS.

PYROFILM RESISTOR COMPANY, INC.

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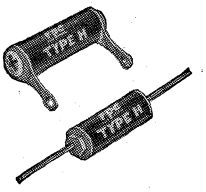
rpc RESISTORS

PRECISION WIRE WOUND • HIGH VOLTAGE • HIGH MEGOHM • HIGH FREQUENCY

METAL FILM PRECISION

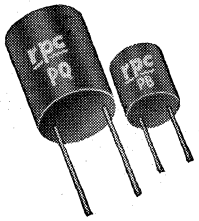
NEW low noise metal film resistor has a temperature coefficient of ±50ppm°C over a temperature range from —65°C to +165°C independent of resistance value. The precision assembly is enclosed in a specially designed hermetically sealed plastic casing (patent pending) to provide utmost protection. Standard tolerance ±1%. Two types available, both with wire leads. Type WHM (equivalent MIL Style RN-75) measures 1.125″ long x .406″ diam., maximum voltage rating 500V. Type WFH (equivalent MIL Style RN-70) measures .781″ long x .250″ diam., maximum voltage rating 350V.

HIGH MEGOHM



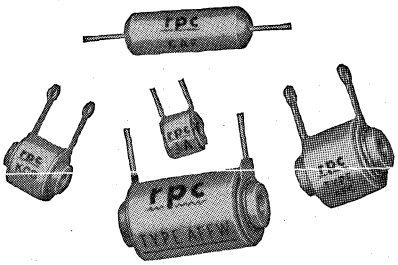
Type H Resistors are used in electrometer circuits, radiation equipment and as high resistance standards. Resistance available to 100 million megohms. (10^{14} ohms). For utmost stability under adverse conditions Type HSD and HSK Heremetically Sealed are recommended. Seven sizes from ¾ inch to 3 inches long are available. Voltage rating to 15,000 volts. Low temperature and voltage coefficients. Standard resistance tolerance 10%. Tolerance of 5% and 3% available. Also matched pairs 2% tolerance.

ENCAPSULATED WIRE WOUND



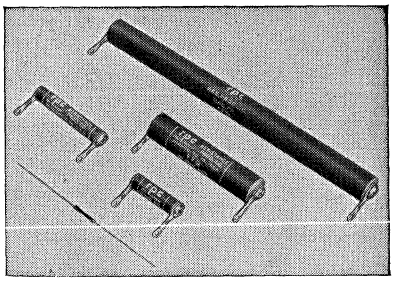
To meet the requirements for printed circuitry, RPC has developed Type P Encapsulated Wire Wound Precision Resistors Miniature, single ended units designed for easy rapid mounting on printed circuit panels with no support other than the wire leads. Many newly developed techniques are employed in the manufacture of Type P Resistors. These units can be operated in ambient temperatures up to 125°C. and will withstand all applicable tests of MIL-R-93B. Available in 7 sizes, rated from 1/10 watt to .4 watt. ¼″ diameter by $\frac{5}{16}$″ long to ⅜″ diameter by ¾″ long. Resistance values to 2 megohms. Tolerances from 1% to 0.05%.

UNSEALED WIRE WOUND



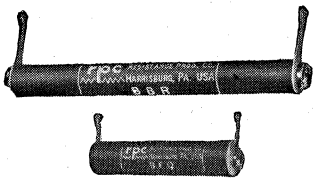
Unsealed precision resistors are wound on steatite forms and are used for all general requirements. They can be furnished with all resistance alloys in tolerances from 1% to .02%. These resistors will meet the requirements of MIL-R-93B. Special winding techniques, impregnation and thermal aging result in resistors of exceptional stability. They are available in a wide variety of sizes, styles and terminal types. Matched resistors, networks and special assemblies can be supplied.

HIGH FREQUENCY



Used where requirements call for very low inductance and skin effect in circuits involving pulses and steep wave fronts. Depending on size and resistance value, these resistors are usable at frequencies to over 400 mc. Resistance values range from 20 ohms to 100 megohms with tolerance of 20% to 5%. 2 types available.
TYPE F resistors (shown) in 10 sizes from $\frac{9}{16}$″ long x 0.10″ diameter to 6½″ long x $\frac{9}{16}$″diameter, with lugs or wire leads. Power ratings ¼ to 10 watts.
TYPE G resistors (not shown), in 6 sizes up to 18½″ long. Power ratings 10 to 100 watts. Meet requirements of MIL-R-10683A.

HIGH VOLTAGE



Type B Resistors are stable compact units for use up to 40 KV. These resistors are used for VT voltmeter multipliers, high resistance voltage dividers, bleeders, high resistance standards and in radiation equipment. They can be furnished in resistance to 100,000 megohms. Available as tapped resistors and matched pairs. Sizes range from a ½ watt resistor ¾ inch long x ¼ inch diameter rated at 2500 volts, to a 10 watt resistor 6½ inches long x $\frac{9}{16}$ inch diameter rated at 40 KV. Low temperature and voltage coefficients. Standard resistance tolerance 15%. Tolerances of 10%, 5% and 3% available. Tolerance of 2% available in matched pairs.

ALL rpc RESISTORS ARE THERMALLY AGED AND STABILIZED

RESISTANCE PRODUCTS COMPANY

914 SOUTH 13TH STREET, HARRISBURG, PENNA.

SPECIALIZING IN THE MANUFACTURE OF QUALITY RESISTORS . IN ANY AMOUNT

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SAGE

"SILICOHM" POWER RESISTORS

(WIRE WOUND)

OFFER THESE UNIQUE FEATURES:

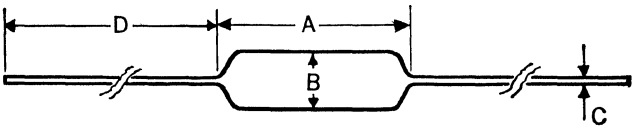
- **PRECISION** (tolerances to ± .05%)
- **LOW T.C. OF RESISTANCE** (± 20 ppm/°C)
- **INSULATED** (1000 V-RMS Dielectric Strength *MIN.*)
- **HIGH TEMPERATURE** (derated to 275°C)
- **STABILITY** (.5% *MAX.* lifetime drift)

PROMPT DELIVERY

Order direct or through your distributor. A special department for prototype quantities insures shipment within one week of receipt of order.

TYPE "S" AXIAL LEAD UNITS SILICONE-COATED

TYPE "CS" AXIAL LEAD UNITS SILICONE-COATED METAL-SHEATHED (for clip-mounting)

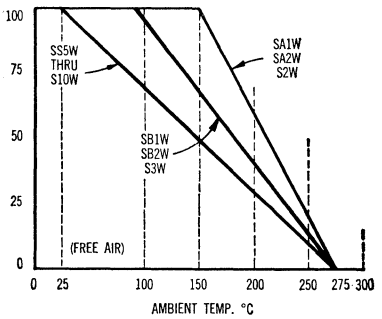


DIMENSIONS (Tabulated below)

DESIGNATION		RATING (Watts)		NOMINAL DIMENSIONS				MIN.-MAX. RESISTANCES	
SAGE	MIL-R-26*	SAGE	MIL*	A	B	C	D	INDUCTIVE	NON-INDUCTIVE
SA1W	—	1	—	1/2"	5/32"	.032"	2"	.05– 12,000	3– 2,500
SB1W	—	1	—	11/16"	5/32"	.032"	2"	.05– 20,000	5– 5,000
SA2W	RW59	2	2.5	1/2"	3/16"	.032"	2"	.05– 15,000	3– 3,000
SB2W	—	2	—	13/16"	3/16"	.032"	2"	.05– 25,000	6– 6,000
S2W	—	2	—	5/8"	1/4"	.040"	2"	.05– 20,000	5– 5,000
S3W	—	3	—	3/4"	1/4"	.040"	2"	.05– 30,000	8– 7,500
SS5W	—	5	—	7/8"	5/16"	.040"	2"	.05– 50,000	13–12,500
SR5W	RW57	5	5	1"	5/16"	.040"	2"	.05– 60,000	15–15,000
SL5W	—	5	—	1 1/8"	5/16"	.040"	2"	.05– 70,000	17–17,500
SS7W	—	7	—	1 1/4"	5/16"	.040"	2"	.05– 80,000	20–20,000
SR7W	RW55	8	5	1 3/8"	3/8"	.040"	2"	.05–125,000	30–30,000
SS10W	RW58	10	8	1 13/16"	3/8"	.040"	2"	.05–175,000	40–40,000
S10W	RW56	10	10	1 15/16"	3/8"	.040"	2"	.05–200,000	50–50,000

*MIL Standard Resistors to Characteristic "G"

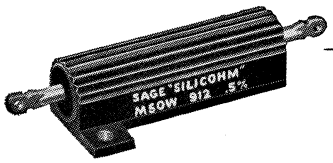
DERATING CURVES



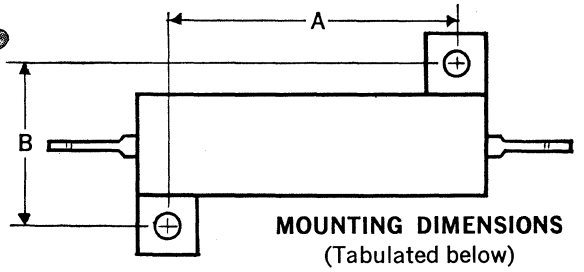
How to Use Dimension Charts in Ordering:

EXAMPLE: The order is for

850	SR5W	1000	1
Quantity	Designation	Resistance	Tolerance (± %)

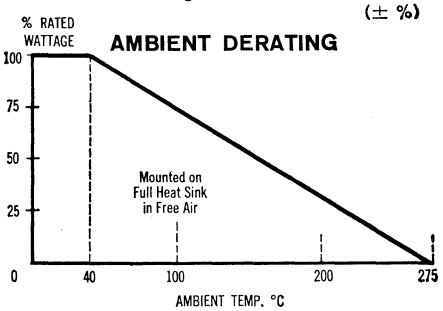


TYPE "M" CHASSIS-MOUNTED UNITS



MOUNTING DIMENSIONS (Tabulated below)

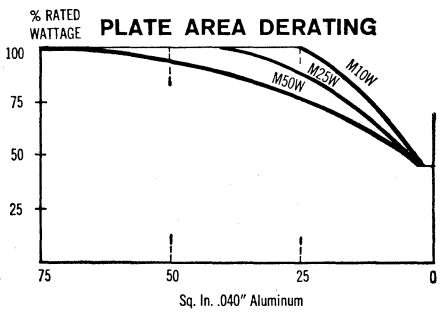
AMBIENT DERATING



DESIGNATION		RATINGS (WATTS)		MOUNTING DIMENSIONS		RESISTANCES	
SAGE	MIL-R-18546*	SAGE	MIL*	A (±.005")	B (±.005")	MIN.	MAX.
M10W	—	10	—	.562"	.625"	.05	25,000
M25W	RH25	20	15	.719"	.781"	.05	50,000
M50W	RH50	40	30	1.562"	.844"	.05	175,000

*MIL Standard Resistors to Characteristic "G"

PLATE AREA DERATING



NOTE: "N" prefix to any given designation denotes non-inductive winding; example, 850 NSR5W1000-1.

SAGE

Write for Descriptive Literature

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SPECTROL

• Precision Linear and Non-Linear WW Potentiometers
• Precision Mechanisms and
• *Transidyne* Converter-Inverters

TWENTY-FIVE STANDARD MODELS — THOUSANDS OF SPECIAL DESIGNS

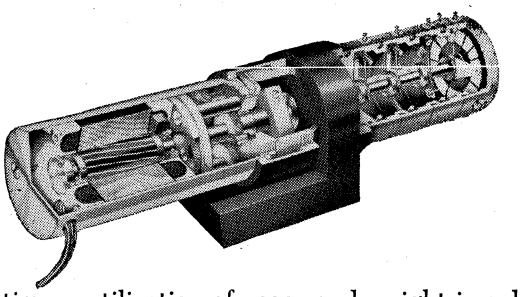
MODEL	Diameter (inches)	Turns	Standard Resistance Range (ohms)	Standard Linearity Tolerance (%)	Standard Electrical Rotation (degrees)	Power Rating (watts)	Starting Torque (in/oz.)	Weight (oz.)	Maximum Sections (ganged)	Standard Operating Temperature (degrees C.)	Approximate Base Price (each)
100	1 5/16	1	10 to 30K	±0.5	352±2	2.75	0.60	2.00	6	—55 to +105	$12.00
110	1 1/8	1	20 to 30K	±0.5	354+0-2	1.50	0.35	0.80	6	—55 to +105	18.00
120	1 1/16	1	20 to 30K	±0.5	353±1	2.00	0.25	0.80	6	—55 to +105	23.00
* 130	1 5/16	1	10 to 30K	±0.5	352±2	2.00	1.00	1.50	1	—55 to +105	8.50
170	1 7/16	1	10 to 35K	±0.5	352±2	2.75	0.62	2.20	6	—55 to +105	18.00
190	1 5/8	1	5 to 60K	±0.3	354±1	3.50	0.68	2.80	6	—55 to +105	18.00
200	1 3/4	1	5 to 65K	±0.3	354±1	3.50	0.70	3.00	6	—55 to +105	18.00
210	1 3/4	1	5 to 65K	±0.3	354±2	3.50	1.00	3.00	6	—55 to +105	15.00
* 230	1 3/4	1	5 to 350K	±0.3	354±1	2.50	0.40	3.00	6	—55 to +105	15.00
300	2	1	20 to 75K	±0.3	356±1	5.00	1.00	3.80	6	—55 to +105	19.00
330	2	1	20 to 75K	±0.3	356±2	5.00	1.30	3.80	6	—55 to +105	16.00
400	3	1	100 to 100K	±0.3	358±1	7.00	1.10	7.00	6	—55 to +105	21.00

*** Models stocked at your local distributors for immediate off the shelf delivery at factory prices. Consult the yellow pages of the phone directory for your local distributor or Spectrol engineering representative.**

NON-LINEAR POTENTIOMETERS

An example of Spectrol's progressive engineering is the use of the IBM 610 computer for calculating non-linear functions for special non-linear potentiometer applications. The only precision potentiometer manufacturer adopting IBM computer techniques within their own plant. Spectrol now provides potentiometers with complex non-linear characteristics in less time to closer tolerances. Information describing the non-linear functions in the form of mathematical formulae or X and Y coordinates is entered into the computer. Previously programmed tapes carrying the general equations for non-linear calculations operate on the data to compute an output in terms of winding equipment settings and cam angles and radii. Using an electric typewriter as a readout device, the settings are printed on a form which is sent to the shop for production. Spectrol's technique completely eliminates guesswork and laborious time consuming, hand calculations. Since the computer is self-checking, results are error free. Through the use of the computer, calculations that formerly took 4 to 6 days are reduced to a matter of minutes.

PRECISION MECHANISMS



Optimum utilization of space and weight in subsystems design using electro mechanical elements can be achieved by coaxial mounting of rotary components on common or parallel shafts. This "unitized" or logical subsystem concept offers the systems designer almost unlimited freedom of selection in packaged modular subsystems. The complete functional Spectrol module, spares the systems designer from the details associated with the assembly of various rotary components. Many combinations of servos, synchros, resolvers, potentiometers, switches, motors, mechanical counters and clutches are available. If your problem involves combining such components, your nearby Spectrol engineering sales representative will be glad to assist you.

See YELLOW SECTION for local offices, telephones, etc.

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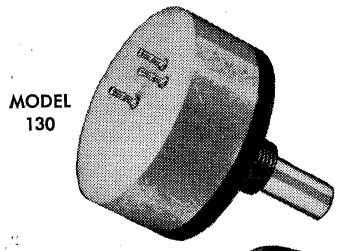
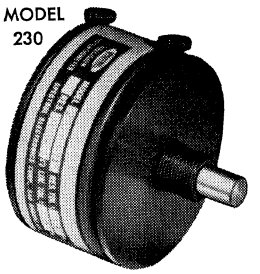
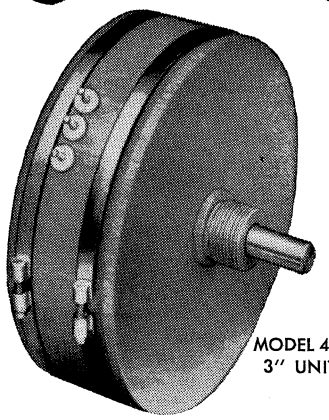
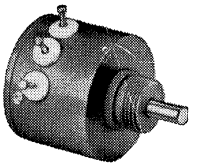
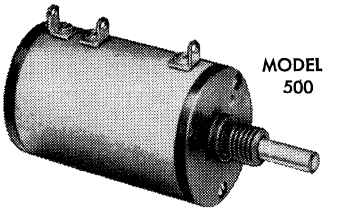


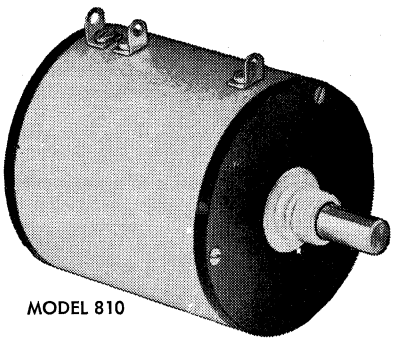


The most complete line of wire-wound potentiometers on the market!





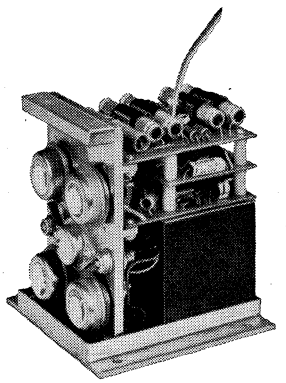




MODEL	Diameter (inches)	Turns	Standard Resistance Range (ohms)	Standard Linearity Tolerance (%)	Standard Electrical Rotation (degrees)	Power Rating (watts)	Starting Torque (in/oz.)	Weight (oz.)	Maximum Sections (ganged)	Standard Operating Temperature (degrees C.)	Approximate Base Price (each)
430	3	1	100 to 100K	±0.3	358±2	7.00	1.40	7.00	6	—55 to +105	$18.00
* 500	7/8	10	25 to 120K	±0.25	3600+5-0	3.00	0.40	1.00	2	—55 to +105	15.00
* 510	7/8	10	25 to 120K	±0.25	3600+6-0	3.00	0.50	1.50	1	—55 to +105	12.00
550	7/8	3	10 to 36K	±0.3	1080+5-0	1.50	0.40	0.60	3	—55 to +105	15.00
570	1	10	25 to 150K	±0.25	3600+4-0	3.00	0.40	1.50	2	—55 to +105	14.00
590	1	10	25 to 150K	±0.25	3600+4-0	3.00	0.40	2.50	2	—55 to +150	50.00
700	7/8	1	10 to 20K	±0.3	354+0-2	1.75	0.10	0.60	6	—55 to +105	25.00
800	1 13/16	10	50 to 400K	±0.25	3600+3-0	8.00	1.20	4.50	3	—55 to +105	15.00
* 810	1 13/16	10	50 to 400K	±0.25	3600+4-0	8.00	1.75	4.50	3	—55 to +105	10.00
820	1 7/16	3 1/4	10 to 90K	±0.25	1080+3-0	3.75	0.90	3.00	3	—55 to +125	30.00
* 830	1 13/16	3	20 to 120K	±0.25	1080+4-0	4.75	1.75	3.00	3	—55 to +105	10.00
850	1 13/16	3	20 to 120K	±0.25	1080+3-0	4.75	1.20	3.50	3	—55 to +105	14.00
870	1 7/16	10 1/4	30 to 300K	±0.25	3600+3-0	6.50	0.90	3.80	3	—55 to +125	30.00

Approximate base prices are given for estimating purposes only. Special linearity tolerances, resistance ranges, temperature ranges, tap configurations, etc., are available on request. Data subject to change without notice.

Transidyne TRANSITORIZED CONVERTER-INVERTERS



TRANSIDYNE transistorized converters and inverters are completely solid state devices which convert ac or dc input voltages to ac and dc outputs of different voltage levels or frequencies. Typically, dc input voltages can be converted to ac output voltages of any frequency up to 2000 cps. AC input voltages can be converted to ac output voltages of a different frequency and value. AC or dc input voltages of one value can be converted to dc output voltages of other values.

TRANSIDYNE units, completely replace obsolete motor-generator and vibrator type devices. Offering outstanding reliability and flexibility of operation, applications for Transidyne transistorized converter-inverters include: Aircraft radio, radar and utility power supply. Missile instrumentation power supply. Mobile and marine radio power supply. Remote radio telephone and telegraph. Portable powerpacks. All types of military and commercial electronic and electrical devices requiring rugged, reliable, power sources. *(Write for Data File 701).*

With plants in California and New York, Spectrol offers 31 representative offices in the Western World, and 25 stocking distributors in principal cities throughout the United States and Canada for rapid delivery and immediate service.

Give your nearby Spectrol representative or distributor a call next time you need precision potentiometers, precision mechanisms, or TRANSIDYNE converter-inverters. He'll be happy to serve you. Or you may write the factory. Please address Department E59.

SPECTROL ELECTRONICS CORPORATION

1704 South Del Mar Ave. • San Gabriel, California

Phone ATlantic 7-9761 • CUmberland 3-5141

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TECHNOLOGY INSTRUMENT CORPORATION

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North Hollywood, Calif.
Acton Laboratories, Inc., Acton, Mass.
Tucson Instrument Corp., Tucson, Ariz.
Servotrol, Inc., Chicago, Ill.
Altomac Corp., Canton, Mass.

TYPE		DESCRIPTION	CASE SIZE	RESIS. RANGE	RATED TEMP. COEFF. OF RES. ELEMENT
	TRIMMERS				
RWT	Res. Element Box Type—Wirewound	Aluminum Housing Steel Cover	1¼" x 5/16" x ¼"	50-15KΩ	20 PPM/°C. max.
RFT-1 H1 W1	Box Type—Metlfilm	Infinite Resolution High Temperature	1 21/64" x .405" x 13/32"	50-25KΩ	400 PPM/°C. max.
RTW-L1 P1 W1	Box Type—Wirewound	Hermetic Sealed Molded Plastic Housing	1¼" x 5/16" x ¼"	50-100KΩ	40 PPM/°C. max.
RTF-L1 P1	Box Type—Metlfilm	RTF—Infinite Resolution		50-25KΩ	250 PPM/°C. max.
TPC	Box Type—Wirewound	Molded Plastic High Temp. Printed Circuit Lugs	1" x .40" x .16"	50-30KΩ	40 PPM/°C. max.
RV05-1	Rotary Wirewound	Sub-Miniature	½" x 5/8"	50-50KΩ	20 PPM/°C. max.
RV09	Rotary Wirewound	Short Housing	½" x ½"	100-25KΩ	20 PPM/°C. max.
RV05-2	Rotary Wirewound	Thin Miniature	7/8"	50-50KΩ	20 PPM/°C. max.
PC05	Rotary Wirewound	Screw Slot Adj.	½" x ½"	50-25KΩ	20 PPM/°C. max.
	PANEL CONTROLS				
TP05	Rotary Wirewound 1/8" shaft	Single Turn High Torque	½" x 5/8"	50-50KΩ	20 PPM/°C. max.
TP09	1/8" or ¼" shaft	Single Turn High Torque	7/8" d.	100-25KΩ	20 PPM/°C. max.
TP11	¼" shaft 3/8" bushing	Single Turn High Torque	1 1/16" d.	100-50KΩ	20 PPM/°C. max.
TP13	¼" shaft 3/8" bushing	Single Turn High Torque	1¼" d.	100-50KΩ	20 PPM/°C. max.
TP17	¼" shaft 3/8" bushing	Single Turn High Torque	1 5/8" d.	100-100KΩ	20 PPM/°C. max.
TP20	¼" shaft 3/8" bushing	Single Turn High Torque	2" d.	100-100KΩ	20 PPM/°C. max.
M3TF	Spiral Lead Screw Metlfilm	3 Turn High Torque	1 3/8" x ½" x ½"	100-3KΩ	50 PPM/°C. max.
M5TF	Lead Screw Metlfilm	5 Turn High Torque	1 3/8" x ½" x ½"	100-5KΩ	50 PPM/°C. max.
M10TF	Lead Screw Metlfilm	10 Turn High Torque	1 3/8" x ½" x ½"	100-10KΩ	50 PPM/°C. max.
P1¼	Rotary Wirewound	Low Cost Molded Bakelite High Torque	1¼" d.	100-50KΩ	20 PPM/°C. max.
P1⅝	Rotary Wirewound	Low Cost Molded Bakelite High Torque	1 5/8" d.	100-100KΩ	20 PPM/°C. max.
P3	Rotary Wirewound	Low Cost Molded Bakelite High Torque	3" d.	100-200KΩ	20 PPM/°C. max.
	PRECISION SERVO TYPE				
PVR05	Rotary Wirewound	High Precision Single Turn Modular Construction	½" d.	100-20KΩ to 50K spec.	20 PPM/°C. max.
PVR09	Rotary Wirewound	High Precision Single Turn Modular Construction	7/8" d.	100-100KΩ to 150K spec.	20 PPM/°C. max.
PVR11	Rotary Wirewound	High Precision Single Turn Modular Construction	1.062" d.	100-100KΩ to 150K spec.	20 PPM/°C. max.
PVR15	Rotary Wirewound	High Precision Single Turn Modular Construction	1 1/16" d.	100-100KΩ to 200K spec.	20 PPM/°C. max.
PVR18	Rotary Wirewound	High Precision Single Turn Modular Construction	1¾" d.	100-150KΩ to 200K spec.	20 PPM/°C. max.
PVR20	Rotary Wirewound	High Precision Single Turn Modular Construction	2" d.	100-150KΩ to 200K spec.	20 PPM/°C. max.
PVR30	Rotary Wirewound	High Precision Single Turn Modular Construction	3" d.	100-300KΩ spec. to 500K	20 PPM/°C. max.
MFR-1	Rotary Metlfilm	Hermetic Sealed Capsule Contact Supertested Reliability	1.062"	500-25KΩ	30 PPM/°C. max.
MFR-2	Rotary Metlfilm	Hermetic Sealed Capsule Contact Supertested Reliability	2" d.	500-50KΩ	30 PPM/°C. max.
MFR-3	Rotary Metlfilm	Hermetic Sealed Capsule Contact Supertested Reliability	3" d.	500-75KΩ	30 PPM/°C. max.
HHF-2	Rotary Metlfilm	Ultra-High Temp. High Precision	2" d.	100-25KΩ	250 PPM/°C. max.
M3T09	Spiral Wirewound	3 Turn	7/8" d.	1K to 30KΩ	20 PPM/°C. max.
M5T09	Spiral Wirewound	5 Turn	7/8" d.	1K to 50KΩ	20 PPM/°C. max.
M10T09	Spiral Wirewound	10 Turn	7/8" d.	1K-100KΩ	20 PPM/°C. max.
M10T19	Spiral Wirewound	10 Turn	1.82" d.	1K-700KΩ	20 PPM/°C. max.
STC18	Rotary Wirewound	Unitized Single Turn	1¾" d.	100-100KΩ	20 PPM/°C. max.
P 13	Rotary Wirewound	Low Cost Molded Bakelite	1¼" d.	100-50KΩ	20 PPM/°C. max.
P 17	Rotary Wirewound	Low Cost Molded Bakelite	1 5/8" d.	100-100KΩ	20 PPM/°C. max.
P 30	Rotary Wirewound	Low Cost Molded Bakelite	3" d.	100-200KΩ	20 PPM/°C. max.
RVBC2	Rotary Wirewound	Unitized Construction	2" d.	100-200KΩ	20 PPM/°C. max.

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Technology Instrument Corporation and subsidiaries located country-wide provide in addition to the comprehensive line described below—an extensive selection of special function precision potentiometers, such as Sine-Cosine in 7/8" to 3" diameters; Logarithmic or Exponential; Square Law; Standard Taper; Translatory; and custom non-linear functions. Supplementing these are Pressure Transducers; Accelerometers; Precision Clutches, Brakes and Brake-Clutches; Precision Commutators and Switches.

Supervisory Control Systems, Acoustical Noise Systems, Automatic Power Transfer Systems are designed and fabricated by the Tucson Arizona plant.

Acton Laboratories manufactures an extensive line of phase meters, impedance meters, vacuum tube voltmeters, oscillographic recorders, Potentiometer test equipment, amplifiers, dual speed drives, knobs and dials. Environmental testing laboratory services are provided at both Acton Laboratories in Acton and TIC of California in North Hollywood.

TYPE	STD. TERMINAL LINEARITY	DIELECTRIC STRENGTH	STD-WINDING ANGLE	CONSERVATIVE POWER RATING at 25° C.	MOUNTING	TEMP. RANGE
RWT	±5% nom.	500VDC Breakdown 5 sec.	9000°	½ watt	Eyelet (may be stacked)	—55°C. +125°C.
RFT-1 H1 W1	±5% nom.	500VDC Breakdown 5 sec.	9000°	½ watt	Eyelet (may be stacked)	—55°C. +125°C.
RTW-L1 P1 W1	±5% nom.	750VDC Breakdown 5 sec.	9000°	1 watt	W1 Teflon Wire Leads L1 Printed Circuit Lugs P1 Tinned Wire Leads	—55°C. +225°C. —55°C. +225°C.
RTF-L1 P1			9000°	½ watt		
TPC	±5% nom.	500VDC Between leak & shaft	13320°	1 watt	Printed Circuit Lugs	—55°C. +225°C.
RV05-1	±5% nom.	1000VDC Breakdown 5 sec.	300° nom.	1½ watt	Threaded Bushing Lock Nut	+80°C. std. +145°C. spec.
RV09	±5% nom.	1000VDC Breakdown 5 sec.	300° nom.	1½ watt	Threaded Bushing Lock Nut	+80°C. std. +145°C. spec.
RV05-2	±5% nom.	1000VDC Breakdown 5 sec.	320° nom.	2 watts	Threaded Bushing Lock Nut	+80°C. std. +145°C. spec.
PC05	±5% nom.	1000VDC Breakdown 5 sec.	300° nom.	½ watt	Printed Circuit Lugs	—55°C. to +145°C.
TP05	±5% nom. ±0.5% above 5K spec.	1000VDC Breakdown 5 sec.	300° nom.	1½ watts	Threaded Bushing Locating Pin	—55°C. to +150°C.
TP09	±5% nom. ±0.5% above 5K spec.	1000VDC Breakdown 5 sec.	320° nom.	2 watts	Threaded Bushing Locating Pin	—55°C. to +150°C.
TP11	±5% nom. ±0.5% above 5K spec.	1000VDC Breakdown 5 sec.	320° nom.	2 watts	Threaded Bushing Shaft Locking Device	—55°C. to +150°C.
TP13	±5% nom. ±0.5% above 5K spec.	1000VDC Breakdown 5 sec.	320° nom.	2½ watts	Threaded Bushing Shaft Locking Device	—55°C. to +150°C.
TP17	±5% nom. ±0.5% above 5K spec.	1000VDC Breakdown 5 sec.	320° nom.	3 watts	Threaded Bushing Shaft Locking Device	—55°C. to +150°C.
TP20	±5% nom. ±0.5% above 5K spec.	1000VDC Breakdown 5 sec.	320° nom.	4 watts	Threaded Bushing Shaft Locking Device	—55°C. to +150°C.
M3TF	±5% nom.	1000VDC Breakdown 5 sec.	1080° nom.	½ watt	Threaded Bushing Shaft Locking Device	—55°C. to +125°C.
M5TF	±5% nom.	1000VDC Breakdown 5 sec.	1800° nom.	½ watt	Threaded Bushing Shaft Locking Device	—55°C. to +125°C.
M10TF	±5% nom.	1000VDC Breakdown 5 sec.	3600° nom.	½ watt	Threaded Bushing Shaft Locking Device	—55°C. to +125°C.
P1¼	±2.0% std. ±0.5% above 5K spec.	2000VDC Breakdown 5 sec.	315° nom.	2½ watts	Threaded Bushing or Tapped Hole	—55°C. to +80°C.
P1⅝	±0.75% std. ±0.25% above 5K spec.	2000VDC Breakdown 5 sec.	315° nom.	4 watts	Threaded Bushing or Tapped Hole	—55°C. to +80°C.
P3	±0.5% std. ±0.15% above 5K spec.	2000VDC Breakdown 5 sec.	320° nom.	8 watts	Threaded Bushing or Tapped Hole	—55°C. to +80°C.
PVR05	±0.5% above 5K std. ±0.3% spec.	1000VDC Breakdown 5 sec.	320° ±5° std. ±2° spec.	2 watts	Servo Precision Pilot	—55°C. +145°C. std.
PVR09	±0.5% above 5K std. ±0.3% spec.	1000VDC Breakdown 5 sec.	350° ±5° std. ±2° spec.	2 watts	Servo Precision Pilot	—55°C. +145°C. std.
PVR11	±0.5% above 5K std. ±0.3% above 2K spec.	1000VDC Breakdown 5 sec.	350° ±5° std. ±2° spec.	2 watts	Servo Precision Pilot	—55°C. +145°C. std.
PVR15	±0.5% ±0.2% above 1K spec.	1000VDC Breakdown 5 sec.	350° ±3° std. ±1° spec.	3 watts	Servo Precision Pilot	—55°C. +145°C. std.
PVR18	±0.5% 0.2% above 1K spec.	1000VDC Breakdown 5 sec.	350° ±2° std. ±0.5° spec.	3 watts	Servo Precision Pilot	—55°C. +145°C. std.
PVR20	±0.5% 0.2% above 5K spec.	1000VDC Breakdown 5 sec.	350° ±3° std. ±1° spec.	4 watts	Servo Precision Pilot	—55°C. +145°C. std.
PVR30	±0.3% below 1K ±0.2% std.	1000VDC Breakdown 5 sec.	350° —358° ±3° ±0.5° spec.	6 watts	Servo Precision Pilot	—55°C. +145°C. std.
MFR-1	±.4% std. ±.25% spec.	900VAC Breakdown 1 min.	320° ±3° std. ±1° spec.	3 watts	Servo Precision Pilot	—65°C. to +150°C. to +225°C. spec.
MFR-2	±.4% std. ±.25% spec.	900VAC Breakdown 1 min.	320° ±3° std. ±1° spec.	4 watts	Servo Precision Pilot	—65°C. to +150°C. to +225°C. spec.
MFR-3	±.3% std. ±.1 spec.	900VAC Breakdown 1 min.	320° ±2° std. ±½° spec.	4 watts	Servo Precision Pilot	—65°C. to +150°C. to +225°C. spec.
HHF-2	±.4% std. ±.25% spec.	900VAC Breakdown 1 min.	350° ±2°	2 watts @ 70°C.	Servo Precision Pilot	—65°C. to +225°C. to +250°C. spec.
M3T09	±0.2% std ±0.1 spec.	1000VDC Breakdown 5 sec.	1080° nom.	2 watts @ 45°C.	Servo Precision Pilot	—55°C. to +125°C.
M5T09	±0.15% std ±0.1 std.	1000VDC Breakdown 5 sec.	1800° nom.	3 watts @ 45°C.	Servo Precision Pilot	—55°C. to +125°C.
M10T09	±0.1% std±0.05% spec.	1000VDC Breakdown 5 sec.	3600° nom.	5 watts @ 45°C.	Servo Precision Pilot	—55°C. to +125°C.
M10T19	±0.05% std±0.025% spec.	1000VDC Breakdown 5 sec.	3600° nom.	5 watts @ 25°C.	Servo and Tapped Holes	—55°C. to +85°C.
STC18	±0.5% std. ±0.2% above 1K spec.	1000VDC	320° ±2°	3 watts	Servo and Tapped Holes	—55°C. to +145°C. std.
P 13	±2.0% std. ±0.5% above 5K spec.	2000VDC Breakdown 5 sec.	315° nom.	2½ watts	Threaded Bushing	—55°C. std. +80°C. spec.
P 17	±0.75% std. ±0.25% above 5K spec.	2000VDC Breakdown 5 sec.	315° nom.	4 watts	Threaded Bushing	—55°C. std. +80°C. spec.
P 30	±0.5% std. ±0.15% above 5K spec.	2000VDC Breakdown 5 sec.	320° nom.	8 watts	Tapped Hole	—55°C. std. +80°C. spec.
RVBC2	±0.5% ±0.2% above 5K spec.	1000VDC 5 sec. dur.	320° ±3° std. ±1° spec.	4 watts	Servo and Tapped Hole	—55°C. to +80°C.

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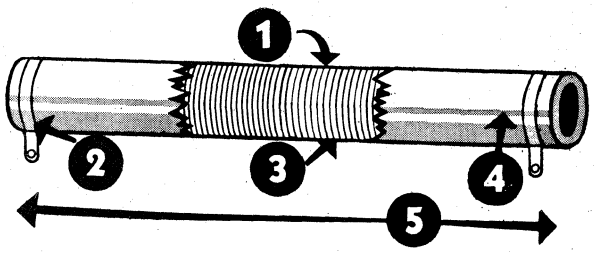
TECH-OHM RESISTOR CORPORATION *Electronic Components*

36-11 33rd STREET • LONG ISLAND CITY 6, NEW YORK • STillwell 6-2274



5 BIG REASONS WHY *TECH-OHM* SPELLS QUALITY PLUS

1. **UNIFORMLY LOW TEMPERATURE COEFFICIENT OF RESISTIVITY.** *Tech-Ohm* works with the finest quality resistance wire, wound on carefully selected ceramic cores insuring a uniformly low temperature coefficient of resistivity.
2. **ALL-WELDED UNIT.** *Tech-Ohm* welds the terminals in the core and in a second operation welds the terminal to the wire insuring a firm electrical connection.
3. **SECURE WINDINGS.** *Tech-Ohm* introduces a revolutionary method of winding which prevents wire slippage and is not dependent upon coating to secure the windings in place.
4. **PROTECTED RESISTOR.** *Tech-Ohm* utilizes a highly specialized vitreous enamel coating with high thermoid conductivity that protects against abrasion, moisture and atmospheric conditions.
5. **UNIFORM EXPANSION AND CONTRACTION.** *Tech-Ohm* eliminates stresses and strains under any operating conditions with cores, terminals and enamel uniformly matched in thermal characteristics.

Plus Means

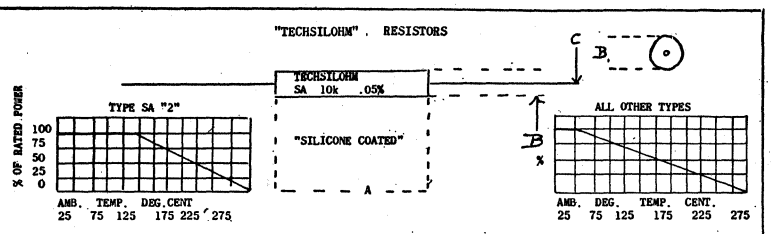
- **FAST DELIVERY**
- **QUALITY ITEM AT POPULAR PRICES**
- **MIL APPROVED ITEM**

Tech-Ohm resistors also meet Standard Commercial Specifications. Individual types to fit special customer requirements submitted upon request.

ONE COMPLETE RESISTOR SOURCE

1. Fixed, Wirewound, Power type Resistors, to MIL-R-26C and the commercial equivalents, in vitreous enamel or cement coatings. 5 watts to 200 watts.
2. Adjustable, Wirewound, power resistors in vitreous enamel or cement. 5 watts to 200 watts.
3. Precision, Wirewound Resistors, to MIL-R-93 and commercial.
4. Power-Precision wirewound resistors, Silicone coated, axial leads, 0.01 to 10% tol. (Trade name—TECHSILOHM)
5. Axial lead resistors, vitreous enamel and cement.
6. Power resistors, aluminized housing, RH types, MIL-R-18546B. (Trade name—Powerpack)
7. Multi section wirewound, resistors, vitreous enamel and cement.
8. Printed circuit resistors.
9. Deposited carbon resistors in accordance with MIL-R-10509B.
10. Metal Film, Fixed, resistors, high stability—¼ watt to 10 watts.
11. Flat stacked mounted resistors. 10 watts to 60 watts.
12. Special resistors for every application.
13. Ferrule type wire wound resistors in vitreous enamel and cement.
14. Non-Inductive Resistors.
15. Wire wound heater elements.

"TECHSILOHM" RESISTORS

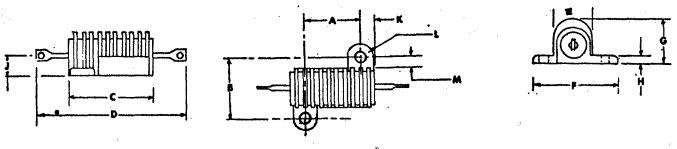


TYPE	WATTS*	MAX.R.	MIN.R.	A	B	C	TOL a	TOL b	STANDARD TOLERANCES .05%, .1%, .25%, .5%, 1%, 2%, 3%
SA2	2	20k	10 Ohms	13/16	3/16	1½" #20TC	.062	.031	MEETS MIL R 26 C Specifications
SA3	3	30k	10	5/8	1/4	1½" #20TC	.062	.031	MOISTURE AS PER MIL STD 202A (106A)
SA5	5	60k	10	7/8	5/16	1½" #18TC	.062	.031	TEMPERATURE TEST 275° C
SA7	7	90k	10	1.7/32	5/16	1½" #18TC	.062	.031	DIELECTRIC TEST 1000 VOLTS
SA10	10	150k	10	1.25/32	3/8	1½" #18TC	.062	.031	THERMAL SHOCK
									VIBRATION 10 to 55 CPS .06 MAX EXCURSION
									MOMENTARY OVERLOAD 10 TIME RATED WATTAGE
									TERMINAL STRENGTH 10 LBS
									TEMPERATURE COEFFICIENT 20 PPM° C

* FULL RATED WATTAGE

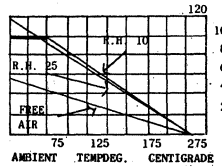
TECHSILOHM SILICONE COATED PRECISION RESISTORS

POWER PACK RESISTORS



TYPE	A	B	C	D	E	F	G	H	J	K	L	M
RH-10	.562 ±.005	.625 ±.005	3/4 ±1/32	1-3/8 ±1/16	7/16 ±1/32	3/4 ±1/32	13/32 ±1/32	3/32 ±1/64	13/64 ±1/64	.093 ±.010	.093 ±.005	3/32 ±1/64
RH-25	.719 ±.005	.781 ±.005	1-1/16 ±1/32	1-15/16 ±1/16	9/16 ±1/32	1-3/32 ±1/32	9/16 ±1/32	3/32 ±1/64	1/4 ±1/64	.171 ±.010	.25 ±.005	1/8 ±1/64
RH-50	1.563 ±.005	.844 ±.005	1-31/32 ±1/32	2-25/32 ±1/16	5/8 ±1/32	1-5/32 ±1/32	5/8 ±1/32	3/32 ±1/64	9/32 ±1/64	.396 ±.010	.25 ±.005	1/8 ±1/64

WATTS	RESISTANCE	TOLERANCES
RH 10	1 TO 30K	0.05 TO 3.0%
RH 25	1 TO 60K	0.05 TO 3.0%
RH 50	1. TO 100K	0.05 TO 3.0%



A. TEMP. CURVES BASED ON UNIT MOUNTED ON STEEL AND ALUMINUM PANELS 12 x 12 x .059
B. MEET APPLICABLE MIL-PARAGRAPHS. MIL-R 18546 AND MIL-R 26C
C. UNITS INDUCTIVELY WOUND SILICONE SEALED IN ALUMINUM DIE CAST HOUSE
D. VOLTAGE BREAKDOWN 1000 VOLTS
E. TEMPERATURE COEFFICIENT 0.000020 % per ° C
F. UNITS CAN BE WOUND NON-INDUCTIVE
G. HOTSPOT TEMP. 265 ° C

TECH-OHM RESISTOR maintains over 500,000 resistors in stock. Tech-Ohm solicits your requirements based on quality, price, service, delivery and 13 years' experience

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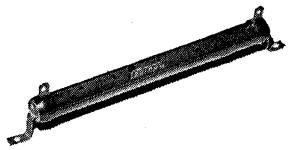
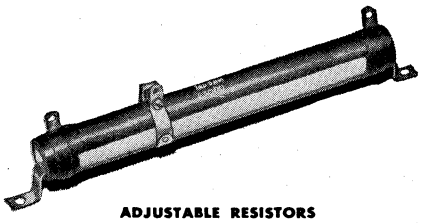
TRU-OHM

World's Largest Manufacturers of

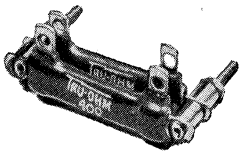
RESISTORS



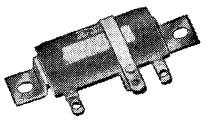
FIXED RESISTORS



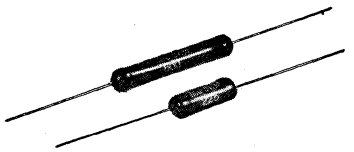
ADJUSTABLE RESISTORS



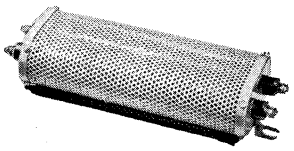
MIDGET OVAL RESISTORS



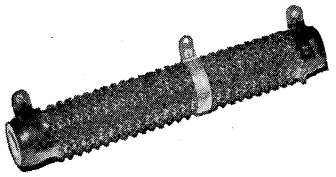
OVAL RESISTORS



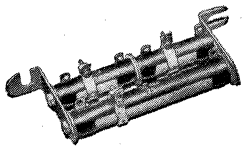
AXIAL LEAD RESISTORS



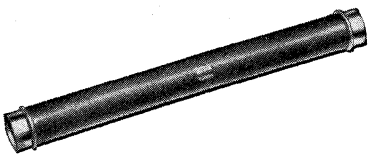
CAGED RESISTORS



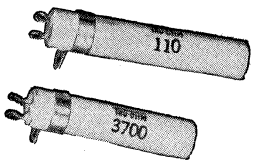
"TRU-RIB" RESISTORS



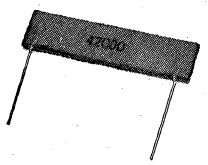
SPECIAL SIZE RESISTORS



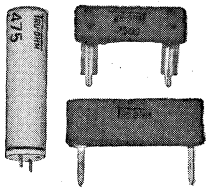
FERRULE TYPE RESISTORS



"VERTI-OHM" RESISTORS

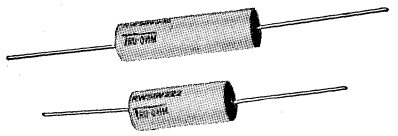


"ECONOHM" RESISTORS



PRINTED CIRCUIT RESISTORS

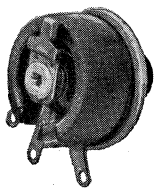
X-60 RESISTORS



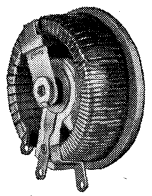
HEAVY DUTY AXIAL LEAD RESISTORS

World's Finest Line of

POWER RHEOSTATS

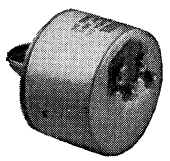


POWER RHEOSTATS

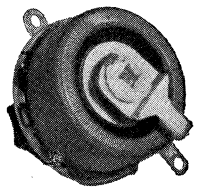


TAPER WOUND RHEOSTATS

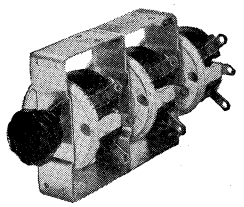
CAGED RHEOSTATS



DUSTPROOF RHEOSTATS



360° RHEOSTATS



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ULTRONIX

• Precision Miniature and Ultraminiature WW Resistors
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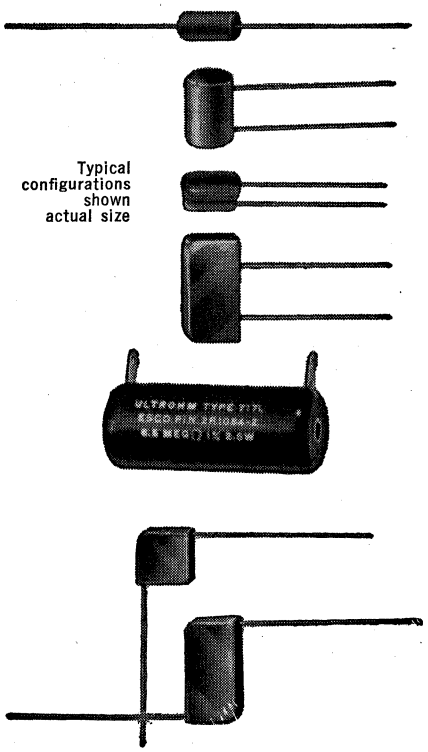
• Trimming Potentiometers



Typical configurations shown actual size

TYPES AND SIZES — ULTRONIX resistors are supplied with axial or radial leads, or with solder lugs. All lug types are made with a metal tube through the center of the resistor permitting secure mounting without changing resistance values.

RESISTANCE — ULTRONIX resistors are available from one milli-ohm to twenty megohms.

TOLERANCE — ULTRONIX specializes in the manufacture of extremely close tolerance resistors on a production basis. Tolerance specifications as tight as plus or minus 0.01% can be met even at very low resistance values.

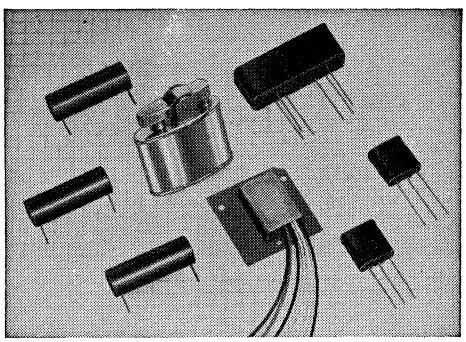
TEMPERATURE COEFFICIENT — Standard ULTRONIX resistor temperature coefficient is fifteen parts per million per degree Centigrade over the entire operating temperature range. Resistors can be supplied with a specified temperature coefficient as low as minus one hundred parts per million or as great as plus 0.6% per degree Centigrade.

FREQUENCY CHARACTERISTIC — ULTRONIX resistors are made up of multiple pi reversed windings. These are substantially non-inductive up to 50 kc. Rise time to 0.1 μsec available on special order.

CONSTRUCTION DETAILS—ULTRONIX resistors are wound on bobbins compression molded with the external leads in place, assuring the firmest possible anchorage. Mid-ohm* alloy (180 alloy) is used exclusively for leads and lugs. All joints are welded.

ENCAPSULATION — ULTRONIX resistors are completely sealed by compression molding in an alkyd resin which has a coefficient of linear expansion exactly matching that of the resistance wire. This eliminates strain coefficient which causes a synthetic temperature coefficient in resistors encapsulated in other materials. Moisture absorption and thermal conductivity properties of ULTRONIX potting resin are also superior. ULTRONIX resistors exceed the requirements of MIL-R-93A and MIL-R-9444

*Trademark—Driver-Harris Company

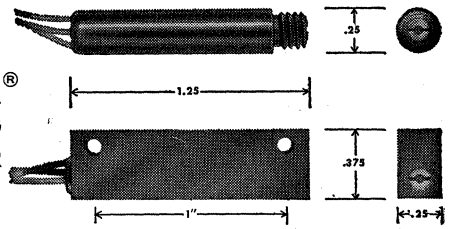


MATCHED SETS AND NETWORKS

Available in a wide range of values, close tolerance matched networks and sets are made with division ratios matched as closely as 0.001% and absolute values with 0.01%. An example of current production is a ratio set of thirteen resistors each matched to the master resistor within ten parts per million with absolute resistance values held to within 0.01%.

FOR COMPLETE TECHNICAL INFORMATION, contact your local Ultronix sales engineering representative or write directly to the factory. Please address Dept. 59.

The ULTRIMMER® TRIMMING POTENTIOMETER



The Ultrimmer® is a wire wound trimming potentiometer introducing unique design features to provide a smaller, more convenient wide range device for use wherever rugged resistance trimmers are required. The Ultrimmer® is available in either the cylindrical or rectangular case. Contact against the wire is made under constant and correct tension. This is accomplished by a unique design configuration in which the resistance wire is wound on the inside diameter of the Ultrimmer® body with the slider positioned in the center. With the wire space-wound and potted in alkyd, unusually low temperature coefficient and high heat dissipation, as well as elimination of vibration problems, are special features of the Ultrimmer®. Standard models with resistance values from 10 ohms to 150 k ohms and infinite resolution models up to 5 k ohms are available.

ULTRONIX

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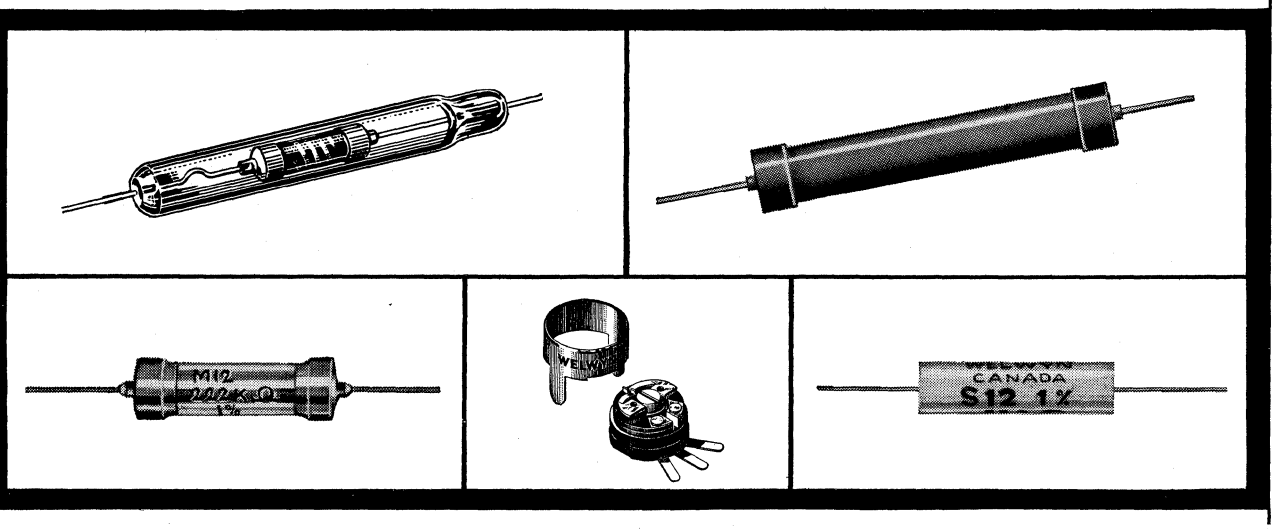

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VECO GENERAL PURPOSE BEAD THERMISTORS

PERTINENT DATA

VECO glass-coated or glass-enclosed thermistors may be operated satisfactorily up to 500°C (932°F). However if exceptional stability is required, operating temperatures should be held to a maximum of 300°C (572°F). These temperature ratings apply to the thermistor only and in some cases have been reduced because of the temperature limitations of their mountings, finishes, or terminals.

Physical dimensions shown are in inches. Values specified, unless otherwise noted, are approximate.

Lead material shown as Pt indicates platinum, and Pt-Ir indicates platinum-iridium. VECO bead type thermistors are hermetically sealed in glass and not susceptible to corrosive agents. They have a great many applications which include: temperature measurement, indication, control, and compensation; liquid level or flow devices; fire alarms; gas detection; time delay; insertion probes; etc.

VECO GENERAL PURPOSE GLASS COATED BEAD THERMISTORS

The VECO 32A7, 32A8, and 34A1 shown in Fig. 2A have the stub ends glass coated.†

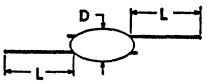


Fig. 1. Opposite Leads

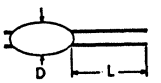


Fig. 2. Adjacent Leads

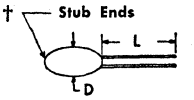


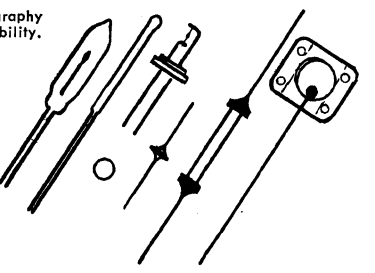
Fig. 2A

VECO NUMBER		Cold Resistance R_0 @ 25°C (Ohms)	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Temperature Coefficient α @ 25°C (%/°C)	Ratio R_0 @ 0°C / R_0 @ 50°C	Lead Dia. and Material	Dimensions	
Fig. 1	Fig. 2							D	L
				ULTRA — SMALL					
31A7		1,000 ± 25%	.09	.5	—3.3	5.0	.001 Pt. Ir.	.010	¼ Min.
32A50		2,000 ± 25%	.09	.5	—3.4	5.6	.001 Pt. Ir.	.010	¼ Min.
35A5		5,000 ± 25%	.09	.5	—3.7	6.0	.001 Pt. Ir.	.010	¼ Min.
41A5		10,000 ± 25%	.09	.5	—4.0	6.9	.001 Pt. Ir.	.010	5/16 Min.
43A6		30,000 ± 25%	.09	.5	—4.1	7.3	.001 Pt. Ir.	.010	¼ Min.
51A22		100,000 ± 25%	.09	.5	—4.4	9.4	.001 Pt. Ir.	.010	¼ Min.
55A5		500,000 ± 25%	.09	.5	—4.6	10.7	.001 Pt. Ir.	.010	¼ Min.
61A5		1 Meg ± 25%	.09	.5	—4.7	11.1	.001 Pt. Ir.	.010	5/16 Min.
				SMALL					
31A1		1,250 ± 25%	.1	1	—3.4	5.6	.001 Pt. Ir.	.013	⅜ Min.
	†32A7	2,000 ± 25%	.1	1	—3.4	5.6	.001 Pt. Ir.	.013	5/16 Min.
32A48	32A49	2,000 ± 25%	.1	1	—3.4	5.6	.001 Pt. Ir.	.013	⅜ Min.
34A2	†34A1	3,500 ± 15%	.3	1	—3.7	6.2	.002 Pt. Ir.	.014	⅜ Min.
38C2	38C1	8,000 ± 20%	.1	1	—3.9	6.8	.001 Pt. Ir.	.013	¼ Min.
43A2	43A1	30,000 ± 25%	.1	1	—4.1	7.3	.001 Pt. Ir.	.014	5/16 Min.
51A30	51A32	100,000 ± 25%	.1	1	—4.4	9.4	.001 Pt. Ir.	.013	5/16 Min.
55A9	55A8	500,000 ± 25%	.1	1	—4.6	10.7	.001 Pt. Ir.	.013	5/16 Min.
61A9	61A8	1 Meg ± 25%	.1	1	—4.7	11.1	.001 Pt. Ir.	.013	5/16 Min.
				MEDIUM — LARGE					
21A1	21A2	100 ± 20%	.7	2	—3.1	5.2	.004 Pt. Ir.	.043	5/16 Min.
25A2	25A3	500 ± 20%	.8	3	—3.4	5.6	.005 Pt.	.088	5/16 Min.
25A4	25A5	500 ± 20%	.7	2	—3.5	5.8	.004 Pt. Ir.	.043	5/16 Min.
31A3	31A2	1,000 ± 20%	.7	2	—3.9	7.1	.004 Pt. Ir.	.043	¼ Min.
	32A53	1,500 ± 20%	.7	2	—3.9	7.1	.004 Pt. Ir.	.043	5/16 Min.
	†32A8	2,000 ± 20%	.7	2	—3.9	7.1	.004 Pt. Ir.	.043	¼ Min.
32A13	32A12	2,000 ± 20%	.7	2	—3.9	7.1	.004 Pt. Ir.	.043	¼ Min.
35A2	35A1	5,000 ± 20%	.7	2	—4.0	7.6	.004 Pt. Ir.	.043	¼ Min.
41A3	41A2	10,000 ± 20%	.7	2	—4.1	9.2	.004 Pt. Ir.	.043	5/16 Min.
43A5	43A4	30,000 ± 20%	.7	2	—4.5	9.3	.004 Pt. Ir.	.043	¼ Min.
45A17	45A2	50,000 ± 20%	.7	2	—4.6	9.4	.004 Pt. Ir.	.043	5/16 Min.
51A3	51A2	100,000 ± 15%	.7	2	—4.6	10.3	.004 Pt. Ir.	.043	¼ Min.
52A5	52A4	200,000 ± 20%	.7	2	—4.7	10.9	.004 Pt. Ir.	.043	5/16 Min.
55A3	55A2	500,000 ± 20%	.7	2	—4.8	12.3	.004 Pt. Ir.	.043	¼ Min.
61A3	61A2	1 Meg ± 20%	.7	2	—5.1	12.6	.004 Pt. Ir.	.043	¼ Min.
65A6	65A5	5 Meg ± 20%	.7	2	—5.2	15.0	.004 Pt. Ir.	.043	½ Min.

VECO MATCHED THERMISTORS

VECO matched thermistors are available in a wide variety of styles for stable, self-heated applications such as gas chromatography analysis, or high precision total and differential temperature measurement and control as well as close tolerance interchangeability. Listed below are a few of the many types available in each of the five matching categories:

1. Resistance (R_0) only at one or more specified temperatures or over a specified temperature range.
   - A59 Pair of 100,000 Ω probes 2" long, matched within 10%.
   - A60 Pair of 2,000 Ω probes 2" long, matched within 10%.
   - A402 Eight 1,200 Ω discs with leads, matched within 1%.
2. Voltage-Current (E-I) point or points at a specified temperature.
   - A33 Pair of 2,000 Ω beads on hermetic seals. Special R_0 and E-I matching.
   - A177 Pair of 100,000 Ω beads on hermetic seals. Special R_0 and E-I matching.
3. Series, parallel, and series-parallel combinations of thermistors to meet certain resistance tolerances at one or more temperatures or over a specified temperature range.
   - A99 Eight 2,000 Ω probes each ½" long. Series-parallel matching.
   - A191 Pair of 5,000 Ω probes ½" long. Series matching.
4. Resistance-temperature curve matching.
   - 34D4 4,000 Ω disc. 5% matching over temperature range.
5. Resistance ratio vs. temperature curve matching.
   - 45R4 50,000 Ω rod. 1°C matching over temperature range.



For a descriptive brochure of specifications, characteristics and catalog listing request form SM111.

See curves on Page 10.

Units listed in **bold face** are available from stock. Units listed in light face are not normally stocked.

Additional information and prices available upon request

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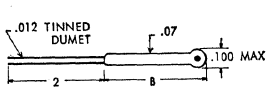
VECO GENERAL PURPOSE BEAD THERMISTOR IN GLASS PROBES AND GLASS RODS

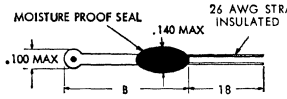
The dissipation constants of VECO glass probe and glass rod thermistors when supported by its leads in still air, still oil, or in still water are approximately 1, 3.5, and 5 MW/°C respectively.

The thermal time constants of VECO glass probe and glass rod thermistors when supported by its leads in still air, still oil, or in still water are approximately 25 seconds, 2 seconds, and 1 second respectively.



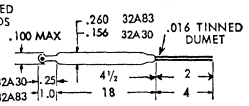
GLASS PROBE

Fig. 3



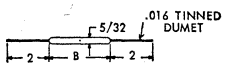
MAX. OPERATING TEMP. 300° F
PROBE WITH EXTENSION LEADS

Fig. 4



PROBE IN LONG GLASS EXTENSION

Fig. 5



GLASS ROD

Fig. 9

VECO NUMBER Fig. 3 Dim. B ¼"	½"	1"	2"	Fig. 4 Dim. B ¾"	Cold Resistance R_0 @ 25°C (Ohms)	Temperature Coefficient α @ 25°C (%/°C)	Ratio $\frac{R_0 @ 0°C}{R_0 @ 50°C}$
			GLASS PROBES				
21A5	**21A3**	**21A6**	**21A4**		100 ± 20%	−3.1	5.2
25A8	**25A6**	**25A9**	**25A7**		500 ± 20%	−3.5	5.8
31A18	**31A11**	**31A13**	**31A6**	**31A12**	1,000 ± 20%	−3.9	7.1
32A75	**32A11**	**32A38**	**32A1**	**32A84**	2,000 ± 20%	−3.9	7.1
	32A47				2,000 ± 5%	−3.9	7.1
			32A24		2,000 ± 10%	−3.9	7.1
32A30	See Fig. 5	**32A83**	See Fig. 5		2,000 ± 20%	−3.9	7.1
33A5	**33A6**	**33A7**	**33A8**		2,500 ± 5%	−3.9	7.1
			34A3		3,500 ± 30%	−3.9	7.1
35A18	**35A11**	**35A8**	**35A3**	**35A7**	5,000 ± 20%	−4.0	7.4
41A13	**41A11**	**41A7**	**41A1**	**41A6**	10,000 ± 20%	−4.1	9.2
43A13	**43A11**	**43A10**	**43A3**	**43A9**	30,000 ± 20%	−4.5	9.3
45A18	**45A11**	**45A7**	**45A1**	**45A6**	50,000 ± 20%	−4.6	9.4
51A33	**51A11**	**51A31**	**51A1**	**51A35**	100,000 ± 15%	−4.6	10.3
52A7	**52A11**	**52A8**	**52A6**		200,000 ± 20%	−4.7	10.9
55A14	**55A11**	**55A10**	**55A1**	**55A7**	500,000 ± 20%	−4.8	12.3
61A13	**61A11**	**61A10**	**61A1**	**61A7**	1 Meg ± 20%	−5.1	12.6
65A9	**65A11**	**65A8**	**65A7**		5 Meg ± 20%	−5.2	15.0
71A5	**71A11**	**71A6**	**71A4**		10 Meg ± 20%	−5.3	18.0

SEE MOUNTING ACCESSORIES ON PAGE 5

VECO GLASS RODS

VECO NUMBER Fig. 9 Dim. B ⅜"	½"	Cold Resistance R_0 @ 25°C (Ohms)	Temperature Coefficient α @ 25°C (%/°C)	Ratio $\frac{R_0 @ 0°C}{R_0 @ 50°C}$
21A7		100 ± 20%	−3.1	5.2
31A19		1,000 ± 20%	−3.9	7.1
32A101		2,000 ± 20%	−3.9	7.1
	37A1	7,000 ± 20%	−3.9	7.1
51A44		100,000 ± 15%	−4.6	10.3
	71A2	12 Meg ± 20%	−5.3	18.0

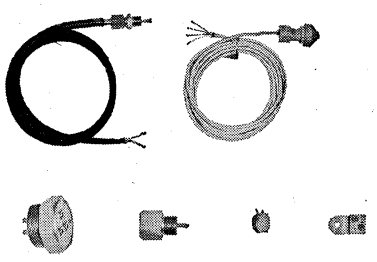
VECO TEMPERATURE SENSOR ASSEMBLIES

VECO temperature sensor assemblies are lightweight, rugged, highly sensitive self-contained and extremely reliable components containing VECO thermistors for telemetering, wire transmitting, remote reading and/or control of air, skin, surface, fluid or gas temperature and the flow or level of air, fluid, gas, etc. VECO's sensor assemblies (which can be furnished to MIL specifications) are available in Stainless Steel, Brass, Aluminum, Plastic, etc.; with a variety of: configurations, terminations; resistance values from 100 Ω to 10 megohms; and four categories for specifying the requirements of the sensing thermistor:

1. Standard or close tolerance uncalibrated.
2. Standard calibrated at one or more temperature points over any specified temperature range.
3. Resistance-Temperature curve matching.
4. Resistance ratio temperature curve matching.

VECO sensor assemblies are used in rockets, missiles, satellites, and aircraft and for general industrial uses such as temperature controllers or indicators, liquid level devices, and many others.

Shown below are a few of the many assemblies available; for a descriptive brochure of specifications, characteristics, and catalog listing, request form SP31.



See curves on Page 10.

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VECO BEAD THERMISTORS FOR POWER MEASUREMENTS (High Frequency)

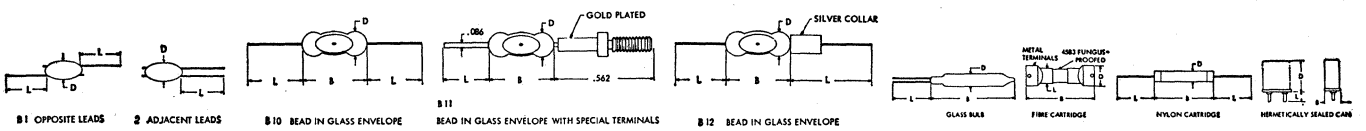


Fig. 1 Fig. 2 Fig. 6 Fig. 7 Fig. 8 Fig. 10 Fig. 11 Fig. 12 Fig. 13

VECO beads for power measurement are subject to additional D.C. voltage and current tests.

VECO Number	Cold Resistance R_0 @ 25°C (Ohms)	Figure	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Temperature Coefficient α @ 25°C (%/°C)	Ratio $\frac{R_0 @ 0°C}{R_0 @ 50°C}$	Electrical Connections	Dimensions B	D	L
32A5	2,000 ± 25%	1	0.1	1	—3.4	5.6	.001 Pt-Ir		.013	3/8 min
32A23	2,000 ± 25%	2	0.1	1	—3.4	5.6	.001 Pt-Ir		.013	3/8 min
32A2	2,000 ± 25%	6	0.4		—3.6	6.0	.031 Nickel (T)	0.5 max	5/32 max	1 7/8
32A3	2,000 ± 25%	6	0.1		—3.4	5.6	.031 Nickel (T)	0.4 max	5/32 max	1 7/8
32A10	2,000 ± 25%	7	0.1		—3.4	5.6	Silver & Gold	0.4 max	5/32 max	13/16
32A14	2,000 ± 25%	8	0.1		—3.4	5.6	.031 Nickel (T)	0.4 max	5/32 max	5/8
32A15	2,000 ± 25%	6	0.1		—3.4	5.6	1/8 Silver	0.5 max	5/32 max	5/8 & 1 13/16
32A25	2,000 ± 25%	6	0.1		—3.4	5.6	.086 Silver	0.4 max	5/32 max	17/32 & 1 3/8
32A34	2,348 ± 6.3%	6	0.1		—3.4	5.6	.031 Nickel (T)	0.4 max	5/32 max	1 7/8

VECO BEAD THERMISTORS IN SPECIAL ENCLOSURES

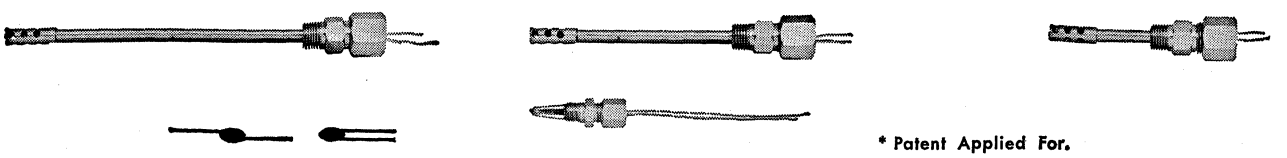
VECO bead thermistors in glass bulbs serve a variety of purposes. Some units are sealed in vacuum, while others are sealed in thermally conductive gases such as Helium, Nitrogen, and others. Applications include: time delay, voice frequency volume limiter, oscillator amplitude control.

VECO Number	Cold Resistance R_0 @ 25°C (Ohms)	Figure	Dissipation Constant δ @ 25°C (MW/°C)	Temperature Coefficient α @ 25°C (%/°C)	Ratio $\frac{R_0 @ 0°C}{R_0 @ 50°C}$	Lead Dia. and Material	Dimensions B	D	L
32A46	2,000 ± 25%	6	0.1	—3.4	5.6	.031 Nickel (T)	0.4 max	5/32 max	1 7/8
32A86	2,000 ± 25%	13	0.7	—3.9	7.3	25 AWG Solid (T)	.170	300 max	1½ min
35C1	4,725 ± 20%	12	0.2	—3.9	7.3	.016 Dumet (T)	1¼	¼	1⅜ min
44A1	35,000 ± 25%	12	0.3	—3.0	4.5	.016 Dumet (T)	1¼	¼	1⅜ min
45B1	50,000 ± 40%	11	0.5	—4.6	10.0	Ferrule Terms	15/16	11/32	¼
45B2	50,000 ± 40%	12	0.5	—4.6	10.0	.016 Dumet (T)	1¼	¼	1⅜ min
45B3	50,000 ± 40%	11	0.5	—4.6	10.0	Ferrule Terms	15/16	11/32	¼
45B9	50,000 ± 40%	10	0.5	—4.6	10.0	.016 Dumet (T)	23/32	.144	2
46A1	60,500 ± 29%	11	0.3	—3.0	4.5	Ferrule Terms	15/16	11/32	¼
46A2	60,500 ± 29%	12	0.3	—3.0	4.5	.016 Dumet (T)	1¼	¼	1⅜ min
49A1	85,000 ± 25%	12	0.3	—3.0	4.5	.016 Dumet (T)	1¼	¼	1⅜ min
51A6	100,000 ± 20%	10	0.01	—4.4	9.4	.016 Dumet (T)	1½	.3 max	1¼ min
51A16	100,000 ± 20%	10	0.01	—4.4	9.4	.016 Dumet (T)	1½	.3 max	1¼ min
51A34	100,000 ± 15%	13	0.7	—4.6	10.3	25 AWG Solid (T)	.170	.300 max	1½ min
51B1	100,000 ± 50%	11	0.6	—4.6	10.3	Ferrule Terms	15/16	11/32	¼
54A1	380,000 ± 40%	11	0.3	—3.1	4.7	Ferrule Terms	15/16	11/32	¼
65A1	5.4 Meg ± 32%	10	0.01	—4.6	10.0	.016 Dumet (T)	1½	.3 max	1¼ min
65A4	5.4 Meg ± 32%	10	0.01	—4.6	10.0	.016 Dumet (T)	23/32	.144	1½

VECO "LOX" THERMISTOR BEAD AND PROBE* TYPES

VECO "LOX" units are unique in that they utilize glass enclosed bead type thermistors and were developed to meet industry's demand for sensing elements suitable for the measurement and control of fluid temperature, level and flow in the liquid oxygen temperature range. These units permit a combination of high stability, high sensitivity, fast time response and high power sensitivity heretofore unattainable.

VECO "LOX" units are available in the form of beads, glass probes and high pressure, fast response assemblies a few of which are shown below. For a descriptive brochure of specifications, characteristics, and catalog listing request form SL-1.



* Patent Applied For.

See curves on Page 10.

Units listed in **bold face** are available from stock. Units listed in light face are not normally stocked.

Additional information and prices available upon request

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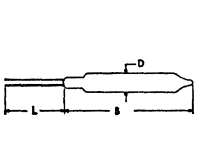
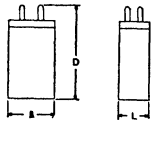
VECO INDIRECTLY HEATED GLASS COATED BEAD THERMISTORS AND ASSEMBLIES

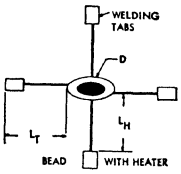
VECO indirectly heated thermistor beads have electrically insulated heaters. These units are hermetically sealed in glass. Some are also sealed in glass bulbs and/or mounted in cans. Some uses are: transducers for E-I regulators; control circuits, amplifier gain control; automatic or remote power level control; etc.



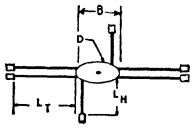
GLASS BULB
Fig. 10



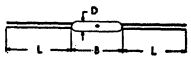
TYPICAL CAN
Fig. 14



BEAD WITH HEATER
Fig. 15



BEAD WITH HEATER
Fig. 16



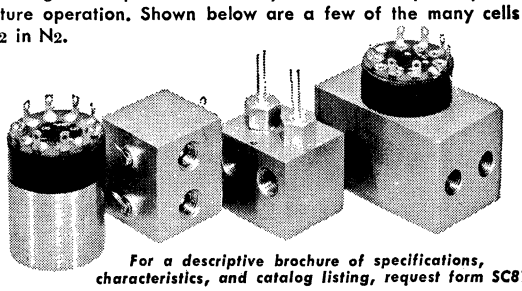
BEAD WITH HEATER IN GLASS ROD
Fig. 17

VECO Number	Cold Resistance R_0 @ 25°C (Ohms)	Figure	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Temperature Coefficient α @ 25°C (%/°C)	Ratio $\frac{R_0 @ 0°C}{R_0 @ 50°C}$	Electrical Connections	Dimensions B	Dimensions D	Dimensions L
32A16	2,000 ± 20%	17	3.0	45	−3.9	7.3	2 Leads .016 Dia.	1	.186 max	1 min
Heater	600 Approx.						2 Leads .012 Dia.			
33A3	2,800 ± 25%	16	0.4	20	−3.5	5.8	2 Tabbed Leads	.150	.050	1/4
Heater	100 ± 10%						2 Tabbed Leads			3/32
A57	2,800 ± 15%	10			−3.5	5.8	2 Leads .016 Dia.	1 5/8	1/2	1 3/4
Heater	100 ± 10%						2 Leads .016 Dia.			
37A3	7,000 ± 20%	15	0.2	1	−3.9	7.3	2 Tabbed Leads		.023	5/16
Heater	20 ± 5%						2 Tabbed Leads			5/32
42A2	15,000 ± 16%	16	0.4	20	−4.0	7.5	2 Pr. Bead Leads	.150	.050	1/4
Heater	200 ± 5%						2 Heater Leads			3/32
A55	15,000 ± 16%	14			−4.0	7.5	2 Terminals	1	2 27/64	29/32
Heater	200 ± 5%						2 Terminals			
A54	9,000 ± 25%	14			−3.9	7.2	2 Terminals	1 3/16	2 7/8	27/32
Heater	18.5 ± 10%						2 Terminals			

VECO THERMAL CONDUCTIVITY CELLS

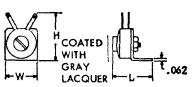
VECO Thermal Conductivity Cells are available in a variety of cavity configurations to meet any requirement—diffusion, open diffusion, or direct flow. The sensing elements consist of a pair of specially designed thermistors to insure the greatest possible accuracy and sensitivity. They are available in a wide range of resistance values and may be used for high or low temperature operation. Shown below are a few of the many cells available. The electrical output of VECO cells is several millivolts per percent change of CO_2 in N_2.

1. Diffusion type: Normal rate of response. Insensitive to flow.
   - M138 Brass. One gas passage. Temperature compensated. Pair of 2000 Ω thermistors with bridge components.
   - M142 Stainless Steel, two gas passages. Temperature compensated. Pair of 2000 Ω thermistors with bridge components.
   - M234 Stainless Steel, two gas passages. Pair of 2000 Ω thermistors.
2. Open Diffusion: Moderate rate of response. Slightly flow sensitive.
   - M182 Stainless Steel, two gas passages. Pair of 2000 Ω thermistors with bridge components.
   - M236 Stainless Steel, two gas passages, pair of 8000 Ω thermistors.
3. Direct Flow: Rapid rate of response. Flow sensitive.
   - M225 Stainless Steel, two gas passages. Pair of 100,000 Ω thermistors.
4. High Temperature.
   - M227 Open diffusion type. Pair of 8000 Ω thermistors.
   - M229 Direct flow type. Pair of 100,000 Ω thermistors.

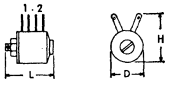


For a descriptive brochure of specifications, characteristics, and catalog listing, request form SC81.

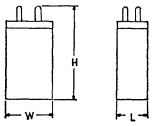
VECO MISCELLANEOUS ASSEMBLIES



WASHER ASSEMBLY
Fig. 38



THERMISTOR ASSEMBLY
Fig. 39



TYPICAL CAN
Fig. 40

VECO Number	Cold Resistance R_0 @ 25°C (Ohms)	Figure	Time Constant τ (Secs)	Max. Oper. Temp.	Dimensions D	Dimensions H	Dimensions L	Dimensions W	NOTES
A147	5,700 ± 17.7% 5,700 ± 17.7% 5.4 Meg ± 32%	40		100		4 1/8	27/32	1 3/8	Can with 6 Terminals for Carrier Amplitude control, special network
A500	36.5 ± 3% (1) 180.3 ± 3% (2)	39	Over 300	100	7/8	1 3/16	2 3/16		Cycleweld coating, 4 terminals, Temperature Compensator
A901	Thermistor and Varistor combined	38	200	100		1 5/16 max	1 13/32 max	27/32	Temperature Compensated Varistor
	114Ω ±5% Thermistor as temperature compensator. Varistor characteristics are: Exponent (n) in equation $I = KV^n$ is 4; 23.4V to 27.7V @ 15 ma. Ratio of V @ 15 ma/V @ .15 ma = 2.75 to 3.65. Entire unit is coated with gray lacquer.								

See curves on Page 10.

Units listed in **bold face** are available from stock. Units listed in light face are not normally stocked.

Additional information and prices available upon request

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VECO EXPERIMENTOR'S ITEMS

VECO Experimentor's Kits are designed to acquaint personnel with a variety of thermistor and varistor applications, and in the preparation of prototype models. Each kit contains schematics and specific characteristic information.

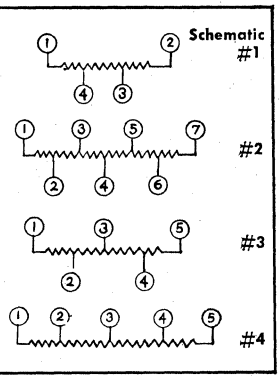
M 168 2 each type thermistor, bead, disc and washer
1 varistor washer

M 168A 2 each type thermistor, bead, disc and washer
1 each type thermistor, probe and rod
2 each varistor washer
1 set mounting hardware

VECO TAP-A-THERMS (Pat. Applied For)

A single unit with a multiplicity of tapped resistance values for experimentation with thermistor parameters, variable range temperature compensation, and many other uses.

Schematic Number	VECO Number	Resistance Range @ 25°C
2	T1004	100 to 2,400 ohms
2	T1005	150 to 3,600 ohms
1	T1001	200 to 1,200 ohms
1	T1002	300 to 1,800 ohms
2	T1006	500 to 12,000 ohms
1	T1003	1,000 to 6,000 ohms
4	T3001	1,000 to 10,000 ohms
3	T2001	5,000 to 50,000 ohms
4	T3002	10,000 to 100,000 ohms



VECO DESIGNER'S KITS

VECO Designer's Kits are offered in a wide variety of assortments and each kit includes units covering a wide resistance range and physical size. VECO Designer's Kits are furnished with technical characteristics and schematics to assist in the solution of circuitry design and problems concerning the use and application of VECO thermistors and varistors.

VECO THERMISTOR DISC KIT

KD25 Contents one each: 11E2, 12E2, 15D1, 18E2, 21E21, 22E6, 23D34, 25D4, 31E2, 32D12, 33D10, 35D6, 41D2.

VECO THERMISTOR GLASS PROBE KIT

KP50 Contents one each: 21A3, 31A11, 41A11, 51A11, 61A11, 71A11.

VECO THERMISTOR ROD KIT

KR75 Contents one each: 33S1, 36S1, 41R1, 41S2, 43R1, 45R1, 51R1, 51R2.

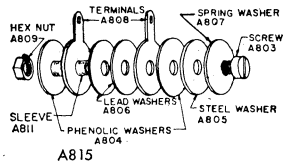
VECO VARISTOR KIT

KV100 Contents one each: 023L4, 023W1, 063L4, 114L1, 124W1, 143W1, 155L2, 165W2, A818 Mounting Kit.

VECO THERMISTOR and VARISTOR MOUNTING ACCESSORIES

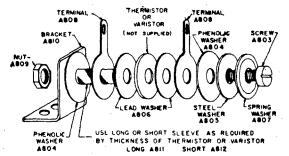
ALL STEEL PARTS ARE ZINC PLATED AND CHROMATE DIPPED

Mounting Parts Kits



A815

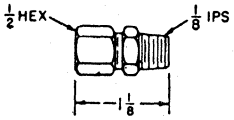
A816 (Has additional parts)



A818 Mounting Parts Kit

VECO Number	DESCRIPTION
A-800	SCREW, 10-32 x 2 fillister head, steel
A-801	SCREW, 10-32 x 1⅛ fillister head, steel
A-802	SCREW, 10-32 x ⅞ fillister head, steel
A-803	SCREW, 10-32 x ⅝ fillister head, steel
A-804	WASHER, phenolic, .815 OD x .281 ID x 1/32 thick
A-805	WASHER, steel, .76 OD x .281 ID x .072 thick
A-806	WASHER, lead, .740 OD x .281 ID x .016 thick
A-807	WASHER, spring steel, .750 OD x .196 ID x .025 thick
A-808	TERMINAL, tinned brass, .750 OD x .281 ID x .032 thick

VECO Number	DESCRIPTION
A-809	NUT, hexagon steel, 10-32 x ⅛ thick
A-810	BRACKET, mounting, ⅞ h x 9/16 l x ¾ w x 1/16 thick
A-811	SLEEVE, phenolic, .266 OD x .200 ID x 13/32 long
A-812	SLEEVE, phenolic, .266 OD x .200 ID x 19/64 long
A-813	SLEEVE, phenolic, .266 OD x .200 ID x 29/32 long
A-814	SLEEVE, phenolic, .266 OD x .200 ID x 1-25/32 long
A-815	MOUNTING KIT for mounting 1 washer
A-816	MOUNTING KIT for mounting 3 washers
A-818	MOUNTING KIT for one with bracket



PACKING GLANDS

VECO Number	Material	Sealant	Temperature Range
A819	Stainless Steel	Neoprene	−40°F to + 200°F
A820	Stainless Steel	Lava	−300°F to + 1800°F

For use with VECO bead in glass probe units

See curves on Page 10.

Units listed in **bold face** are available from stock. Units listed in light face are not normally stocked.

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VECO GENERAL PURPOSE DISC THERMISTORS

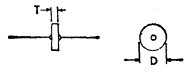
PERTINENT DATA

DISC

Fig. 18

DISC WITH RADIAL LEADS

Fig. 19



DISC WITH AXIAL LEADS

Fig. 20

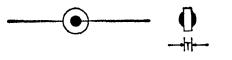

DISC WITH RADIAL OPPOSED LEADS

Fig. 21

Temperature Limits: 100°C Painted or Coated Units. • 150°C Discs with Leads. • 200°C Plain discs, washers, and rods.

Lead Material: Tinned Copper:—

Discs 0.05 Dia. = 0.008 (32 AWG) x 1" Lg.
Discs 0.10 Dia. = 0.013 (28 AWG) x 1" Lg.
Discs 0.20 Dia. = 0.020 (24 AWG) x 1¼" Lg.
Discs 0.30 Dia. = 0.020 (24 AWG) x 1½" Lg.

Lead Diameter and Length:—

0.40 Dia. = 0.025 (22 AWG) x 3¾" Lg.
0.50 Dia. = 0.032 (20 AWG) x 3¾" Lg.
0.77 Dia. = 0.032 (20 AWG) x 3¾" Lg.
1.00 Dia. = 0.040 (18 AWG) x 3¾" Lg.

The Dissipation Constants and Time Constants are shown for Discs with Leads. The Constants for Plain Discs depend on and vary greatly with the method of mounting, hence these values are not shown.

Nominal Temperature Coefficient (α) @ 25°C: (%/°C)

"E" Type Discs = −3.8%/°C
"D" Type Discs = −4.4%/°C

Nominal Resistance Ratio R_0 @ 0°C/R_0 @ 50°C:

"E" Type Discs = 6.85
"D" Type Discs = 9.1

Resistance Tolerance @ 25°C ± 10%

VECO NUMBER				Cold Resistance R_0 @ 25°C (Ohms)	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Dimension T
Fig. 19	Fig. 18	Fig. 20	Fig. 21				
		MICRO — DISCS .050 DIAMETER					
31 E 5	**31 E 6**	31 E 7	31 E 8	1,000	1.5	3	.017
32 E 2	**32 E 1**	32 E 3	32 E 4	2,000	1.5	4	.034
35 E 2	**35 E 1**	35 E 3	35 E 4	5,000	1.5	5.5	.085
41 D 12	**41 D 11**	41 D 13	41 D 14	10,000	1.5	3.5	.023
42 D 2	**42 D 1**	42 D 3	42 D 4	20,000	1.5	4.5	.047
43 D 2	**43 D 1**	43 D 3	43 D 4	30,000	1.5	5	.069
		ULTRA-SMALL DISCS 0.1 DIAMETER					
25 E 2	**25 E 1**	25 E 10	25 E 11	500	3.5	12	.035
31 E 2	**31 E 1**	31 E 9	31 E 4	1,000	3.5	13	.065
33 D 7	**33 D 11**	33 D 12	33 D 13	3,000	3.5	10	.029
35 D 2	**35 D 1**	35 D 3	35 D 5	5,000	3.5	13	.048
41 D 2	**41 D 1**	41 D 4	41 D 8	10,000	3.5	17	.095
		SMALL DISCS 0.2 DIAMETER					
21 E 23	**21 E 24**	21 E 25	21 E 26	100	7	17	.028
22 E 6	**22 E 7**	22 E 8	22 E 9	200	7	23	.056
23 E 12	**23 E 13**	23 E 14	23 E 15	250	7	26	.070
23 E 16	**23 E 17**	23 E 18	23 E 19	300	7	28	.083
25 E 12	**25 E 13**	25 E 14	25 E 15	500	7	38	.138
28 D 13	**28 D 14**	28 D 15	28 D 16	750	7	17	.029
31 D 10	**31 D 2**	**31 D 4**	31 D 34	1,000	7	19	.038
32 D 4	**32 D 5**	32 D 6	32 D 7	2,000	7	26	.075
33 D 14	**33 D 4**	**33 D 8**	33 D 15	2,500	7	31	.095
33 D 16	**33 D 3**	**33 D 2**	33 D 17	3,000	7	32	.103
34 D 5	**34 D 1**	**34 D 2**	34 D 6	4,000	8	40	.151
35 D 6	**35 D 7**	35 D 8	35 D 9	5,000	8	46	.187
		SMALL DISCS 0.3 DIAMETER					
15 E 4	**15 E 5**	15 E 6	15 E 7	50	8	35	.036
21 E 21	**21 E 27**	21 E 28	21 E 29	100	8	42	.063
23 E 11	**23 E 20**	23 E 7	23 E 21	300	9	70	.189
25 D 5	**25 D 6**	25 D 7	25 D 8	500	8	37	.043
31 D 32	**31 D 35**	31 D 36	31 D 37	1,000	8	48	.086
32 D 8	**32 D 9**	32 D 10	32 D 11	2,000	9	70	.168
33 D 10	**33 D 18**	33 D 19	33 D 20	3,000	9	85	.254
		MEDIUM DISCS 0.4 DIAMETER					
13 E 3	**13 E 4**	13 E 5	13 E 6	25	9	46	.028
15 E 8	**15 E 9**	15 E 10	15 E 11	50	10	55	.055
18 E 2	**18 E 3**	18 E 4	18 E 5	75	10	70	.082
21 E 2	**21 E 1**	21 E 30	21 E 31	100	10	75	.110
22 E 10	**22 E 11**	22 E 12	22 E 13	200	11	110	.220
23 E 22	**23 E 23**	23 E 24	23 E 25	250	11	130	.275
23 D 14	**23 D 15**	23 D 16	23 D 17	250	9	50	.038
23 D 18	**23 D 19**	23 D 20	23 D 21	300	10	55	.046
25 D 9	**25 D 10**	25 D 11	25 D 12	500	10	60	.075
28 D 17	**28 D 18**	28 D 19	28 D 20	750	10	75	.112
31 D 3	**31 D 1**	31 D 38	31 D 39	1,000	10	90	.149
32 D 12	**32 D 13**	32 D 14	32 D 15	2,000	11	135	.300

See curves on Page 10.

Units listed in **bold face** are available from stock. Units listed in light face are not normally stocked.

Additional information and prices available upon request

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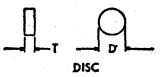
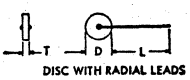
VECO GENERAL PURPOSE DISC THERMISTORS (Cont.)



DISC

Fig. 18



DISC WITH RADIAL LEADS

Fig. 19

DISC WITH AXIAL LEADS

Fig. 20

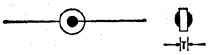
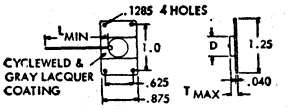

DISC WITH RADIAL OPPOSED LEADS

Fig. 21



DISC ON TINNED BRASS PLATE

Fig. 22

VECO NUMBER				Cold Resistance R_0 @ 25°C (Ohms)	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Dimension T
Fig. 19	Fig. 18	Fig. 20	Fig. 21				
		MEDIUM DISCS 0.5 DIAMETER					
12 E 2	**12 E 3**	12 E 4	12 E 5	20	14	55	.035
13 E 7	**13 E 8**	13 E 9	13 E 10	25	14	60	.044
13 E 11	**13 E 12**	13 E 13	13 E 14	30	14	65	.053
15 E 3	**15 E 12**	15 E 13	15 E 14	50	14	80	.088
18 E 6	**18 E 7**	18 E 8	18 E 9	75	14	95	.130
21 E 22	**21 E 32**	21 E 33	21 E 34	100	15	110	.174
22 E 14	**22 E 15**	22 E 16	22 E 17	200	16	175	.348
23 D 22	**23 D 23**	23 D 24	23 D 25	250	14	70	.060
23 D 26	**23 D 27**	23 D 28	23 D 29	300	14	70	.070
25 D 4	**25 D 13**	25 D 14	25 D 15	500	14	90	.118
28 D 21	**28 D 22**	28 D 23	28 D 24	750	15	110	.177
31 D 33	**31 D 40**	31 D 41	31 D 42	1,000	15	135	.236
		LARGE DISCS 0.770 DIAMETER					
11 E 2	**11 E 3**	11 E 4	11 E 5	10	16	90	.040
12 E 6	**12 E 7**	12 E 8	12 E 9	20	17	115	.080
13 E 15	**13 E 16**	13 E 17	13 E 18	25	17	125	.100
13 E 19	**13 E 20**	13 E 21	13 E 22	30	17	135	.120
15 E 15	**15 E 16**	15 E 17	15 E 18	50	17	175	.200
18 D 2	**18 D 3**	18 D 4	18 D 5	75	16	90	.042
21 D 2	**21 D 1**	21 D 35	21 D 36	100	16	100	.056
22 D 6	**22 D 7**	22 D 8	22 D 9	200	17	125	.112
23 D 30	**23 D 31**	23 D 32	23 D 33	250	17	140	.140
23 D 34	**23 D 35**	23 D 36	23 D 37	300	17	160	.168
		LARGE DISCS 1.0 DIAMETER					
05 E 1	05 E 3	05 E 4	05 E 5	5	24	110	.034
11 E 1	11 E 6	11 E 7	11 E 8	10	24	140	.068
13 E 1	13 E 23	13 E 24	13 E 25	25	25	210	.170
15 D 1	15 D 2	15 D 3	15 D 4	50	24	125	.050
21 D 5	21 D 6	21 D 7	21 D 8	100	24	165	.100
22 D 10	22 D 11	22 D 12	22 D 13	200	25	230	.200

VECO TYPICAL MOUNTED, COATED AND CLOSE TOLERANCE DISCS

VECO Number	Cold Resistance R_0 @ 25°C (Ohms)	Fig.	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Dimensions D	Dimensions L	Dimensions T	Remarks
23E1	268 ± 5%	20	7	26	¼ max.	1¼	.077	Cycleweld Coated
23E3	310 ± 10%	20	7	26	¼ max.	1 3/16 min.	.085	Cycleweld Coated
29D1	900 ± 10%	18	—	—	0.2		.034	
31D7	1,200 ± 10%	20	7	19	¼ max.	1¼	.040	Cycleweld Coated
31D20	1,200 ± 10%	18	—	—	0.2		.045	
22D1	228 ± 3%	22	400	70	0.58	3.75	5/16 max.	Disc on Plate
23D7	295 ± 10%	19	7	55	0.4	3.75	.045	
25D1	475 ± 10%	18	—	—	0.4		.069	
25D2	475 ± 10%	19	7	60	0.4	4.0	.069	
27D3	700 ± 5%	18	—	—	0.4		.106	
27D1	725 ± 5%	22	150	80	0.4	3.75	5/16 max.	Disc on Plate
28D1	760 ± 5%	22	150	80	0.4	3.75	5/16 max.	Disc on Plate
28D2	760 ± 5%	18	—	—	0.4		.125	
28D3	760 ± 5%	19	10	75	0.4	3.75	.125	
31D5	1,351 ± 5%	22	100	90	0.4	3.75	13/32 max.	Disc on Plate

VECO GENERAL PURPOSE ROD THERMISTORS

Temperature Limit: 150°C for all rods except those with fired-in leads: 268°C.

Lead Diameter and Material for: .053 Diameter Rods .016 (26 AWG) Tinned Copper x 1⅜ min. • .110 Diameter Rods .020 (24 AWG) Tinned Copper x 1⅜ min. • .173 Diameter Rods .032 (20 AWG) Tinned Copper x 2 min.

The dissipation and time constants are shown for rods with leads. The constants for plain rods are dependent on and vary greatly with the method of mounting; hence, these values are not shown.

Nominal Temperature Coefficient (α) @ 25°C (%/°C)
"R" Type Rods = −4.4%/°C
"S" Type Rods = −3.8%/°C

Nominal Resistance Ratio = R_0 @ 0°C/R_0 @ 50°C.
"R" Type Rods = 9.1
"S" Type Rods = 7.1

Resistance Tolerance @ 25°C = ±10%.
Units listed in bold face are available from stock.
Units listed in light face are not normally stocked.

See curves on Page 10.

Additional information and prices available upon request

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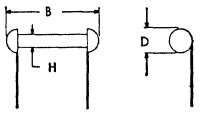
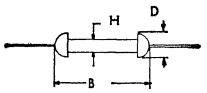
VECO GENERAL PURPOSE ROD THERMISTORS (Cont.)



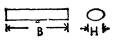
ROD WITH RADIAL LEADS

Fig. 23



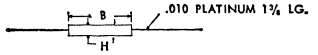
ROD WITH AXIAL LEADS

Fig. 24



PLAIN ROD

Fig. 25



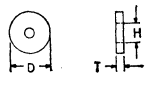
HI-TEMP ROD WITH FIRED-IN LEADS

Fig. 26

VECO NUMBER			Cold Resistance R_0 @ 25°C (Ohms)	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs)	Dimensions		
Fig. 23	Fig. 24	Fig. 25				B max.	D max.	H
			RODS					
41S2	41S4	41S5	10,000	3	16	5/8	1/8	.053
51R2	**51R5**	51R8	100,000	3	16	5/8	1/8	.053
33S2	**33S1**	33S3	3,150	6	50	29/32	7/32	.110
34S4	**34S2**	34S3	4,300	6.5	50	29/32	7/32	.110
36S6	**36S1**	36S5	6,300	7	55	1 1/16	7/32	.110
37S2	**37S1**	37S3	7,250	7	60	1 1/16	7/32	.110
38S6	**38S1**	38S5	8,000	7.5	65	1 1/16	7/32	.110
41R4	**41R1**	41R3	10,000	5	35	19/32	7/32	.110
41S6	**41S1**	41S7	10,000	8	75	1 23/32	7/32	.110
42R4	**42R1**	42R3	15,000	5	40	19/32	7/32	.110
43R4	**43R1**	43R3	31,500	5.5	50	15/16	7/32	.110
45R8	**45R1**	45R7	50,000	6	65	1 1/8	7/32	.110
51R10	**51R1**	51R9	100,000	10	80	1 23/32	7/32	.110
32S4	32S2	32S3	2,000	10	80	1 1/8	5/16	.172
33S6	33S4	33S5	3,000	11	85	1 3/8	5/16	.172
35S4	35S3	35S5	5,000	12	90	1 7/8	5/16	.172
42R6	42R5	42R7	20,000	8	75	1 1/8	5/16	.172
43R7	43R6	43R5	30,000	11	85	1 3/8	5/16	.172
45R10	45R9	45R11	50,000	16	120	1 7/8	5/16	.172
	52S1 See Fig. 26		200,000*	2	13	5/8	—	.053
	45R12 See Fig. 26		50,000*	3.5	60	5/8	—	.110
	62R1 See Fig. 26		1.5 Meg*	2	13	5/8	—	.053

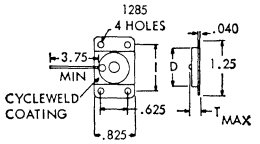
*52S1 200 Ω @ 268°C *45R12 100 Ω @ 268°C *62R1 3,600 Ω @ 268°C

VECO GENERAL PURPOSE WASHER THERMISTORS



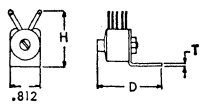
WASHER

Fig. 27



WASHER ON TINNED BRASS PLATE

Fig. 28



WASHER ASSEMBLY

Fig. 29

VECO Number	Cold Resistance R_0 @ 25°C (Ohms)	Figure	Dissipation Constant δ @ 25°C (MW/°C)	Time Constant τ (Secs.)	Temperature Coefficient α @ 25°C (%/°C)	Ratio $\frac{R_0 \text{ @ } 0°C}{R_0 \text{ @ } 50°C}$	Dimensions		
							D	H	T
22X1	150 ± 10%	27	100	4	—3.8	6.85	0.200	0.065	0.046
31W1	1,100 ± 10%	27	100	4	—4.4	9.1	0.200	0.065	0.046
11X1	10 ± 10%	27	850	13	—3.8	6.85	0.770	0.281	0.035
A502	Series 40 ± 10%	29	Assembly of four 11X1's and five Terminals. Time Constant 300 Secs.				1½ max	1½ max	1/16
11X3	13 ± 15%	27	850	13	—3.8	6.85	0.770	0.285	0.035
12X10	15 ± 10%	27	770	13	—3.8	6.85	0.770	0.281	0.052
13X3	31.5 ± 10%	27	520	15	—3.8	6.85	0.770	0.281	0.107
14X2	38 ± 10%	27	480	15	—3.8	6.85	0.770	0.281	0.116
15X1	50 ± 10%	27	480	15	—3.8	6.85	0.770	0.281	0.110
21W1	100 ± 10%	27	790	13	—4.4	9.1	0.770	0.281	0.048
21W5	100 ± 5%	28	790	20	—4.4	9.1	0.770		0.250
21W4	130 ± 10%	27	670	14	—4.4	9.1	0.770	0.281	0.074
22W2	180 ± 10%	27	600	14	—4.4	9.1	0.770	0.281	0.088
23W2	315 ± 2%	27	330	19	—4.4	9.1	0.770	0.281	0.151
23W1	315 ± 10%	27	330	19	—4.4	9.1	0.770	0.281	0.151
24W1	415 ± 10%	27	200	24	—4.4	9.1	0.770	0.281	0.191

SEE MOUNTING ACCESSORIES ON PAGE 5

See curves on Page 10.

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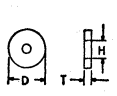
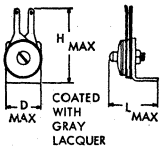
VECO VARISTORS

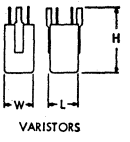
PERTINENT DATA



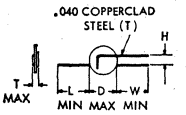
VARISTOR WASHER
Fig. 30



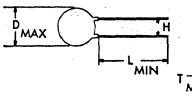
VARISTOR ASSEMBLY
Fig. 31



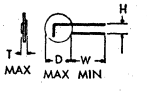
VARISTORS POTTED IN CAN
Fig. 32



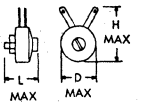
DISC WITH LEADS
Fig. 33



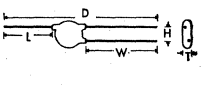
COATED VARISTOR WITH LEADS
Fig. 34



DISC WITH LEADS
Fig. 35



VARISTOR ASSEMBLY
Fig. 36



COATED VARISTOR WITH LEADS
Fig. 37

VECO Varistors are specified with a nominal continuous power rating that is defined as that power which can be dissipated continuously in the Varistor at 25°C (77°F) when mounted appropriately for the type of unit, i.e., discs suspended by its leads in air, washers mounted in intimate thermal contact with metal plates or brackets.

VECO Varistor uses include surge suppression, voltage regulation, Sonar transmission switches, etc.

VECO Number	Nominal Continuous Power Rating in Watts	Approx. Exponent (n) in Equation $I = KV^n$	Figure	PERTINENT ELECTRICAL CHARACTERISTICS		Dimensions D	H	L	T	W
023L1	1	3	33	1.5V min @ 1 ma	7.1V to 8.8V @ 100 ma	.78	.3	7/16	.145	3/16
023L4	1	3	35	1.5V min @ 1 ma	7.1V to 8.8V @ 100 ma	.78	.3		.145	3/16
023L6	1	3	37	1.5V min @ 1 ma	7.1V to 8.8V @ 100 ma	1 1/16	.3	1/4	7/32	3/16
023W1	3	3	30	9.09V to 12.3V @ 25 ma	20.4V to 27.6V @ 250 ma	1.00	.310		.100 max	
063L1	1	3	33	4.6V min @ 1 ma	8.8V to 10.8V @ 10 ma	.78	.3	7/16	.165	3/16
063L4	1	3	35	4.6V min @ 1 ma	8.8V to 10.8V @ 10 ma	.78	.3		.165	3/16
063L5	1	3	37	4.6V min @ 1 ma	8.8V to 10.8V @ 10 ma	1 1/16	.3	1/4	7/32	3/16
063W1	1	3	30	7.2V to 9.8V @ 2.5 ma	14.1V to 19.1V @ 25 ma	49/64	.281		.036	
064W1	1	4	31	5.1V to 6.9V @ .001 amp	Ratio of $\frac{V @ 10\ ma}{V @ 1\ ma} = 2$ max	7/8	1 5/16	1 1/8		
073W1	1	3	31	0.9V min @ .015 ma	16V max @ 10 ma	7/8	1 5/8	1 3/16		
114L1	1	4	34	16V to 24V @ 15 ma		7/8		1 3/4	11/32	
114W3	1	4	31	3.0V to 5.5V @ 20μa	6.0V to 11.0V @ 200 μa	7/8	1 5/16	1 1/8		
114W4	1	4	30	16.0V to 24.0V @ 15 ma		49/64	.281		.036	
114W5	1	4	30	13.4V to 15.0V @ 15 ma	Ratio of $\frac{V @ 1\ ma}{V @ .1\ ma} = 1.64$ to 1.85	49/64	.281		.036	
114W6	1	4	30	23.4V to 27.0V @ 15 ma	Ratio of $\frac{V @ 15\ ma}{V @ .15\ ma} = 2.82$ to 3.60	49/64	.281		.036	
114W8	1	4	31	3 ma to 11 ma @ 20VDC	Ratio of $\frac{I @ 20\ V}{I @ 10\ V} = 16$ min	7/8	1 5/8	1 1/8		
124W1	1	4	30	26.8V to 32.2V @ 15 ma	Ratio of $\frac{V @ 15\ ma}{V @ .15\ ma} = 2.65$ to 3.50	49/64	.281		.036	
124W3	1	4	36	26.8V to 32.2V @ 15 ma	Ratio of $\frac{V @ 15\ ma}{V @ .15\ ma} = 2.65$ to 3.50	7/8	1 1/4	1 1/16		
135W1	1	5	31	25VDC to 30VDC @ .3 ma	Ratio of $\frac{V @ .3\ ma}{V @ .03\ ma} = 1.59$ to 2.15	7/8	1 5/8	1 1/4		
135W2	1	5	31	1 ma max @ 25VDC	85V max @ 100 ma	7/8	1 5/8	1 3/16		
143W1	1	3	30	13.2V to 20.3V @ 50 μa	63.0V to 84.5V @ 10 ma	.76	.281	1 1/8	1/8	
144W1	1	4	30	47.0V to 68.0V @ 3 ma	Ratio of $\frac{V @ 3\ ma}{V @ .5\ ma} = 1.44$ to 1.69	49/64	.281		.075	
144W2	1	4	31	25.0V to 30.0V @ 300 μa	Ratio of $\frac{V @ 300\ \mu a}{V @ 30\ \mu a} = 1.58$ to 2.13	7/8	1 5/16	1 1/8		
144W4	1	4	30	25.0V to 30.0V @ 300 μa	Ratio of $\frac{V @ 300\ \mu a}{V @ 30\ \mu a} = 1.58$ to 2.13	49/64	.281		.075	
155L2	1	5	34	40.8V to 55.2V @ 1 ma	Ratio of $\frac{V @ 1\ ma}{V @ .1\ ma} = 1.85$ max	7/8	3/8	1 3/4	11/32	
155W1	1	5	31	E_1 @ 3 ma = 50V min	Ratio $\frac{(E_2 @ 25\ ma)^2}{E_1 @ 3\ ma} = 1.85$ max	7/8	1 5/8	1 1/8		
165W1	1	5	36	At 70°C 65,000 ohms to 115,000 ohms @ 45VAC		7/8	1 1/4	1 1/8		
165W2	1	5	30	95V to 120V @ 10 ma	37.5V min @ .1 ma	49/64	2.81		.090	
A700	1 ea.	3	32	Two varistors potted in can with two mounting studs. Each varistor: 1.6V min @ 1 ma	7.2V to 8.7V @ 100 ma		1 5/8	13/16		15/16

See curves on Page 10.

Units listed in **bold face** are available from stock. Units listed in light face are not normally stocked.

Additional information and prices available upon request

VECO TRADE MARK

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ADDITIONAL VECO PRODUCTS & DEVELOPMENTS

MODEL 163 HYPSOMETERS (Patent Applied For)

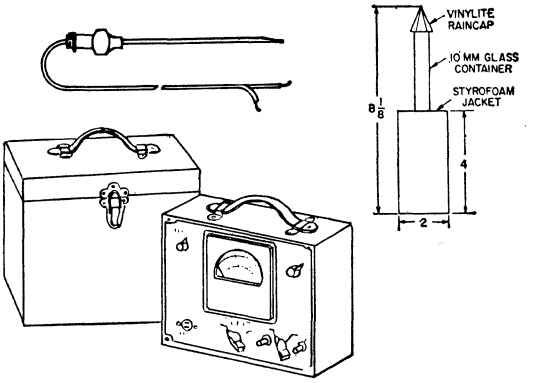
VECO HYPSOMETERS: Are compact light weight instruments used to determine altitude by means of pressure. The VECO Hypsometer acts as a transducer which converts a pressure measurement to an electrical resistance output.

THERMISTOR HYPODERMIC NEEDLES AND CATHETERS

VECO Thermistor Hypodermic Needles and Catheters containing ultra-sensitive thermistors are available in all gauges and lengths. These units can be furnished with different terminations, resistance values, and close tolerance interchangeability. Applications include the fields of medicine, biology, laboratory, and unlimited commercial uses.

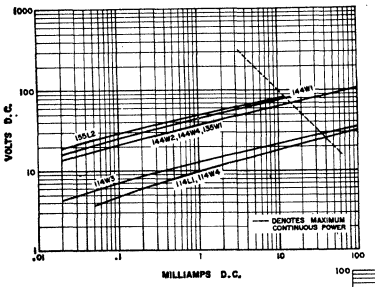
MODEL 140 SERIES COMBUSTION ANALYZERS

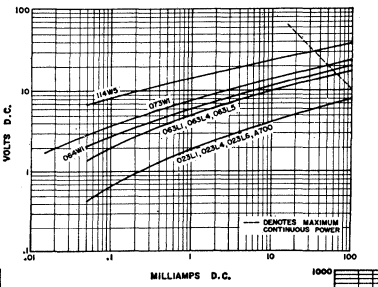
VECO COMBUSTION ANALYZERS: Accurately measure the percentage of CO_2, flue gas temperature, and draft over fire in oil, gas or coal fired heating equipment. Complete with accessories and carrying case, the instrument weighs less than 15 pounds.

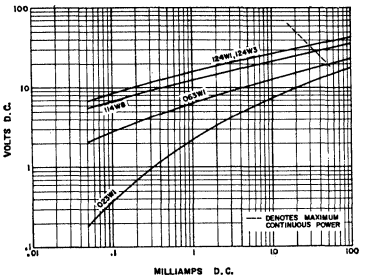


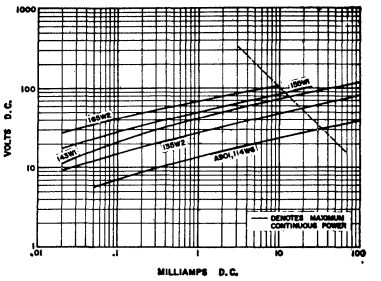
VECO VARISTOR CURVE NOTE

Values shown on the curves above this power level are for transient conditions only, or for conditions where improved mounting methods increase normal power dissipating ability of varistor.

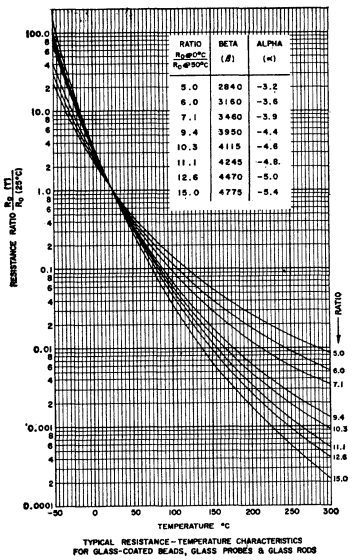




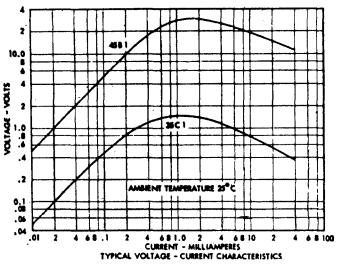




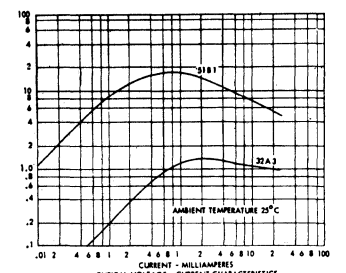
VECO THERMISTOR CURVES



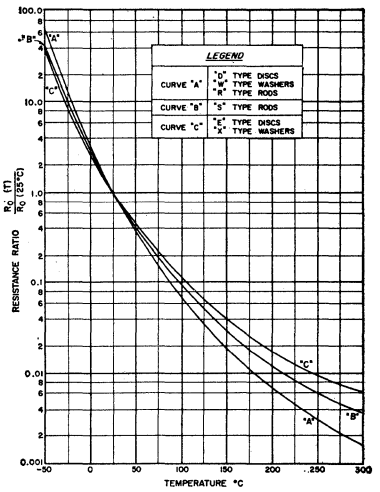
TYPICAL RESISTANCE - TEMPERATURE CHARACTERISTICS FOR GLASS-COATED BEADS, GLASS PROBES & GLASS RODS



TYPICAL VOLTAGE - CURRENT CHARACTERISTICS



TYPICAL VOLTAGE - CURRENT CHARACTERISTICS



RESISTANCE — TEMPERATURE CHARACTERISTICS

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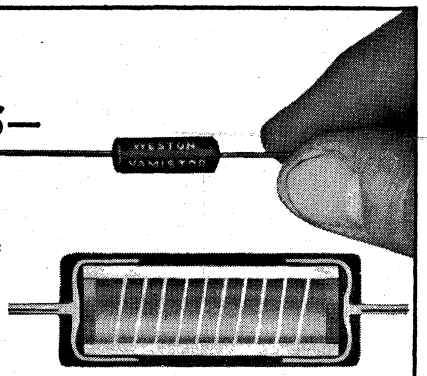

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Unlike other metal film resistors which have the resistance element deposited on the outer surface of the tube, in the Vamistor, the alloy is actually fused into the inner surface by a new electrothermal technique which creates a glass-hard embedded resistance element that will withstand abrasion, thermal shock, and voltage surges to a greater extent than any ordinary film type.

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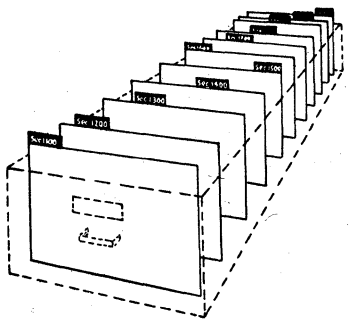

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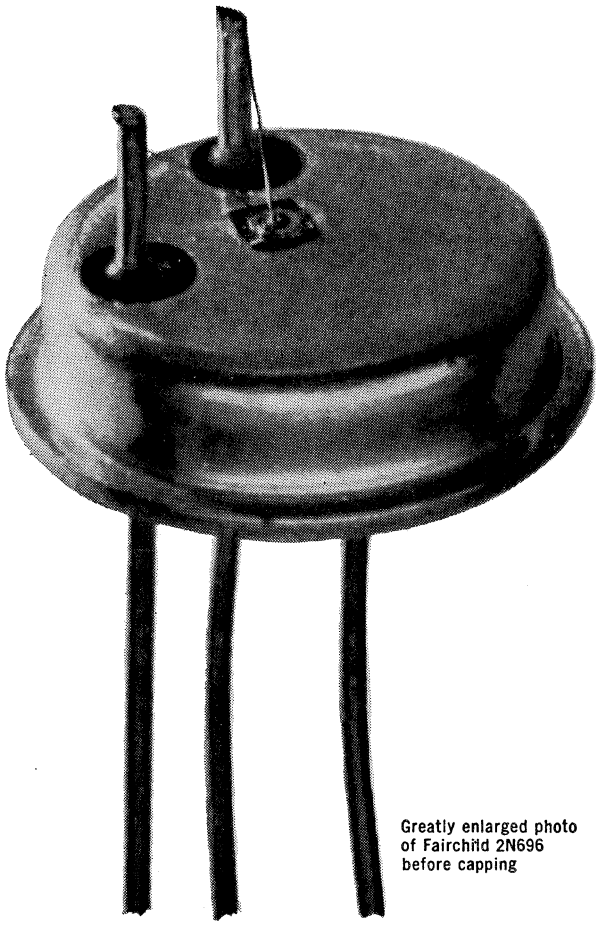
FAIRCHILD SILICON MESA TRANSISTORS

IN BOTH POLARITIES

Four models of great importance to the computer-circuit designer



Greatly enlarged photo of Fairchild 2N696 before capping

Important – because for high-speed switching, Fairchild's 2N696, 2N697, 2N1131 and 2N1132 are the most advanced transistors available. They are solid-state diffusion devices, a type that is certain to dominate computer-circuit applications in the future because of its superior combination of speed, power and reliability. Fairchild Semiconductor Corporation was first to offer solid-state diffused NPN silicon transistors of such high performance – and again first in offering PNP silicon transistors closely matching these NPN transistors in both high frequency and DC characteristics. All are in quantity production and available from stock.

Speed and power in combination

80 milli-micro-second rise time is typical. Two-watts dissipation at 25°C. and 10 ohms maximum saturation resistance provide high-current capability even at elevated junction temperatures.

Utmost reliability

Storage at 300° C. in excess of 1000 hours caused no serious changes in these transistors, assuring a large safety factor at operating temperatures. Mesa construction as shown in enlarged photograph provides extraordinary ruggedness by eliminating suspension of any significant masses. Units have survived 22,000g, 4-millisecond duration shock test without damage.

NPN and PNP closely matched

The circuit designer need no longer be limited by unavailability of PNP transistors. Fairchild has them. And they are closely matched to the NPN transistors in DC characteristics, affording opportunities for circuit designs based on complementary symmetry.

PNP

ABSOLUTE MAXIMUM RATINGS (25° C.)

V_{CER}	– Collector to emitter voltage	30v
V_{CBO}	– Collector to base voltage	40v
V_{EBO}	– Emitter to base voltage	5v
Total dissipation at case temperature 25° C.		2 watts
at case temperature 100° C.		1 watt

ELECTRICAL CHARACTERISTICS (25° C.)

SYMBOL	CHARACTERISTIC		MIN.	TYPICAL	MAX.	TEST CONDITIONS	
h_{FE}	D. C. pulse current gain	2N1131	15		45	I_C=150mA	V_C=10V
		2N1132	30		90		
$V_{BE\ SAT.}$	Base saturation voltage			1.0V	1.5V	I_C=150mA	I_B=15mA
$V_{CE\ SAT.}$	Collector saturation voltage			0.9V	1.5V	I_C=150mA	I_B=15mA
h_{fe}	Small signal current gain at f=20mc			2.5		I_C= 50mA	V_C=10V
C_{ob}	Collector capacitance			35$\mu\mu$f	45$\mu\mu$f	I_E= 0mA	V_C=10V
I_{CBO}	Collector cutoff current			.01μA	1.0μA	V_C=30V	T= 25° C.
				5.0μA	100μA	V_C=30V	T=150° C.

NPN

ABSOLUTE MAXIMUM RATINGS (25° C.)

V_{CER}	– Collector to emitter voltage	40v
V_{CBO}	– Collector to base voltage	60v
V_{EBO}	– Emitter to base voltage	5v
Total dissipation at case temperature 25° C.		2 watts
at case temperature 100° C.		1 watt

ELECTRICAL CHARACTERISTICS (25° C.)

SYMBOL	CHARACTERISTIC		MIN.	TYPICAL	MAX.	TEST CONDITIONS	
h_{FE}	D. C. pulse current gain	2N696	20		60	I_C=150mA	V_C=10V
		2N697	40		120		
$V_{BE\ SAT.}$	Base saturation voltage			1.0V	1.3V	I_C=150mA	I_B=15mA
$V_{CE\ SAT.}$	Collector saturation voltage			0.5V	1.5V	I_C=150mA	I_B=15mA
h_{fe}	Small signal current gain at f=20mc			5		I_C= 50mA	V_C=10V
C_{ob}	Collector capacitance			20$\mu\mu$f	35$\mu\mu$f	I_E= 0mA	V_C=10V
I_{CBO}	Collector cutoff current			.01μA	1.0μA	V_C=30V	T= 25° C.
				5.0μA	100μA	V_C=30V	T=150° C.

For specification sheets, write Dept. H

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FAIRCHILD SEMICONDUCTOR CORPORATION

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General Electric has the complete line in transistors

General Electric offers you not only the "tried-and-true" transistors which have been in use for years, but also many dramatic new devices which are already making history in the industry.

Take G.E.'s new silicon controlled rectifier, for example. It both rectifies *and* controls current—opening up a vast new field of electronic control for heat, light, power and motion.

Whatever your application, your best bet is to check first with your G-E Semiconductor Sales Representative.

RATINGS

	USE	TYPE NO	MAXIMUM COLLECTOR DISSIPATION @ 25 °C (mw) P_C	MINIMUM BREAKDOWN VOLTAGE (VOLTS) B_{VCB}	COLLECTOR CURRENT (ma) I_C	MAXIMUM STORAGE TEMP. (°C) T_{STG}	D-C CURRENT GAIN h_{FE} (A-C h_{FE})*
SILICON	AMPLIFIER AND COMPUTER NPN (CERAMIC FIXED-BED CONSTRUCTION)	2N332	150	45	25	200	12*
		2N333	150	45	25	200	18*
		2N334	150	45	25	200	39*
		2N335	150	45	25	200	20*
		2N336	150	45	25	200	120*
		2N337	125	45	20	200	35
		2N338	125	45	20	200	75
			P_{AV}	V_{BB} (max)	I_E		η
	UNIJUNCTION NPN (CERAMIC FIXED-BED CONSTRUCTION)	2N489*	450	65	70	175	.56
		2N490*	450	75	70	175	.56
		2N491*	450	65	70	175	.62
		2N492*	450	75	70	175	.62
		2N493*	450	65	70	175	.68
		2N494*	450	75	70	175	.68
		*A PN Device	P_C	BV_{CE}	I_C		hFE
GERMANIUM	AUDIO PNP	2N43	240	−30	−300	100	53
		2N43A	155*	−25*		100	53
		2N44	240	−30	−300	100	31
		2N44A	155*	−25*		100	31
		2N524	225	−30	−500	100	35
		2N525	225	−30	−500	100	52
		2N526	225	−30	−500	100	73
		2N527	225	−30	−500	100	91
	COMPUTER PNP	2N123	150	−25	−125	85	65
		2N395	150	−15	−200	100	20 min
		2N396	150	−20	−200	100	30 min
		2N397	150	−15	−200	100	40 min
		2N450	150	−12	−125	85	30 min
		2N518	150	−12	−125	85	60 min
		2N1056	240	−50	−100	100	32
		2N1057	240	−30	−300	100	58
	COMPUTER NPN	2N78	65	15	20	85	70
		2N167	75	30	75	85	30
		2N634	150	20	300	85	15 min
		2N635	150	20	300	85	25 min
		2N636	150	15	300	85	35 min
	TETRODE NPN	3N36	30	6	20	85	2.2 <−81°
		3N37	30	6	20	85	1.1 <−100°

* Ratings based on military test requirements

This chart is designed to give you a brief, compact guide to General Electric's complete line of transistors. For more detailed data on any of the devices listed above, see your local Sales Representative, or write General Electric Company, Semiconductor Products Dept., Section EEM59, Electronics Park, Syracuse, N. Y.

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GENERAL INSTRUMENT semiconductor division

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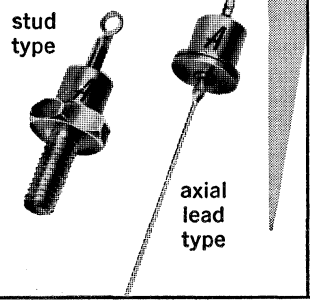
AUTOMATIC silicon rectifiers



GENERAL PURPOSE TYPES			TYPES DESIGNED TO MEET JAN SPECS	MAGNETIC AMPLIFIER TYPES	POWER SUPPLY TYPES	
1N248	1N602A	1N1095	1N253	1N332	1N341	1N600
1N248A	1N603A	1N1096	1N254	1N333	1N342	1N601
1N249	1N604A	1N1100	1N255	1N334	1N343	1N602
1N249A	1N605A	1N1101	1N256	1N335	1N344	1N603
1N250	1N606A	1N1102	1N538	1N336	1N345	1N604
1N250A	1N607A	1N1103	1N540	1N337	1N346	1N605
1N536	1N608A	1N1104	1N547	1N338	1N347	1N606
1N537	1N609A	1N1105		1N339	1N348	1N607
1N539	1N610A	1N1487		1N340	1N349	1N608
1N550	1N611A	1N1488		1N440	1N530	1N609
1N551	1N612A	1N1489		1N441	1N531	1N610
1N552	1N613A	1N1490		1N442	1N532	1N611
1N553	1N614A	1N1491		1N443	1N533	1N612
1N554	1N645	1N1492		1N444	1N534	1N613
1N555	1N646	1N1692		1N445	1N535	1N614
1N599A	1N647	1N1693		1N440B	1N560	1N1115
1N600A	1N648	1N1694		1N441B	1N561	1N1116
1N601A	1N649	1N1695		1N442B	1N562	1N1117
				1N443B	1N563	1N1118
				1N444B	1N599	1N1119
				1N445B		1N1120

RADIO RECEPTOR germanium diodes

GENERAL PURPOSE TYPES		TYPES DESIGNED TO MEET JAN SPECS	HIGH CONDUCTANCE TYPES	HIGH TEMPERATURE TYPES	COMPUTER TYPES
1N67A	1N98A	1N126A	1N270	1N277	1N191
1N68A	1N99A	1N127A	1N281		1N192
1N89	1N100A	1N128			
1N90	1N116A	1N198			
1N95	1N117A	1N276			
1N96	1N118A				
1N97A					

RADIO RECEPTOR silicon diodes

ALL PURPOSE TYPE	GENERAL PURPOSE TYPES	TYPES DESIGNED TO MEET JAN SPECS	FAST RECOVERY TYPES	HIGH CONDUCTANCE TYPES	
1N658	1N456	1N457	1N625	1N482	1N484A
	1N461	1N458	1N626	1N482A	1N484B
	1N462	1N459	1N627	1N482B	1N485
	1N463		1N628	1N483	1N485A
	1N464		1N629	1N483A	1N485B
				1N483B	1N486
				1N484	1N486A

In addition to the numbers listed above, General Instrument makes a much wider range of *special* diodes and rectifiers with characteristics far superior to the standard types.

All General Instrument semiconductor products sold under the AUTOMATIC and RADIO RECEPTOR trademarks are available at distributor organizations located in key cities throughout the United States. Information and technical data sheets are available upon request.

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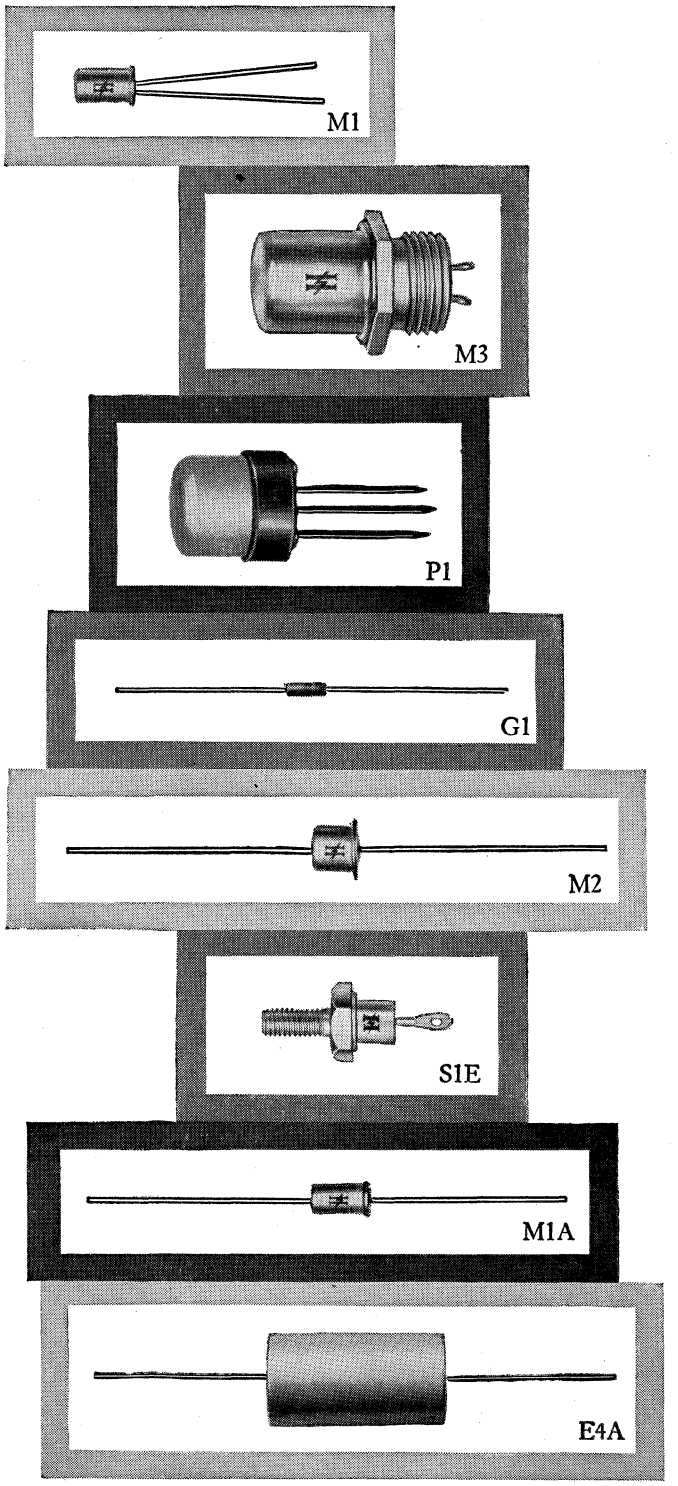

	Available in Case Types
General Purpose Silicon Junction Diodes *26 types — PIV Range — 6.8V thru 470V*	M1
Double Anode Silicon Junction Diodes *14 types — Zener Voltage Range: 3.0V thru 45V*	M1
Zener Diodes *21 types — Zener Voltage Range: 2.0V thru 145V*	M1
HB Silicon Junction Diodes *6 types — PIV Range — 6.8V thru 270V*	M1
Zener Reference Devices *OPERATING ZENER VOLTAGE* *1N429 — 6.2V ±5%* *1N430, 1N430A, 1N430B, 1N1530, 1N1530A — 8.4V ±5%* *15 types — 1N1735 thru 1N1742A — Zener Voltage Range: 6.2V thru 49.6V*	M1 M3 P1 E1A, E2A E3A, E4A
Silicon Junction "Glass" Diodes *General Purpose — 8 types PIV Range — 25V thru 175V* *Fast Recovery — 5 types Zener Voltage Range: 30V thru 200V* *Zener — 6 types Zener Voltage Range: 2.0V thru 8.0V*	 G1 G1 G1
Medium Power "Top Hat" Rectifiers *Axial Types — 6 types PIV Range — 50V thru 500V* *Stud Mounted Types — 8 types PIV Range — 95V thru 570V*	 M2 S1E
Medium Power Diffused Junction Rectifiers *12 types — PIV Range — 50V thru 1000V*	M1A
Silicon Diffused Area Zener Regulators • *10 watt rating — 38 types Zener Voltage Range: 5.6V thru 200V* • *One (1) watt rating — 38 types Zener Voltage Range: 5.6V thru 200V* • *¼ watt rating — 38 types Zener Voltage Range: 5.6V thru 200V*	 S1E M1A G1

Silicon Solar Cells

Ranging in size and power from 0.1 square centimeter (1mW) to square yards (K watts)

For detailed electrical characteristics, refer to Hoffman HSD-458 Brochure

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HUGHES SEMICONDUCTORS

GERMANIUM POINT CONTACT AND SILICON JUNCTION DIODES

All types packaged in a one-piece, fusion-sealed glass envelope impervious to contamination and moisture penetration. Units are thermally and physically stable over a wide range of operating conditions. Maximum body dimensions: .107" x .265". Leads: .020" x 1", nominal. Storage temperature range: −78°C to +200°C (germanium to +150°C).

STANDARD SILICON SERIES

	Forward Current @ +1V (mA min)	WIV (V max)	Reverse Current @ WIV (μA max) 25°C	150°C
1N461	15	25	.5	30
1N462	5	60	.5	30
1N463	1	175	.5	30
1N464	3	125	.5	30
1N456	40	30	.025	5
1N457	20	60	.025	5
1N458	7	125	.025	5
1N459	3	175	.025	5

A full forward current range (including higher currents) is available in each voltage class. Operating temp. range: −78°C to +200°C.

QUICK RECOVERY SILICON SERIES

	Forward Current @ 1.5V (mA min)	WIV (V max)	Reverse Current @ WIV (μA max) 25°C	100°C
1N625	4	20	10	50
1N626	4	35	20	100
1N627	4	75	20	100
1N628	4	125	20	100
1N629	4	175	20	100

All types recover to 400K ohms minimum in less than 1μsec switching 30 mA forward to −35V reverse, or comparable performance under different switching conditions. 6 mA, 15 mA, and higher current types available. Operating temperature range: −78°C to +150°C.

PARAMETRIC AMPLIFIER DIODES

Laboratory samples have produced noise temperatures of 100° K above absolute zero @ 3000 MC. 50° K above absolute zero was obtained when diode cooled by liquid nitrogen. Available in two rugged and hermetically sealed versions—one for the region below 1000 megacycles (Type HPA 2800) and a second for the microwave region mounted in a typical microwave diode package (Type HPA2810).

GOLD-BONDED GERMANIUM SERIES

	Forward Current @ +1V (mA Min)	Inverse Current (μA Max)	Maximum Inverse Voltage (Volts)
1N270	200	100 @ −50V	100
1N276	40	100 @ −50V, 100 @ −10V*	60
1N277	100	250 @ −50V*, 74 @ −10V*	125

*Measured @ 75° C.

STANDARD GERMANIUM SERIES

	Forward Current @ +1V (mA min)	WIV (V max)	Reverse Current @ Specifed Test V μA max	Volts
1N67A	4.0	80	50	50
1N90	5.0	60	500	50
1N99	10.0	80	50	50
1N100	20.0	80	50	50
1N116	5.0	60	100	50
1N117	10.0	60	100	50
1N118	20.0	60	100	50
1N126A*	5.0	60	50	10
1N127A*	3.0	100	300	50
1N128*	3.0	40	10	10
1N191	5.0	($R_b \geq$ 400K ohms between −10 and −50V @ 55°C recovery tested)		
1N192	5.0	($R_b \geq$ 200K ohms between −10 and −50V @ 55°C recovery tested)		
1N198*	5.0**	80**	250**	50

*JAN types **All measurements @ 75°C

Operating temperature range: −78°C to +90°C.

HIGH CONDUCTANCE SILICON SERIES

	Average Forward Current (mA max) @ 25°C	@ 150°C	Forward Current @ +1V (mA min)	Inverse Current @ Specified Test V (μA max) @ 25°C	@ 150°C	Volts
HD6764	200	50	200	.025	5	60
HD6766	200	50	200	.025	5	125
HD6768	200	50	200	.025	5	175
HD6771	200	50	200	.050	25	225
HD6773	200	50	200	.100	25	300
HD6775	200	50	200	.100	25	380

Operating temperature range: −78°C to +150°C.

LOW-POWER SILICON RECTIFIERS

With same glass envelope as Hughes diodes.

	Reverse Working Voltage (Peak of AC Input, V max)	Avg. Rectified Forward Current (mA max)
HR10211	175	150
HR10212	225	150
HR10213	275	150
HR10214	325	150
HR10215	375	150
HR10251	175	200
HR10252	225	200
HR10253	275	200
HR10254	325	200
HR10255	375	200
HR10311	475	200*
HR10312	575	200*
HR10313	675	200*
HR10314	775	200*
HR10315	875	200*
HR10316	975	200*

Derate average rectified current 1 mA per degree C above 25°C.
*Derate 1.6 mA per degree C above 25°C.
Storage and operating temperature ranges: −78°C to +150°C.

SILICON PNP TRANSISTORS

FUSED-JUNCTION SERIES

Audio devices for operation at medium power levels. Metal package with coaxial leads contributes to physical and electrical stability plus ability to dissipate heat efficiently. Junction temperature range: −65°C to +200°C. Maximum body dimensions: .665" x .343". Typical Specifications:

	Breakdown Voltage (BV_{CEO}, V Max)	Collector Leakage Current (I_{CBO}, μAdc Max)	Current Gain (β, Min)	(β, Max)	Frequency Cutoff ($f_{\alpha b}$, mc Typical)
HA7521	−60	0.1 @ −50 Vdc	13	30	0.8
HA7524	−60	0.1 @ −50 Vdc	13	30	1.2
HA7527	−35	0.1 @ −30 Vdc	27	65	1.5

Power Rating: 5 watts (with heat sink).
Saturation Resistance: 10 ohms nominal.
All types available in TO-5 package with reduced power ratings.

DOUBLE-DIFFUSED SERIES

For operation as I.F. amplifier and housed in TO-5 package. Temperature range: −65°C to +200°C. Typical Specifications:

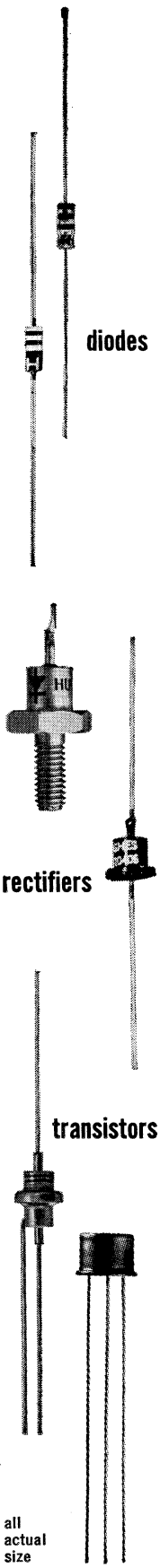
	Power Gain (db)	Output Capacity (C_{ob}, μμfd Max)	Breakdown Voltage (BV_{CBO}, V Min)	Noise Figure (db, Max)
HA7104	20 @ 4.3mc	3.5	35	10 @ 4.3mc
HA7105	18 @ 12.5mc	3.5	35	10 @ 12.5mc

SILICON MEDIUM POWER RECTIFIERS

High efficiency units in a welded and hermetically sealed metal package. Glass-to-metal seal provides complete protection from contamination and moisture penetration. Max. operating temperature: 150°C.

TYPICAL SPECIFICATIONS

	PIV (Volts)	Average Leakage Current @ 2A @ 25°C (μA max)
HR10679	500	100 @ 350 V_{RMS}
HR10681	600	100 @ 350 V_{RMS}



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Combinations of characteristics other than those listed in the tables above are available as special types. For details or for general price information, please write:
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INDUSTRO TRANSISTOR

TRANSISTORS FOR INDUSTRY

PNP Germanium Alloy-Junction Transistor Specifications

The mechanical design and hermetic seal of the TO-9 case enables these Industro transistors to meet or exceed the mechanical environmental requirements of military standard MIL-T-19500A.

MEDIUM and HIGH SPEED COMPUTER SWITCHING

DC Current Gain h_{FE}	V_{CE}	f_{ab}	RISE TIME t_r	STORAGE TIME t_s	FALL TIME t_f
10 to 150	6 to 30 volts	1.3 mc to 30 mc	0.3 to 1.5 μ secs	0.2 to 1.5 μ secs	0.3 to 1.5 μ secs

2N311, 2N315, 2N315A, 2N316, 2N316A, 2N317, 2N317A, 2N396, 2N404, 2N425, 2N426, 2N427, 2N428, 2N505, 2N578, 2N579, 2N580, TR-269, TR-396

GENERAL PURPOSE HIGH FREQUENCY

2N413, 2N413A, 2N414, 2N414A, 2N416, 2N417, 2N519, 2N519A, 2N520, 2N520A, 2N521, 2N521A, 2N522, 2N522A, 2N523, 2N523A, 2N653, TR-123, TR-320, TR-321, TR-526, TR-527

ALPHA CUTOFF FREQUENCY f_{ab}	AC BETA-GAIN @ 270 cps
0.5 to 30 mc	15-250

RADIO FREQUENCY

2N481, 2N482, 2N483, 2N484, 2N485, 2N486

COLLECTOR to EMITTER VOLTAGE (base open) V_{CE}	CONVERSION GAIN	GAIN @ 455 kc
10 volts minimum	26 to 30	31 to 35

GENERAL PURPOSE AUDIO

COLLECTOR to EMITTER VOLTAGE (Base Open) V_{CE}	COLLECTOR CUTOFF CURRENT I_{CO} (@ V_{CB} 20V)	DC CURRENT GAIN h_{FE}
9 to 40 volts	0 to 20 μ amps	15-200

2N331, 2N359, 2N360, 2N361, 2N362, 2N363, 2N564, 2N566, 2N568, 2N570, 2N572, 2N631, 2N632, 2N633, 2N422, 2N464, 2N465, 2N466, 2N467, 2N650, 2N651, 2N652, 2N654, 2N655, TR-34, TR-81, TR-381, TR-382, TR-383, TR-460, TR-461, TR-721, TR-722

INDUSTRO TRANSISTOR CORPORATION 35-10 36th AVENUE LONG ISLAND CITY 6, N. Y.

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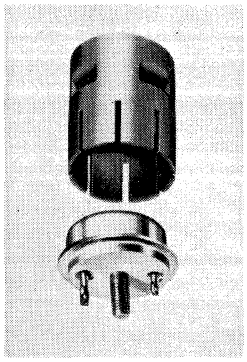
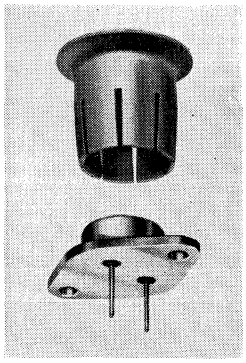
IERC transistor heat dissipators

meet new design applications in missile, guidance control and other military electronic equipment.

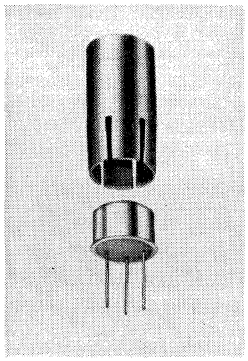
IERC Part No.	For Use With Transistor Diameters Between
TXD-100-137	0.990 – 1.010
TXD-087-137	0.860 – 0.880
TXD-079-137	0.780 – 0.800
TXD-077-137	0.760 – 0.780
TXD-075-137	0.740 – 0.760



IERC Part No.	For Use With Transistors Diameters Between
TXF-100-100	0.990 – 1.010
TXF-075-100	0.740 – 0.760
TXF-064-100	0.630 – 0.650

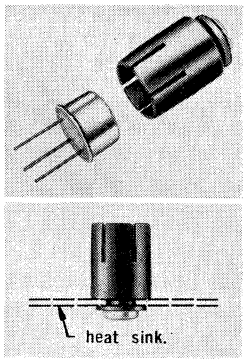


IERC Part No.	For Use With Transistors Diameters Between
TXD-067-075	0.660 – 0.680
TXD-064-100	0.630 – 0.650
TXD-064-075	0.630 – 0.650
TXD-032-075	0.315 – 0.325
TXD-031-075	0.305 – 0.315
TXD-017-075	0.165 – 0.175



IERC Part No.	For Use With Transistors Diameters Between
TXS-033-047	0.325 – 0.335
TXS-032-047	0.315 – 0.325
TXS-032-032	0.315 – 0.325

The TXS type transistor heat dissipator is designed to be a thermal link between the transistor and a heat sink. They are electrically insulated from transistor and heat sink with the new Insulube finish #448 which offers 500 volts insulation and retains the transistor with a friction fit.



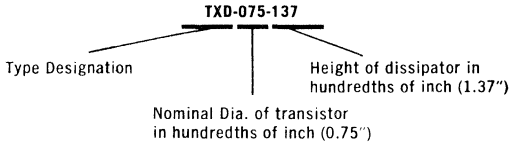
GENERAL INFORMATION

The TXD and TXF transistor heat dissipators are designed for friction fit onto various transistor sizes thereby adding surface area for more efficient radiation and convection cooling.

IERC transistor heat dissipators illustrated here are presently in production. A more complete series of types and sizes are under development. Write our engineering department for complete information.

(PATENTS APPLIED FOR)

IERC PART NO. EXPLANATION



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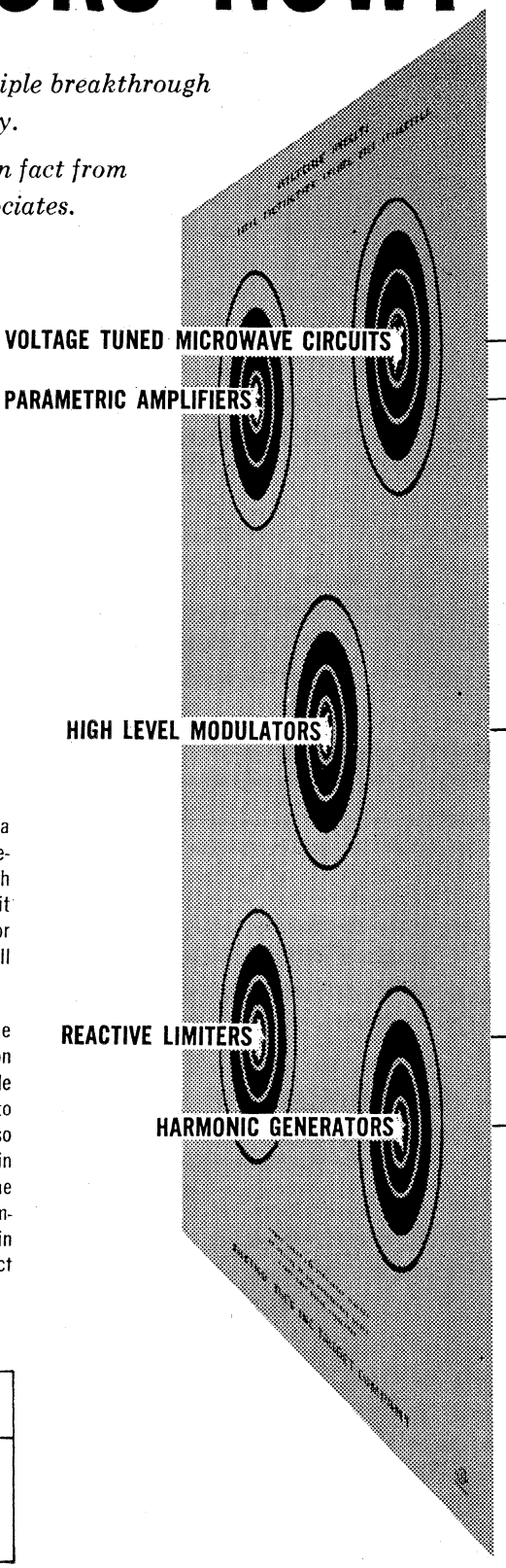

This Microwave Associates varactor is a diffused silicon PN junction diode designed to be a variable capacitance with low loss at high frequencies. The unit complies with MIL-E-1 outline 7-1 for cartridge type crystal rectifiers and will fit most standard crystal holders.

In the standard form, the pin end of the diode is connected to P-type material on the top of a small "mesa" and the N-side of the silicon element is connected to the base. Reverse polarity units are also available. Mechanically reversible units in both polarities may be ordered but the single-ended units are generally recommended because they insure placement in holders with the proper end in contact with a heat sink.

TYPE	CUT OFF FREQUENCY (kMc)	CAPACITY AT ZERO BIAS ($\mu\mu$f)
MA-460A	20	8
MA-460B	30	6
MA-460C	40	4
MA-460D	50	4
MA-460E	60	3

VOLTAGE TUNED MICROWAVE CIRCUITS

The high Q of the varactor at microwave frequencies and its voltage variable capacitance provide excellent qualities for use in circuits as AFC, voltage variable filter networks, tuned microwave oscillators.

PARAMETRIC AMPLIFIERS

The varactor used in very simple circuits requiring no refrigeration has demonstrated low noise, high gain performance from 1 to 6000 mc. Noise figures of approximately 1 db at UHF and 5 db at 6000 mc. are typical. We believe the varactor will be the component of choice for receiver inputs from 30 to 6000 mc.

HIGH-LEVEL MODULATORS

For the difficult problem of imposing VHF and UHF intelligence on a microwave carrier, the varactor is a top performer. The varactor accomplishes the mixing function with signal gain in the side bands as opposed to present low efficiency techniques.

REACTIVE LIMITERS

The varactor has been used as a passive reactive limiter at UHF frequencies. It is believed that the varactor will be an ideal "receiver protector" as an adjunct to present UHF radar duplexing systems.

HARMONIC GENERATORS

The unique properties of the varactor provide highly efficient harmonic generation. Useful harmonics have been generated up to 100 kMc. With inputs at HF, VHF, UHF and lower microwave frequencies, conversion losses of considerably less than 1 db per harmonic have been observed. The varactor driven by transistor or tube oscillators appears very promising as a signal source in the microwave region.

Send for catalog 59V

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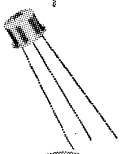
for maximum reliability

MOTOROLA SEMICONDUCTOR COMPONENTS

You can incorporate Motorola Semiconductors in your circuits with complete confidence that they will provide highest efficiency... maximum reliability. Motorola's unique combination of solid-state knowledge and production skill accomplishes volume production, yet maintains exacting standards of quality. Look to Motorola's rapidly expanding product line for all your semiconductor needs.

MOTOROLA TRANSISTORS / GERMANIUM

2N178, 2N176, 2N669 — **2 WATT** General purpose audio class A & B amplifiers. High power gain, low distortion. Power gain range from 28 to 41 db.



2N350A, 2N351A, 2N376A — **POWER SWITCH** General purpose audio class A & B amplifiers. Switching and power supply applications. Low distortion. Power gain range from 30 to 37 db.

2N554, 2N555 — **POWER** Low cost, general purpose audio transistors intended for amateur and hobbyist use.

2N375, 2N618 — **HIGH-VOLTAGE** 80 volts — 3 amps. High reliability. For switching, regulation and power supply applications. Welded seal. Tested to military specifications.

2N627, 2N628, 2N629, 2N630 — **HIGH-VOLTAGE — HIGH CURRENT** 40 to 100 volts — 10 amps. For switching, regulation and power supply applications. Ringed emitter, solder terminals, welded hermetic seal.

2N425, 2N426, 2N427, 2N428 — **SWITCHING TRANSISTORS** TO-9 package. Welded hermetic seal. Most completely specified PNP transistor for industrial and military medium-speed computer and switching service.

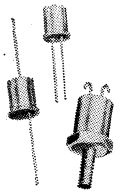
2N464, 2N465, 2N466, 2N467 — **GENERAL PURPOSE AUDIO** Designed for general purpose applications in the audio frequency range. TO-9 package. Welded hermetic seal.

MOTOROLA MESA TRANSISTORS

2N695 — Ultra high-speed switching transistor. $t_r + t_s + t_f = < 5$ mμsec. Extreme reliability. Maximum junction temperature of 100°C. Meets or exceeds mechanical and environmental requirements of MIL-T-19500A.

2N700 — Ultra high frequency transistor. f max of 600 mcs. Maximum junction temperature of 100°C. Meets or exceeds mechanical and environmental requirements of MIL-T-19500A.

MOTOROLA RECTIFIERS / SILICON



1N1563A through 1N1566A — **SINGLE-ENDED 1.5 AMP.** PIV 100 to 400 volts. Low back current limits... high surge handling capacity. Intended for applications, such as magnetic amplifiers, requiring high rectification ratios at high temperature.

1N1563 through 1N1566 — **SINGLE-ENDED 1 AMP.** PIV 100 to 400 volts. Intended for industrial and entertainment applications.

1N1569 through 1N1572 — **AXIAL LEAD 1 AMP.** PIV 100 to 400 volts. High surge handling capacity. Intended for military and industrial applications.

1N1575 through 1N1578 — **STUD MOUNTED 3.5 AMP.** PIV 100 to 400 volts. High surge handling capacity. Intended for military and industrial usage.

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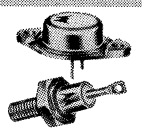

50M10Z through 50M200Z — **50 WATT SERIES** 50 watt power ratings... up to 200 volts. Very low zener impedance. TO-3 package. Meets or exceeds mechanical and environmental requirements of MIL-E-1 and MIL-S-19500.

10M10Z through 10M200Z — **10 WATT SERIES** 10 watt power ratings... up to 200 volts. Very low Zener impedance. Welded, hermetically sealed JEDEC DO-4 package. Meets or exceeds mechanical and environmental requirements of MIL-E-1 and MIL-S-19500.

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MOTOROLA SEMICONDUCTORS

MOTOROLA SEMICONDUCTORS

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PHILCO TRANSISTORS

SURFACE BARRIER TRANSISTORS (SBT*)

TYPE	GAIN h_{fe}	FREQUENCY f_{max} in mc	APPLICATIONS
2N128	40	60	General communications; MIL specifications
2N240	30	Switching rates 20mc	High-speed switch; controlled hole storage and saturation characteristics; MIL specifications
2N299	22db @ 10mc	110	Tuned amplifier; MIL specifications
2N300	18	95	Video amplifier; MIL specifications
2N344	22	50	General purpose; narrow beta spread (11-33)
2N345	35	50	General purpose; similar to 2N344 with higher beta; MIL specifications
2N346	20	75	General purpose; like 2N344 and 2N345 but higher frequency
SB100	20	45	General purpose amplifier

*Trademark Philco Corp. for Surface Barrier Transistor

MICRO ALLOY TRANSISTORS (MAT*)

TYPE	GAIN h_{FE}	FREQUENCY f_{max} in mc	APPLICATIONS
2N393	95	60	High-speed, high-gain switch; MIL specifications
2N1122	95	60	High-speed, high-voltage level switch
2N1122A	95	60	Higher voltage level operation

*Trademark Philco Corp. for Micro Alloy Transistor

MICRO ALLOY DIFFUSED-BASE TRANSISTORS (MADT*)

TYPE	GAIN	FREQUENCY f_{max} in mc	APPLICATIONS
2N499	10db @ 100mc	320	VHF amplifier; MIL specifications
2N500	22mw PO @ 200mc	400	VHF oscillator; MIL specifications
2N501	h_{FE} 35	Switching rates 40mc	Ultra-fast switch; typical t_r 9μsec; t_s 9μsec; t_f 7μsec; MIL specifications
2N501A	h_{FE} 35	Switching rates 40mc	Rated at 100°C; MIL specifications
2N502	10db @ 200 mc	700	VHF amplifier; MIL specifications
2N502A	10db @ 200 mc	700	Rated at 100°C; MIL specifications
2N503	12.5db @ 100mc	420	VHF amplifier
2N504	46db @ 455kc	Minimum 50	IF amplifier; high level logic switch
2N588	14db @ 50mc	250	General purpose RF-IF amplifier

*Trademark Philco Corp. for Micro Alloy Diffused-base Transistor

MICRO-MINIATURE TRANSISTORS

TYPE	GAIN h_{fe}	FREQUENCY $f_{\alpha b}$ in mc	APPLICATIONS
2N207	100	2	Low level amplifier; particularly suited for hearing aid use; N.F.* 15db max
2N207A	100	2	Low level amplifier; particularly suited for hearing aid use; N.F.* 10db max
2N207B	100	2	Hearing aid input stage; other extremely low noise applications; N.F.* 5db max
2N534	150		High voltage amplifier switch
2N535	100	2	General purpose; 85°C max temperature rating; N.F.* 10db max
2N535A	100	2	General purpose; 85°C max temperature rating; N.F.* 5db max
2N535B	100	2	General purpose; 85°C max temperature rating; N.F.* 0db max
2N536	h_{FE} 100	2	Low level switch at pulse rates up to 150kc

*Noise Factor at 1μv reference level across 1000 ohms

SILICON ALLOY TRANSISTORS (SAT*)

TYPE	GAIN h_{fe}	FREQUENCY f_{max} 15mc	APPLICATIONS
2N495	15		General purpose; MIL specifications
2N496	h_{FE} 10	f_T 11mc**	High-speed switching; MIL specifications

*Trademark Philco Corp. for Silicon Alloy Transistor **Frequency for beta=1

BILATERAL TRANSISTOR

TYPE	GAIN h_{FE}*	FREQUENCY $f_{\alpha b}$ 500kc	APPLICATIONS
2N462	45		Controlled pulse response (max t_{on} and t_{off} 12μsec)

*Forward and inverse

POWER TRANSISTORS

TYPE	GAIN	FREQUENCY $f_{\alpha e}$ in kc	APPLICATIONS
2N386	33db @ 5w PO	Minimum 7	High-voltage general purpose amplifiers; relay actuators and power converters
2N387	33db @ 5w PO	Minimum 6	High-voltage general purpose amplifiers; relay actuators and power converters

MEDIUM FREQUENCY TRANSISTORS

TYPE	GAIN h_{FE}	FREQUENCY $f_{\alpha b}$ in mc	APPLICATIONS
2N597	70	4.5	High-voltage general purpose amplifier and switch; TO-9 case
2N598	85	7.5	500kc logic switching; TO-9 case
2N599	105	18	Logic switching rates up to 1mc; core driver; TO-9 case
2N600	85	7.5	500kc switching; 1 watt peak power dissipation for 0.1 sec; stud mount
2N601	105	18	High-power core driver; typical rise time 0.1 μsec; stud mount
2N1123	70	4.5	High-voltage power amplifier and switch; stud mount

PULSE AMPLIFIER TRANSISTORS

TYPE	GAIN $\frac{h_{FE}}{h_{fe}}$	FREQUENCY	APPLICATIONS
2N670	100	$f_{\alpha b}$ 700kc	High peak current pulse amplifier; relay driver
2N671	100	$f_{\alpha b}$ 650kc	High power version of 2N670; stud mount
2N672	20 (Sat.)	0.5 μsec max t_r	High-current switching core driver; controlled rise, fall, and storage times
2N673	20 (Sat.)	0.5 μsec max t_r	High power version of 2N672; stud mount

MEDIUM POWER TRANSISTORS

TYPE	GAIN $\frac{h_{FE}}{h_{fe}}$	FREQUENCY $f_{\alpha b}$ in mc	APPLICATIONS
2N223	110	0.6	Audio driver; exceptional beta linearity
2N224	90	0.51	Audio output; exceptional beta linearity; available as matched pair (2N225)
2N226	60	0.4	Audio output; exceptional beta linearity; available as matched pair (2N227)
2N1124	Min $\frac{h_{fe}}{40}$	Minimum 0.4	E3-51 based high-voltage, general purpose industrial amplifier
2N1125	$\frac{h_{fe}}{100}$	Minimum 1	E3-51 based high-voltage, medium frequency amplifier and switch
2N1126	Min h_{fe} 40	Minimum 0.4	E3-51 based high-power, high-voltage, general purpose industrial amplifier; stud mount
2N1127	100	Minimum 1	E3-51 based high-power, high-voltage, medium frequency amplifier and switch; stud mount
2N1128	h_{fe} 100	1	E3-51 based audio driver
2N1129	165	0.75	E3-51 based high gain transistor for amplifier and switching
2N1130	125	0.75	E3-51 based general purpose audio transistor

PHILCO® CORPORATION

LANSDALE TUBE COMPANY DIVISION

LANSDALE, PENNSYLVANIA

TRANSISTOR CENTER U.S.A.

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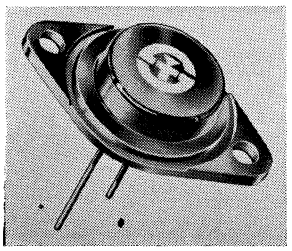
semiconductors

SILICON TRANSISTOR CORP.

All semiconductor products, manufactured by Silicon Transistor Corp., are made to rigid quality control standards emphasizing comprehensive environmental and life testing to the most severe military specifications.



TRANSISTORS

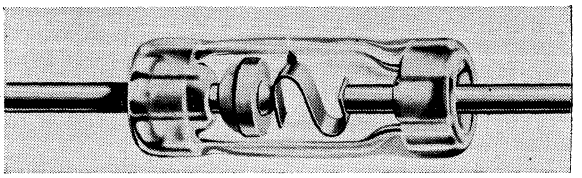
SILICON POWER TRANSISTORS: 30 Watt, 5 Amp., low saturation resistance, Jedec outline TO-3 in a welded hermetically sealed package. **Typical applications:** Class A and B power amplifiers, power converters, relay replacement and controls, power switches, high level DC amplifiers and power supply regulators.

DIODES

SILICON DIODES—GENERAL PURPOSE TYPES

TYPE	MAX. FORWARD D.C. VOLT. V @ mA	MAX. REV. D.C. CURR. @ MAX. REV. WKG. VOLT. μA @ 25°C	μA @ 150°C	MAX. REV. WKG. VOLT.	MIN. REV. VOLT. @ 100 μA & 25°C	MAX. AV. FORWARD CURR. @ 25°C mA	@ 150°C mA
1N456	1.0 @ 40	0.025	5	25	30	90	
1N457	1.0 @ 20	0.025	5	60	70	75	
1N458	1.0 @ 7	0.025	5	125	150	55	
1N459	1.0 @ 3	0.025	5	175	200	40	
1N461	1.0 @ 15	0.5	30	25	30	60	
1N462	1.0 @ 5	0.5	30	60	70	50	
1N463	1.0 @ 1	0.5	30	175	200	30	
1N464	1.0 @ 3	0.5	30	125	150	40	
1N482	1.1 @ 100	0.25	30	36	40	100	25
1N482A	1.0 @ 100	0.025	15	36	40	200	50
1N482B	1.0 @ 100	0.025	5	36	40	200	50
1N483	1.1 @ 100	0.25	30	70	80	100	25
1N483A	1.0 @ 100	0.025	15	70	80	200	50
1N483B	1.0 @ 100	0.025	5	70	80	200	50
1N484	1.1 @ 100	0.25	30	130	150	100	25
1N484A	1.0 @ 100	0.025	15	130	150	200	50
1N484B	1.0 @ 100	0.025	5	130	150	200	50
1N485	1.1 @ 100	0.25	30	180	200	100	25
1N485A	1.0 @ 100	0.025	15	180	200	200	50
1N485B	1.0 @ 100	0.025	5	180	200	200	50
1N486	1.1 @ 100	0.25	50	225	250	100	25
1N486A	1.0 @ 100	0.05	25	225	250	200	50
1N487	1.1 @ 100	0.25	50	300	330	100	25
1N487A	1.0 @ 100	0.1	25	300	330	200	50

Operating Temperature Range —80°C to 200°C
Maximum power dissipation—250 mW @ 25°C



HIGH RELIABILITY DIODES: General purpose high conductance, fast recovery, high temperature silicon circuit diodes in a hermetically sealed subminiature glass package. **Typical applications:** Commercial and industrial computer and military circuitry.

Inquiries invited for special purpose types.

SILICON DIODES—FAST SWITCHING TYPES

TYPE	MAX. FORWARD D.C. VOLT. V @ mA	MAX. REV. D.C. CURR. @ MAX. REV. WKG. VOLT. μA @ 25°C	μA @ 100°C	MAX. REV. WKG. VOLT.	MIN. REV. VOLT. @ 100 μA & 25°C	REVERSE RECOVERY
1N625	1.5 @ 4	1.0	30	20	30	400k Ω min. in 1 μ sec.†
1N626	1.5 @ 4	1.0	30	35	50	400k Ω min. in 1 μ sec.†
1N627	1.5 @ 4	1.0	30	75	100	400k Ω min. in 1 μ sec.†
1N628	1.5 @ 4	1.0	30	125	150	400k Ω min. in 1 μ sec.†
1N629	1.5 @ 4	1.0	30	175	200	400k Ω min. in 1 μ sec.†
1N658**	1.0 @ 100	0.05 @ 50V		100	120	80k Ω min. in 0.3 μ sec.‡

**μA @ 150°C, 25 @ 50 V.
†Switching from 30 mA to 35 volts. Modified IBM "Y" circuit.
‡Switching from 5 mA to 40 volts. JAN 256 Circuit.
Operating temperature range —80°C to +150°C. Maximum power dissipation 200 mW @ 25°C. Derate at 1.6 mW/°C above 25°C.

SILICON TRANSISTOR CORPORATION
CARLE PLACE, LONG ISLAND, NEW YORK
Pioneer 2-4100

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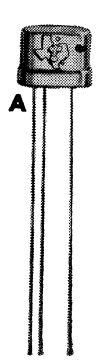
DALLAS, TEXAS

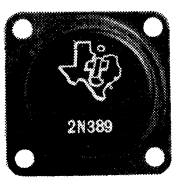
T/I SILICON TRANSISTORS

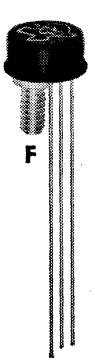
	Type	Case Type	Dissipation at 25°C W	Small Signal Current Transfer Ratio h_{fe} min	max	Collector Current I_C mA max	DC Current Transfer Ratio h_{FE} min	max	Collector Breakdown Voltage-V BV_{CBO} min	Saturation Resistance R_{CS} Ohms max	Alpha Cutoff Frequency $f_{\alpha b}$ mc min	Bulletin Number
small signal	903	A	0.150	9	20	25			45	200	4 (typ)	DL-S 818
	904	A	0.150	18	40	25			45	200	5 (typ)	DL-S 819
	904A	A	0.150	18	90	25			45	200	8	DL-S 820
	905	A	0.150	36	90	25			45	200	6 (typ)	DL-S 821
	910	A	0.150	76	333	25			45	200	7 (typ)	DL-S 822
	2N117	G	0.150	9	20	25			45†	200†	4 (typ)	DL-S 896
	USN2N117	G	0.150	9	20	25			45†	200†	1	
	2N118	G	0.150	18	40	25			45†	200†	5 (typ)	DL-S 897
	USN2N118	G	0.150	18	40	25			45†	200†	2	
	2N118A	G	0.150	18	90	25			45†	200†	8	DL-S 898
	2N119	G	0.150	36	90	25			45†	200†	6 (typ)	DL-S 899
	USN2N119	G	0.150	36	90	25			45†	200†	2	
	2N120	G	0.150	76	333	25			45	200	7 (typ)	DL-S 900
	2N332	I	0.150	9	20	25			45	200	4 (typ)	DL-S 891
	2N333	I	0.150	18	40	25			45	200	5 (typ)	DL-S 892
	2N334	I	0.150	18	90	25			45	200	8	DL-S 893
	2N335	I	0.150	36	90	25			45	200	6 (typ)	DL-S 894
	2N336	I	0.150	76	333	25			45	200	7 (typ)	DL-S 895
switching	2N337	I	0.125	19		20	20	55	45	150	10	DL-S 811
	2N338	I	0.125	39		20	45	150	45	150	20	DL-S 812
	2N1005	I	0.125	1@ 50MC			20	55	15	60	75 (typ)	DL-S 968
	2N1006	I	0.125	1@ 50MC			45	150	15	60	75 (typ)	DL-S 968
high frequency	3N34	H	0.125	1@ 30MC		10 Power Gain: 22db typ @ 30 mc			30	300		DL-S 960
	3N35	H	0.125	1@ 70MC		10 Power Gain: 20db typ @ 70 mc			30	300	150 (typ)	DL-S 961
medium power	951	A	0.750	9		60			50	300		DL-S 563
	952	A	0.750	9		50			80	350		DL-S 564
	953	A	0.750	9		40			120	400		DL-S 565
	2N243	A	0.750	9	32	60			60	350		DL-S 639
	2N244	A	0.750	28	90	60			60	350		DL-S 640
	2N339	J	1	9	90	60			55	300		DL-S 908
	2N340	J	1	9	90	50			85	350		DL-S 908
	2N341	J	1	9	90	40			125	400		DL-S 908
	2N342	J	1	9	32	60			60	350		DL-S 908
	2N342A	J	1	9	32	60			85	350		
	2N343	J	1	28	90	60			60	350		DL-S 908
	2N497	I	4	30*(typ)		200	12	36	60	25		DL-S 945
	2N498	I	4	30*(typ)		200	12	36	100	25		DL-S 945
	2N656	I	4	60*(typ)		200	30	90	60	25		DL-S 945
	2N657	I	4	60*(typ)		200	30	90	100	25		DL-S 945
intermediate power	2N122	L	8.75			140	3		120	200		DL-S 949
	2N1047	F	40			500	12	36	80	15		DL-S 970
	2N1048	F	40			500	12	36	120	15		DL-S 970
	2N1049	F	40			500	30	90	80	15		DL-S 970
	2N1050	F	40			500	30	90	120	15		DL-S 970
power	2N389	D	85 at 25°C 45 at 100°C	30*(typ)		2A	12	60	60	5		DL-S 962
	2N424	D	85 at 25°C 45 at 100°C	30*(typ)		2A	12	60	80	10		DL-S 962

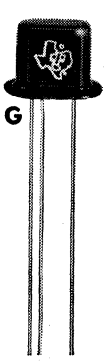
* Large signal forward current gain (h_{fe})

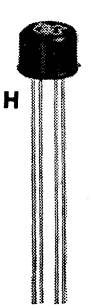
† Units supplied with more rigid values for BV_{CBO} and R_{CS} than required by applicable MIL specifications.

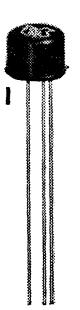


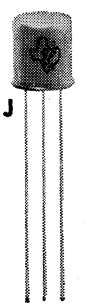


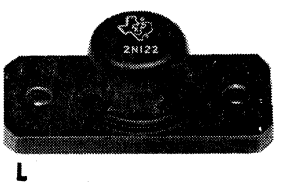












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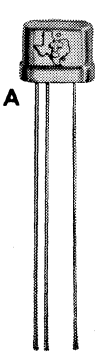
T/I GERMANIUM TRANSISTORS

	Type	Case Type‡	Former Designation	Dissipation at 25°C mW	Collector Voltage-V max	Collector Current mA max	Beta min	Beta max	Collector Reverse Current I_{CO} max. μA	Collector Reverse Current I_{CO} max. V	Gain db and R_{CS} typ	Audio Gain db min	Audio Gain db typ	Audio Gain db max	RF Gain db min	RF Gain db typ	Alpha Cutoff Frequency mc avg	Bulletin Number
computer	*320	I	X270	150	−30	−250	50	200	−6	−20							8	DL-S 942
pnp	*2N559			150mW	−15	−50mA	25		−50	−4.5 @65°C							250m	
computer power	*2N1046	K	X282	15W	−80	−3A	40	70 (Avg)	−1mA	−40							12	DL-S 974
pnp																		
VHF tetrode	3N25	C	501	25	−15	−2	65 (Avg)		−20	−12					10 @ 100mc		200	DL-S 559
pnp																		
high frequency	2N248	A		30	−25	−5	20 (Avg)		−10	−12					10 @ 18mc		50	DL-S 661
pnp	*2N1141			750	−35	−100	12db@100mc		−5	−6							750	DL-S 1032
	*2N1142			750	−30	−100	10db@100mc		−10	−15							600	DL-S 1032
	*2N1143			750	−25	−100	8db@100mc		−10	−12							480	DL-S 1032
radio RF, converter, osc	*2N1107	A	RF	30	−16	−5			−10	−12	@455KC hfe					34		DL-S 1017
and IF	*2N1108	A	Conv	30	−16	−5			−10	−12	33@455KC hfe							DL-S 1018
	*2N1109	A	OSC	30	−16	−5			−10	−12	20@455KC hfe							DL-S 1019
pnp	*2N1110	A	1st IF	30	−16	−5			−10	−12	29@455KC hfe							DL-S 1020
	*2N1111	A	2nd IF	30	−20	−5			−10	−12	25@455KC hfe							DL-S 1020
	*2N1111A	A	Reflex	30	−20	−5			−10	−12	25@455KC hfe							
													29@1KC hfe					DL-S 1021
	*2N1111B	A	Reflex	30	−30	−5			−10	−12	25@455KC hfe							
													29@1KC hfe					DL-S 1021
audio output	2N185	A	352	150	−20	−150	35 (55 Avg)		−15	−20			39/26 ‡					DL-S 610
pnp	2N238	A	310	50	−20	−50	(40 Avg)		−20	−20			37	42				DL-S 638
	2N291	E	357	300	−25	−200	30 (45 Avg)		−25	−25			31/22 ‡					DL-S 672
	2N680	A		150	−20	−50	(35 Avg)		−14	−12								
	2N250	K	356	25W	−30	−3A	30		−1mA	−30			30					DL-S 726
	2N251	K	356A	25W	−60	−3A	30		−2mA	−60			30					DL-S 727
general purpose	2N364	A	200A	150	30	50	9	19	10	30							2.5	DL-S 944
	2N365	A	201A	150	30	50	19	49	10	30							3	DL-S 944
	2N366	A	202A	150	30	50	49	142	10	30							3.5	DL-S 944
	204A	A		150	60	50	9	49	10	30							2.5	DL-S 943
pnp	2N368	A	301	150	−30	−50	19	49	−20	−30							1	DL-S 873
	2N369	A	302	150	−30	−50	49	142	−20	−30							1.3	DL-S 873
medium power	*2N1038	J		800	−40	−1A	20	60	−125	−20	0.2 ohm Rcs							DL-S 1005
pnp	*2N1039	J		800	−60	−1A	20	60	−125	−30	0.2 ohm Rcs							DL-S 1005
	*2N1040	J		800	−80	−1A	20	60	−125	−40	0.2 ohm Rcs							DL-S 1005
	*2N1041	J		800	−100	−1A	20	60	−125	−50	0.2 ohm Rcs							DL-S 1005
power	2N456	K		50W	−40	−5A	30@5A avg.		−2mA	−40	0.048 ohm Rcs							DL-S 909
pnp	2N457	K		50W	−60	−5A	30@5A avg.		−2mA	−60	0.048 ohm Rcs							DL-S 909
	2N458	K		50W	−80	−5A	30@5A avg.		−2mA	−80	0.048 ohm Rcs							DL-S 909
	*2N1021	K		50W	−100	−5A	23@5A avg.		−2mA	−100	0.08 ohm Rcs							DL-S 963
	*2N1022	K		50W	−120	−5A	23@5A avg.		−2mA	−120	0.08 ohm Rcs							DL-S 963
	*2N1042	B		5.5W	−40	−3A	20	60	−125	−20	0.16 ohm Rcs							DL-S 1004
	*2N1043	B		5.5W	−60	−3A	20	60	−125	−30	0.16 ohm Rcs							DL-S 1004
	*2N1044	B		5.5W	−80	−3A	20	60	−125	−40	0.16 ohm Rcs							DL-S 1004
	*2N1045	B		5.5W	−100	−3A	20	60	−125	−50	0.16 ohm Rcs							DL-S 1004
phototransistor																		
npn	800			65	20	5												DL-S 810

* NEW TYPE ADDED TO PRODUCT LINE
† See case outline drawings at top of page
‡ Min. audio power gain—Class A/Class B.
§ Audio voltage gain = $\frac{E\ Out}{E\ In}$ in recommended circuit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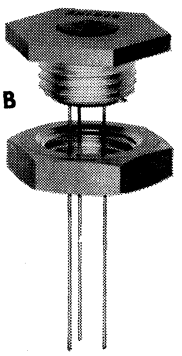
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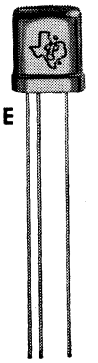
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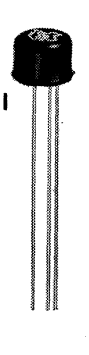
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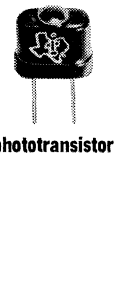
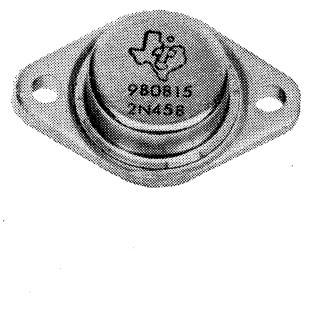

phototransistor



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TEXAS INSTRUMENTS
INCORPORATED
SEMICONDUCTOR-COMPONENTS DIVISION
POST OFFICE BOX 312 • 13500 N. CENTRAL EXPRESSWAY
DALLAS, TEXAS

T/I SILICON DIODES AND RECTIFIERS

VOLTAGE REGULATOR DIODES

All low voltage regulator diodes are available with ±5% tolerances between 3.3 and 12 volts.

Type	Case Type	Zener Voltage @25°C*	Max Total Power mW 25°C	Max Total Power mW 150°C	Z_z max ohms
1N746	N	3.3	400	100	28
1N747	N	3.6	400	100	24
1N748	N	3.9	400	100	23
1N749	N	4.3	400	100	22
1N750	N	4.7	400	100	19
1N751	N	5.1	400	100	17
1N752	N	5.6	400	100	11
1N753	N	6.2	400	100	7
1N754	N	6.8	400	100	5
1N755	N	7.5	400	100	6
1N756	N	8.2	400	100	8
1N757	N	9.1	400	100	10
1N758	N	10	400	100	17
1N759	N	12	400	100	30
650C	M	3.7–4.5	150	40	
651C	M	4.3–5.4	150	40	
652C	M	5.2–6.4	150	40	
653C9‡	M	6.2–8.0	150	40	
654C9‡	M	8.5–9.5	150	40	
655C9‡	M	9.5–10.5	150	40	

Suffix AC (± 5% Tolerance)

GENERAL PURPOSE SILICON DIODES

Max Elevated Temps (150°C)

Type	Case Type	PIV	V_z	Min DC Fwd I @ 25°C mA at 1V	Max I_{Ib} @ 25°C μA	P @ 25°C mW	Ambient Temp °C	I_{Ib}§ μA	P mW
1N645	N	225	275	400	0.2	600	100	15	
1N646	N	300	360	400	0.2	600	100	15	
1N647	N	400	480	400	0.2	600	100	20	
1N648	N	500	600	400	0.2	600	100	20	
1N649	N	600	720	400	0.2	600	100	25	
600C	M	27	30	3	1 @ −10V	150	100	20@−10V	40
601C	M	45	50	10	.025@−10V	150	150	40@−10V	40
604C	M	4.7	5.5	60	0.1	150	150	40	40
606C	M	6.8	7.5	35	0.1	150	150	40	40
608C	M	10	11	25	0.1	150	150	40	40
610C	M	15	17	20	0.1	150	150	40	40
612C	M	22	25	20	0.1	150	150	40	40
614C	M	33	37	20	0.1	150	150	40	40
616C	M	47	52	10	0.2	150	150	40	40
618C	M	68	75	10	0.2	150	150	40	40
620C	M	100	110	10	0.2	150	150	40	40
622C	M	150	170	7	0.2	150	100	20	40
624C	M	220	250	3	0.2	150	100	20	40

§ At PIV except for types 600C and 601C

POWER REGULATORS AND DOUBLE ANODE CLIPPERS

Available with either anode or cathode to stud

Type	Case Type	Zener Voltage @25°C‡	I_z mA	Power Diss§ @50°C W	Reverse Current I_{Ib} 25°C μA @−5V	Reverse Current I_{Ib} 25°C μA @−10V	max Z_z @25°C @I_z ohms	Typ Temp Coef %/°C
1N1816	R	13	500	10	25	—	2	0.07
1N1817	R	15	500	10	15	—	2	0.07
1N1818	R	16	500	10	10	—	3	0.07
1N1819	R	18	500	10	10	—	3	0.07
1N1820	R	20	250	10	—	10	3	0.08
1N1821	R	22	250	10	—	10	3	0.08
1N1822	R	24	250	10	—	10	3	0.08
1N1823	R	27	250	10	—	10	3	0.08
1N1824	R	30	250	10	—	10	4	0.08
1N1825	R	33	150	10	—	10	4	0.08
1N1826	R	36	150	10	—	10	5	0.09
1N1827	R	39	150	10	—	10	5	0.09
1N1828	R	43	150	10	—	10	6	0.09
1N1829	R	47	150	10	—	10	7	0.09
1N1830	R	51	150	10	—	10	8	0.10
1N1831	R	56	150	10	—	10	9	0.10
1N1832	R	62	50	10	—	10	12	0.10
1N1833	R	68	50	10	—	10	14	0.10
1N1834	R	75	50	10	—	10	20	0.11
1N1835	R	82	50	10	—	10	22	0.11
1N1836	R	91	50	10	—	10	35	0.12

Suffix A (±5% Tolerance)
Suffix C (Double Anode Clipper)

SILICON RECTIFIERS

Type	Case Type	Mounting	PIV V 25°C	PIV V 150°C	I_o mA 25°C	I_o mA 150°C	Recurrent Peak Current −65°C to +150°C mA	E_b @25°C V@A	I_{Ib} @ PIV @25°C μA
1N538	Q	Axial	200	200	750	250	2.5A@25°C	1@.5	10
1N539	Q	Axial	300	300	750	250	2.5A@25°C	1@.5	10
1N540	Q	Axial	400	400	750	250	2.5A@25°C	1@.5	10
1N1095	Q	Axial	500	500	750	250	2.5A@25°C	1@.5	10
1N1096	Q	Axial	600	600	750	250	2.5A@25°C	1@.5	10
1N1124	R	Cathode Stud	200	200	3 A	1 A	10A@50°C	1.1@1	10
1N1125	R	Cathode Stud	300	300	3 A	1 A	10A@50°C	1.1@1	10
1N1126	R	Cathode Stud	400	400	3 A	1 A	10A@50°C	1.1@1	10
1N1127	R	Cathode Stud	500	500	3 A	1 A	10A@50°C	1.1@1	10
1N1128	R	Cathode Stud	600	600	3 A	1 A	10A@50°C	1.1@1	10
1N1124R	R	Anode Stud	200	200	3 A	1 A	10A@50°C	1.1@1	10
1N1125R	R	Anode Stud	300	300	3 A	1 A	10A@50°C	1.1@1	10
1N1126R	R	Anode Stud	400	400	3 A	1 A	10A@50°C	1.1@1	10
1N1127R	R	Anode Stud	500	500	3 A	1 A	10A@50°C	1.1@1	10
1N1128R	R	Anode Stud	600	600	3 A	1 A	10A@50°C	1.1@1	10

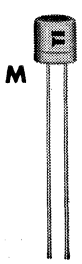
SILICON COMPUTER DIODES

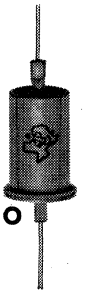
Type	Case Type	PIV	V_z	Max T_R‡ @25°C μsec	Max I_{Ib} @25°C μA	I_o @25°C mA	Min I_b @ 1V mA	Typ Cap @ 25°C f = 1mc VR = −12V μμf	Max I_{Ib} @ PIV @100°C μA
1N659	N	50	60	0.3	5	100	6	2.7	25
1N660	N	100	120	0.3	5	100	6	2.7	50
1N661	N	200	240	0.3	10	100	6	2.7	100

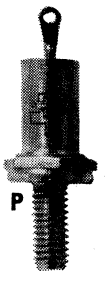
* Measured at reverse current: I_z + 20mA
† Maximum reverse current for 650C0 and 650C1 is 0.15 μA at −1V at 25°C
‡ Standard ± 5% Units only.
§ Stud Temperature
# Recovery time to 400 K in JAN 256 test circuit from 30 mA forward to −35V

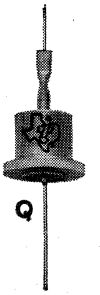
SILICON RECTIFIERS — ECONOMY PACKAGE

Type	PIV	I_o mA 25°C	I_o mA 100°C	Recurrent Peak Current @25°C A	Dynamic Forward Voltage Drop @100°C V @ mA	Dynamic Reverse Current @ 100°C mA @ V
1N2069	200	750	500	6	.6 @ 500	.2 @ 200
1N2070	400	750	500	6	.6 @ 500	.2 @ 400
1N2071	600	750	500	6	.6 @ 500	.2 @ 600









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DALLAS, TEXAS

T/I PRECISION CARBON FILM RESISTORS

MOLDED (± 1, 2, 5%)

TI type no.	rating — W	MIL designation	standard resistance ranges*	max. V recommended	body length — in.	body diam. — in.	lead length — in. (±0.062)	average wt./100 unpacked — lb.
CDM ⅛	⅛	RN60B	25 Ω 49.9 50 Ω 500 501 Ω 500K 501K Ω 1M	350	0.406 (±0.015)	0.140 (±0.015)	1.500†	0.101
CDM ¼	¼	RN65B	40 Ω 49.9 50 Ω 500K 501K Ω 1M	500	0.585 (±0.015)	0.200 (±0.020)	1.500†	0.198
CDM ½	½	RN70B	25 Ω 49.9 50 Ω 2M	750	0.750 (±0.015)	0.250 (±0.020)	1.450‡	0.373
CDM 1	1	RN75B	25 Ω 99.9 100 Ω 4.99M 5 Ω 10M	1000	1.062 (±0.020)	0.375 (±0.025)	1.500‡	1.035
CDM 2	2	RN80B	50 Ω 45M	2000	2.187 (±0.020)	0.375 (±0.025)	1.500‡	2.055

MIL-LINE (± 1, 2, 5%)

TI type no.	rating — W	MIL designation	standard resistance ranges*	max. V recommended	body length — in.	body diam. — in.	lead length — in. (±0.062)	average wt./100 unpacked — lb.
CD ⅛R	⅛	—	25 Ω 49.9 50 Ω 500K 501K Ω 1M	350	0.315 (±0.030)	0.095 (±0.015)	1.550†	0.073
CD ¼R	¼	RN10	40 Ω 49.9 50 Ω 1M	500	0.480 (±0.050)	0.095 (±0.020)	1.562†	0.079
CD ½PR	½	RN15	25 Ω 49.9 50 Ω 2M	650	0.455 (±0.050)	0.160 (±0.025)	1.562‡	0.158
CD ½MR	½	RN20	25 Ω 49.9 50 Ω 2M	750	0.530 (±0.050)	0.160 (±0.025)	1.562‡	0.166
CD ½SR	½	—	90 Ω 1.99M 2M Ω 4.99M 5M Ω 9M	850	0.800 (±0.050)	0.160 (±0.025)	1.562‡	0.201
CD 1R	1	RN25	25 Ω 99.9 100 Ω 4.99M 5M Ω 10M	1000	0.915 (±0.050)	0.300 (±0 025)	1.562‡	0.647
CD 2R	2	RN30	50 Ω 199 200 Ω 9.99M 10M Ω 30M	2000	2.050 (±0.050)	0.300 (±0.025)	1.562‡	1.243

HERMETICALLY SEALED LINE (± 1, 2, 5%)

TI type no.	rating — W	MIL designation	standard resistance ranges*	max. V recommended	body length — in.	body diam. — in.	lead length — in. (±0.062)	average wt./100 unpacked — lb.
CDH ⅛	⅛	RN60	25 Ω 1M	350	0.385 (±0.015)	0.160 (±0.010)	1.500†	0.154
CDH ¼	¼	RN65	40 Ω 1M	500	0.585 (±0.015)	0.180 (±0.010)	1.500†	0.220
CDH ½P	½	—	25 Ω 2M	650	0.587 (±0.015)	0.199 (±0.010)	1.500‡	0.264
CDH ½M	½	RN70	25 Ω 2M	750	0.750 (±0.015)	0.250 (±0.015)	1.475‡	0.437
CDH ½S	½	—	90 Ω 9M	850	1.000 (±0.015)	0.250 (±0.015)	1.500‡	0.489
CDH 1	1	RN75	25 Ω 10M	1000	1.094 (±0.020)	0.400 (±0.020)	1.500‡	1.410
CDH 2	2	RN80	50 Ω 20M	2000	2.250 (±0.025)	0.400 (±0.020)	1.500‡	2.450

* MIL-Bell only
† Lead diameter—0.025 in. (AWG No. 22)
‡ Lead diameter—0.032 in. (AWG No. 20)
§ NON STANDARD RESISTANCE VALUES: add 10% to standard price

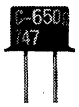
tan-TI-cap* SOLID TANTALUM CAPACITORS

case	diameter (+0.010, −0.005)	length (±0.031)
A	0.173	.0358
B	0.173	0.438
C	0.193	0.438
D	0.264	0.700
E	0.233	0.500

V	μf	case	cat. no.
6	22	A	4T050
6	33	B	4T051
6	47	C	4T052
6	60	C	4T053
6	200	D	4T054
15	10	A	4T200
15	15	B	4T201
15	22	B	4T202
15	33±	C	4T203
15	100	D	4T204
25	5	A	4T300
25	10	B	4T301
25	15	C	4T302
25	35	E	4T303A
35	4	A	4T400
35	8	C	4T401

* TRADEMARK OF TEXAS INSTRUMENTS INCORPORATED

sensistor* SILICON RESISTORS



STANDARD AVAILABLE RESISTANCES ** 25°C: 100, 120, 150, 180, 220, 270, 350, 390, 470, 500, 680, 820 and 1000 ohms.

Type No.	Wattage Rating	Body Dimensions		Average Temperature Coefficient	Resistance Tolerance
	W	Length	Diameter	%/°C	%
TM ¼	¼	0.585″	0.200″	+0.7	±10
TM ⅛	⅛	0.406″	0.140″	+0.7	±10
TC ⅛	⅛	TO −5 Transistor Package		+0.7	±10

** Other resistance values and tolerances available on special order
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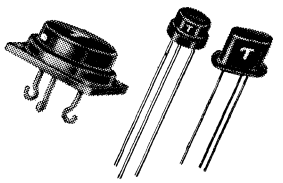
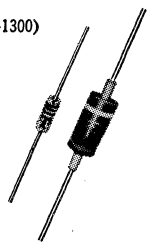
SILICON TRANSISTORS
(see bulletins TE-1355 and TE-1353)

High Power
Medium Power
Small Signal



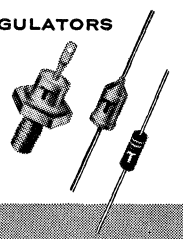
GERMANIUM DIODES
(see bulletins TE-1319 and TE-1300)

JAN types
Computer types
High Temperature types
High Resistance types
Very Fast Switching types



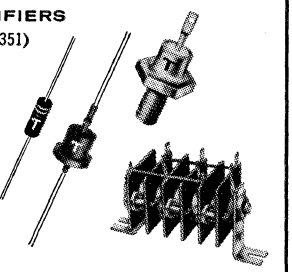
SILICON VOLTAGE REGULATORS
(see bulletin TE-1352)

Subminiature
Miniature
Stud Mounted Power types



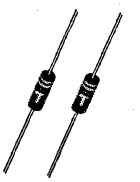
SILICON RECTIFIERS
(see bulletin TE-1351)

JAN types
Subminiature
Axial Lead
Stud types
Special Assemblies
High Voltage types



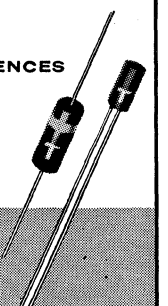
SILICON DIODES
(see bulletin TE-1350)

JAN types
High Conductance types
High Frequency types
Fast Switching types
Very Fast Switching types



SILICON VOLTAGE REFERENCES
(see bulletin TE-1352)

Low Temperature Coefficient types
Precision Voltage types



Transitron

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BArclay 7-7777

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ALpine 6-0946

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PArk 5-8711

OHIO — Radio & Electronics Parts
3235 Prospect Ave., Cleveland 15
UTility 1-6060

Stotts Friedman Co.
135 E. Second St., Dayton 2
BAldwin 4-8373

OKLA. — Radio, Inc.
1000 S. Main St., Tulsa
GIbson 7-9127

PENNA. — Radio Electric Service Co. of Penna., Inc.
Northwest Corner 7th & Arch Sts., Philadelphia
WAlnut 5-5840

TEXAS — Contact Electronics, Inc.
2403 Farrington St., Dallas
RIverside 1-9891

Busacker Electronic Equipment Co.
1216 W. Clay, Houston
JAckson 9-9653

UTAH — Kimball Distributing Co.
350 Pierpont Ave., Salt Lake City
EMpire 3-5813

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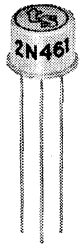
TUNG-SOL
GERMANIUM TRANSISTORS



MEDIUM POWER OUTLINE TO-9

INVERTED HEADER DESIGN BRINGS YOU THESE BENEFITS . . .

- improved thermal properties for longer life
- superior mechanical characteristics for increased reliability

MEDIUM POWER, MEDIUM FREQUENCY

TYPE	Pc mw	V_{CE} volts	V_{CB} volts	Ic ma	T_j °C	Max. I_{CBO} μa	h_{FE}	$f_{\alpha b}$ mc	Ge db
	MAXIMUM RATINGS (25° C)					TYPICAL VALUES (25° C)			
2N381	200	—25	—25	200	85	20	36	1.2	31
2N382	200	—25	—25	200	85	20	54	1.5	33
2N383	200	—25	—25	200	85	20	72	1.8	35
INDUSTRIAL TYPES									
2N460	200	—	—45	400	100	15	25	1.2	34
2N461*	200	—	—45	400	100	15	50	1.2	37

*Designed to meet MIL-T-19500/45

MEDIUM POWER, HIGH FREQUENCY

TYPE	Pc mw	V_{CE} volts	V_{CB} volts	Ic ma	T_j °C	Max. I_{CBO} μa	h_{FE}	$f_{\alpha b}$ mc	Ge db
	MAXIMUM RATINGS (25° C)					TYPICAL VALUES (25° C)			
COMPUTER TYPES									
2N404*	120	—24	—25	100	85	5	30	12	—
2N425	120	—20	—30	400	85	5	30	4	—
2N426	120	—18	—30	400	85	5	40	6	—
2N427	120	—15	—30	400	85	5	55	11	—
2N428†	120	—12	—30	400	85	5	80	17	—
2N578	120	—14	—20	400	85	5	15	5	—
2N579	120	—14	—20	400	85	5	30	8	—
2N580	120	—14	—20	400	85	5	45	15	—
2N581	120	—14	—18	100	85	5	30	8	—
2N582	120	—14	—25	100	85	5	60	18	—
GENERAL PURPOSE TYPES									
2N413	120	—18	—30	200	85	5	30	2.5	10
2N414	120	—15	—30	200	85	5	60	5	16
2N416	120	—12	—30	200	85	5	80	10	20
2N417	120	—10	—30	200	85	5	140	20	27

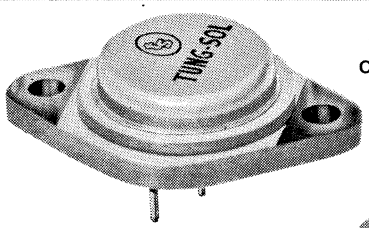
*Designed to meet MIL-T-19500/20
†Designed to meet MIL-T-19500/44

POWER, MEDIUM FREQUENCY

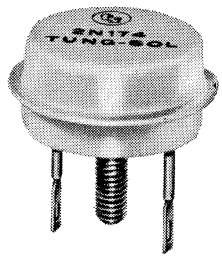
TYPE	Pc w	V_{CE} volts	V_{CB} volts	Ic ma	T_j °C	Max. I_{CBO} mc	h_{FE}	$f_{\alpha b}$ mc	Ge db
	MAXIMUM RATINGS (25° C)					TYPICAL VALUES (25° C)			
AUDIO TYPES									
2N242	15	—45	—	2	85	1.0	50	0.4	34.0
POWER SWITCH TYPES									
2N378	50	—20	—40	5	100	0.5	30	0.3	24.0
2N379	50	—40	—80	5	100	0.5	30	0.3	28.5
2N380	50	—30	—60	5	100	0.5	50	0.4	30.0
2N459	50	—60	—105	5	100	0.5	30	0.3	28.5

HIGH POWER, MEDIUM FREQUENCY

TYPE	V_{CE} volts	V_{CB} volts	Ic A	T_j °C	Max. I_{CBO} ma	h_{FE}	$f_{\alpha e}$ Kc
	MAXIMUM RATINGS (25° C)				TYPICAL VALUES (25° C)		
MILITARY TYPE							
TS 748	Designed to meet MIL-T-19500/13A dated 8 January 1958						
INDUSTRIAL TYPES							
2N173	—50	—60	15	95	8	52	10
2N174	—70	—80	15	95	8	37	10
2N174A	—70	—80	15	95	8	37	10
2N277	—40	—40	15	95	8	52	10
2N278	—45	—50	15	95	8	52	10
2N441	—40	—40	15	95	8	30	10
2N442	—45	—50	15	95	8	30	10
2N443	—50	—60	15	95	8	30	10



POWER OUTLINE TO-3



HIGH POWER OUTLINE

Exclusive Tung-Sol Cold Weld Seal!

All Tung-Sol Power and High Power transistors are sealed by advanced cold weld process for three-way quality boost . . .

- True hermetic, copper-to-copper seal improves transistor thermal characteristics.
- Elimination of heat-damage, heat-caused moisture and "splash" increase overall reliability.
- Vacuum-tight, moisture-proof cold-weld seal lasts even through "breathing" over long life operation.

For detailed information on specific types or to fill a particular need, contact: Tung-Sol Electric Inc., Newark 4, New Jersey.

TUNG-SOL®

Order from Local Electronic Parts Distributors or Write for List.

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PRECISION SERVO ELECTRO-MECHANICAL COMPONENTS AND SUB-SYSTEMS

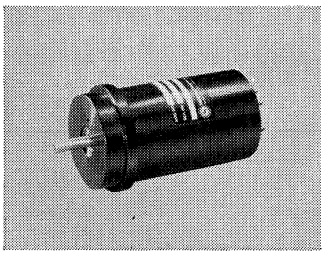
Design, development and manufacture — by American Electronics, Inc., first West Coast manufacturer to undertake the development of servos, synchros, resolvers, induction potentiometers and tachometer generators — independent of research centers and other original producers.

Long experience with these precision products ranks American Electronics among the leaders in the field. Exceptional leadership has been achieved in the area of miniature resolvers.

Retooling of production facilities for greater precision tolerances and higher production capability have established the Instrument Division of American Electronics as a leader in the field of precision component manufacture.

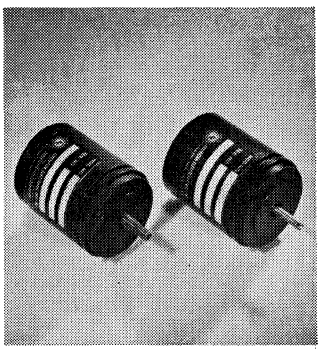
Now available in three types: (1) Winding Compensated—first precision Size 8 of this type ever offered; (2) High Impedance and (3) Low Impedance—both are Size 8 packages with Size 11 accuracy.

These units are designed for use at 26 volt nominal input signal of 400 cycle frequency. Total null voltage does not exceed 1 millivolt per volt input. Maximum functional error is held to 0.1% on all three versions. Frame diameter is .750 inch and the length is 1.241 inch.

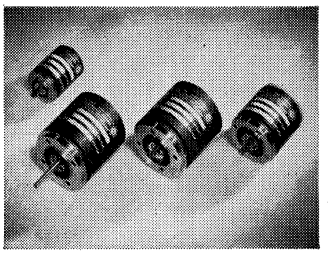


PRECISION RESOLVERS – Compensated, non-compensated and current feedback types. Input voltage to 100 volts...high and low impedance. Design frequencies from 50 to 15,000 cycles per second and sweep resolvers for use to 100 kc. Functional accuracies to 0.03% standard. Higher accuracies available by selection. Sizes 8, 11, 15 and 23.

INDUCTION POTENTIOMETERS–Brushless electromagnetic angular pickoffs which provide output voltage linearity proportional to angular shaft displacement. These units are essentially variable coupling transformers and can be used with a variable input voltage in multiplier circuits. American Electronics' Induction Potentiometers exhibit better than ±½% linearity, minimum phase shift, excellent resolution, and low null voltage under extreme environmental conditions. Size 15.

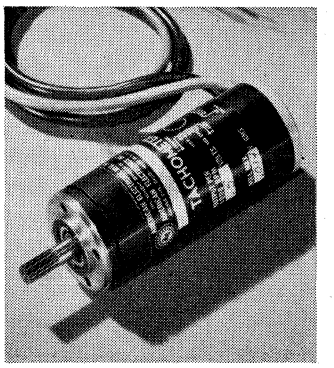


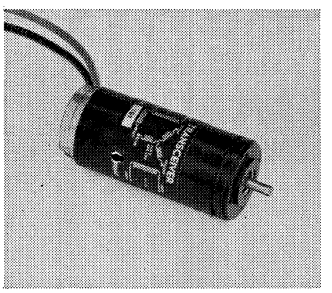
FOR SUB-FRACTIONAL AC AND DC MOTORS, SEE CLASSIFICATION 3500



SERVO MOTORS – Built to operate to temperatures of 200° C. 4, 6 and 8 pole models available, built to BU-ORD specifications. Servo motors have been qualified to meet humidity, salt-spray, temperature, and vibration requirements of MIL-E-5272A. Excellent electrical control characteristics facilitate efficient and stable servo system operation. Sizes 8, 11, 15 and 18.

SERVO MOTOR TACHOMETERS AND GEARED SERVO MOTORS – Standard of 115v. 400 cycle and low impedance transistor operation. Temperature compensated types for computing as well as damping tachometers with outputs to 3 volts per 1000 rpm. Size 8, 11, 15 and 18-15 Servo Motor Tachometers can be supplied with gearhead at any required ratio. Units meet environmental specifications of MIL-E-5272. Special voltage and torque requirements are available on request. Max. phase shift 5° when tuned with .0068 MF.





TRANSCEIVERS — Operate at ranges of −55° C. to +85° C.; maintain maximum following error of one degree. Harmonic distortion does not exceed 5%. Maximum shaft endplay, with 8 oz. reversing load, does not exceed .010 in. These units are currently being used in fire control systems, guided missile systems, and automatic data reduction systems. Standard models available in size 11, with design frequency of 400 cps.

Write, Wire or Phone for further details or consultation in your office.

INSTRUMENT DIVISION
AMERICAN ELECTRONICS, INC.
9501 West Jefferson Blvd.
Culver City, California

Representatives in All Principal Cities

See YELLOW SECTION for Local Offices, Telephone, etc.

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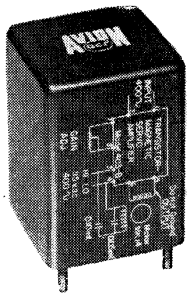


NEW AVION

FAST RESPONSE SERVO AMPLIFIER
transistor-magnetic
small size - light weight
"built in" stabilization

	MODEL A	MODEL B
RATED POWER OUTPUT: 3.5 watts, 57 volts Mark XIV motor or equivalent	X	X
INPUT IMPEDANCE: 30K ohm..	X	
500K ohm..		X
VOLTAGE GAIN: 2000 max.	X	
900 max.		X
adjustable by external resistor over 50:1 range		
RESPONSE TIME: 1 cycle of supply frequency	X	X
ZERO DRIFT over ambient Temperature Range (—55°C +100°C); Less than ±5% of rated output voltage	X	X
INHERENT SERVO STABILIZATION at velocity constant of 100-200	X	X
POWER SUPPLY: 115 Volts ± 10%, 400 cps ±5%	X	X

SEND FOR LITERATURE

Suitable for use where specifications for low-power instrument servos call for small size, high gain, and high performance.

AVION acf AVION DIVISION
acf INDUSTRIES

7 PARK PLACE, PARAMUS, N. J.

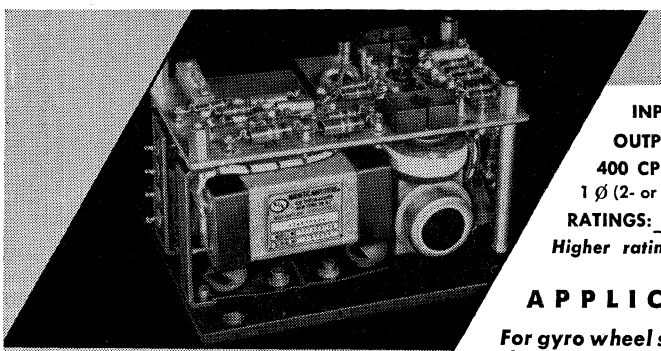
MANUFACTURERS' DIRECTORY... *fingertip reference to 5,000 suppliers*...and their local sales offices

Navigation Computer Corp., 1621 Snyder Ave., Philadelphia, Pa., Tel: HO 5-7700, Pres.: J. P. Jones; Pr
Agt: A. C. Paulovitz
Sales Offices: CALIF., LOS ANGELES, Moxon, G
Sales Co., 7553 Milrose Ave.; SAN DIEGO,
G. E., Sales Co., 3616 Buena Vista, HU 8-29
MATEO, Mo G. E., Sales 15—
5 MA LTH Gr fer

The names, addresses, phone numbers and key personnel of more than 5,000 manufacturers are listed alphabetically in the Manufacturers' Directory. What's more, their sales office closest to you can be located quickly.

Refer to the YELLOW SECTION for MANUFACTURERS... SALES OFFICES

Tell Them You Saw It In **eem**



New PRECISION FREQUENCY

INPUT 28V D.C. ± 10%
OUTPUT Nom. 115V ± 2%
400 CPS ± 0.01%
1 Ø (2- or 3-phase output available)
RATINGS: 30VA 50VA 100VA
Higher ratings available.

APPLICATION:
For gyro wheel supplies and where precise 400 cycle voltages are required in aircraft, radar and missile computers.

FEATURES:
PRECISION OUTPUT FREQUENCY
RUGGED
EXCELLENT WAVEFORM
SIMPLICITY OF CIRCUITRY
FAST STARTING TIME
GOOD VOLTAGE REGULATION throughout an adjustable range
ISOLATED CASE DESIGN
HIGH RELIABILITY
VIBRATION ISOLATED
COMPACT
LIGHTWEIGHT
MILITARY SPECIFICATIONS
(Send for Bulletin S-864)

STATIC INVERTER SUPPLY

MA
MAGNETIC AMPLIFIERS • INC
632 TINTON AVE. • NEW YORK 55, N. Y. • CYpress 2-6610
West Coast Division
136 WASHINGTON ST. • EL SEGUNDO, CALIF. • ORegon 8-2665

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MAGNETIC INSTRUMENT SERVO AMPLIFIER SERIES

This popular series is currently being applied in many major aircraft and missile servo systems. The complete series of precisely engineered Magnetic Servo Amplifiers is available from stock. Magnestats are available ranging from the smallest model rated at 3 watts with a frequency response of 30 cps to the large 40 watt model with a frequency response of 10 cps. These units have **sinusoidal phase reversing output, with transistor or tube control** a.c. or d.c. input. They have been qualification tested and meet the stringent requirements encountered in aircraft and missile control systems.

MAGNESTAT
400 cps Magnetic Servo Amplifiers

MODEL No.[1]	PART NO.	SUPPLY CURRENT (At Rated Output)	RATED OUTPUT VOLTAGE SINUSOIDAL PHASE REVERSAL	TYPICAL MOTOR LOAD	OUTPUT NULL VOLTAGE	CONTROL COIL RESISTANCE (ohms)	DIFFERENTIAL CONTROL CURRENT FOR RATED OUTPUT	TEMPERATURE RISE	DIMENSIONS (inches)	WEIGHT
MA 3-400 TYPE A	20-101-0	80 ma	0-115V	Buord MK 14, Kearfott R119, Ketay K402300 (or equivalent) in parallel with 0.2 mfd.	3V Maximum[2]	2000 ±10%	5 ma	25°C Max.	H-2 15/16 W-1 3/4 D-1 7/16	12 ozs.
MA 3-400 TYPE C	20-104-0	110 ma	0-26V	Kearfott R118, Ketay K402390	2V Maximum[4]	2400 ±10%	6 ma	20°C Max.	H-1 3/4 W-2 D-2 1/2	12 ozs.
MA 6-400 TYPE A	20-110-0	110 ma	0-115V	Buord MK 7, Kearfott R110, Ketay K101600-6 (or equivalent) in parallel with 0.47 mfd.	3V Maximum	2600 ±10%	10 ma	30°C	H-2 15/16 W-1 3/4 D-1 7/16	12 ozs.
MA 10-400 TYPE A	20-120-0	250 ma	0-115V	Navy Buord MK 8, Kearfott R111, Ketay K402550 (or equivalent)	3V Maximum[3]	4000 ±10%	10 ma	55°C	H-3 1/8 W-2 D-1 5/8	15 ozs.
MA 15-400 TYPE A	20-130-0	320 ma	0-115V	Kearfott R112, (or equivalent) in parallel with 1.0 mfd.	3V Maximum[3]	2600 ±10%	10 ma	25°C	H-3 13/32 W-2 15/16 D-2 1/16	24 ozs.
MA 40-400 TYPE A	20-150-0	680 ma	0-220V	Eclipse-Pioneer CK3001-1A (or equivalent) in parallel with 1.0 mfd.	10V Maximum	3500 ±10%	14 ma	32°C	H-4 9/16 W-3 D-2 9/16	4.5 lbs.

ELECTRICAL CHARACTERISTICS COMMON TO MAGNESTAT UNITS:

Supply Voltage:	115 Volts, 400 cps
Service Life (Est):	20,000 hours
Duty Cycle:	Continuous
Dielectric Test:	1500V rms per MIL-T-27
Control Coil By-Pass Capacitor:	0.10 mfd.

1. First No. indicates Output Power; Second No. indicates Frequency Example: MA3-400; 3 watts, 400 cps
2. Balanced Current of 2 ma in each Control Winding
3. Balanced Current of 4 ma in each Control Winding
4. Balanced Current of 3 ma in each Control Winding

creative engineering . . . design . . . development . . . production

Engineering ability, design skill and production experience within the specialized field of magnetronics all contribute greatly to the development of new, improved and highly specialized components. MRC is equipped to process prime and sub-contract work for the military and industry . . . MRC products are daily playing vital roles in automation, computer, communication, electronic, instrumentation, aviation and guided missile applications, where reliability, long life and compactness are especially important.

Pacing the industry in Astro-Magnetics

MAGNETIC RESEARCH CORPORATION

3160 W. EL SEGUNDO BLVD., HAWTHORNE, CALIF.

Magnetic Research Corporation is also manufacturing . . .

DC TO DC CONVERTERS . . . FREQUENCY DISCRIMINATORS . . . HIGH POWER SERVO AMPLIFIERS . . . LINE VOLTAGE REGULATORS . . . LOW LEVEL DC AMPLIFIERS MAGNETRIC AND HYBRID PULSE MODULATORS . . . POWER SUPPLIES . . . TELEMETERING SIGNAL CONDITIONERS . . . TEMPERATURE MEASURING SYSTEMS

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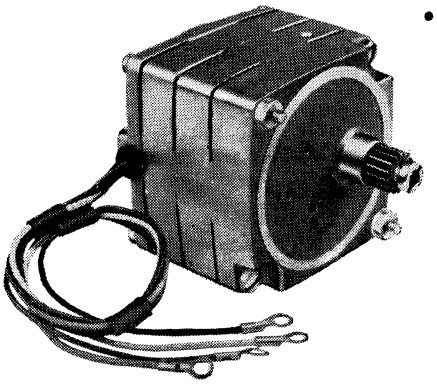
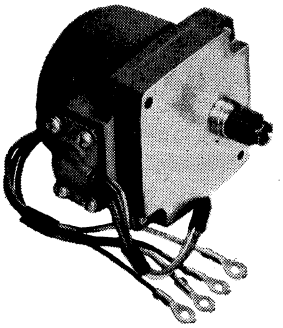
BROWN MOTORS

. . . for chart drives, servos, balancing circuits



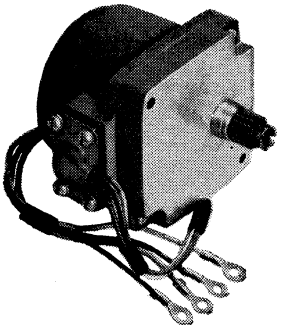
STACK-TYPE MOTORS

These newly designed motors have such maintenance saving features as: sectional housing . . . wick-type lubrication . . . printed circuits . . . ball bearings . . . shock absorbers . . . alignment keying rings. Any major part replaceable in two minutes.



OIL-SEALED MOTORS

These field-proven motors feature self-lubrication, have shock absorbers, are totally enclosed and oil sealed.



MILITARY MOTORS

These are oil-sealed-type motors, modified to comply with MIL-M-17059. Housing is treated as specified in MIL-C-5541, and leads are fungus resistant as per MIL-V-173.

. . . All motors are available in two phase and synchronous models

SPECIFICATIONS (applicable to all motors described above)

Two Phase Induction Motor

Nominal No Load R.P.M.*	Gear Ratio	Intermittent Rated Load (oz.-in.)	Maximum Starting Torque (oz.-in.)	Power (Watts) Loaded	Current (amp.) †Loaded	Temp. Rise °F
330	44:1	4	10	11.5	0.11	70
144	10:1	5	20	11.5	0.11	70
48	30:1	15	60	11.5	0.11	70
23	60:1	30	110	11.5	0.11	70

Synchronous

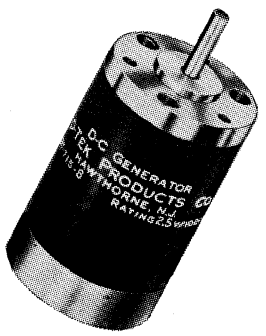
R.P.M.*	Gear Ratio	Pull-In Torque Minimum (oz.-in.)	Continuous Torque (oz.-in.)	Power (Watts) Loaded	Current (amps.) Loaded	Temp. Rise °F
180	10:1	12	12	24.0	0.21	100
180	10:1	2	2	11.5	0.11	65
90	20:1	14	12	11.5	0.11	65
60	30:1	21	18	11.5	0.11	65
30	60:1	42	36	11.5	0.11	65

*1/6 less at 50 cycles
†Field winding 11.0 watts, balance in amplifier winding
Note: Some speeds available at 25 cycles

MINNEAPOLIS-HONEYWELL, Wayne and Windrim Aves., Phila. 44, Pa.

Honeywell

H HONEYWELL *First in Control*



NEW *direct-current* TACHOMETER GENERATOR *permanent-magnet*

FEATURES

SIZE Miniature. Approx. dia. 1⅛".
OUTPUT Various models with outputs as high as 24 v/1000 rpm.
LINEARITY Linearity from 0 to 12,000 rpm is better than 1/10 of 1% of voltage output at 3600 rpm.
BRUSH LIFE Better than 100,000 hours (10 years) of continuous operation at 3600 rpm.
BIDIRECTIONAL OPERATION Output in either direction is held to a ¼ of 1% tolerance.
RIPPLE The rms value will not exceed 3% of the d-c value at any speed in excess of 100 rpm.
CONSTRUCTION Aluminum housings with protective treatment; stainless steel shafts; fully shielded ball bearings; Mylar insulation.

APPLICATIONS

SERVOS The highly linear output and wide speed range are ideal for velocity or integrating servos. Low driving torque permits its use as a damping or rate signal in all types of servos.
INDICATING TACHOMETER Matching indicating meters available from stock in various speed ranges.
SPEED TRANSDUCER Ideal for use as a speed transducer in connection with fast-response direct-writing oscillographs.

See additional advertisements Sections 3500 and 2900

Servo-Tek PRODUCTS CO.

Main Office
1086 Goffle Road, Hawthorne, New Jersey
Western Office
SERVO-TEK OF CALIFORNIA, INC.
14736 Arminta Street, Van Nuys, Calif.

SEND FOR COMPLETE DATA
SINGLE UNITS FROM $22.50
quantity discounts

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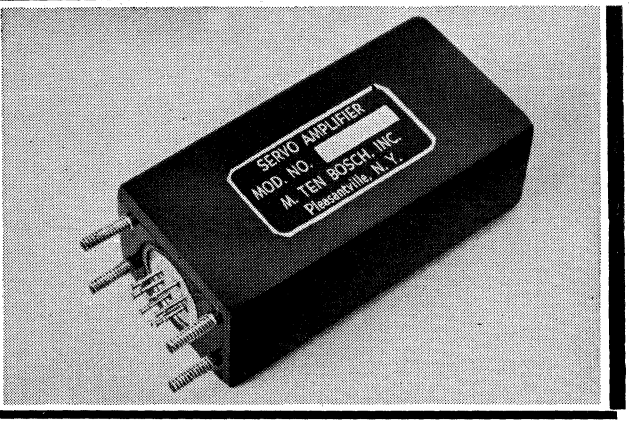
m. ten bosch, inc.

PLEASANTVILLE, N. Y.

TRANSISTOR SERVO AMPLIFIERS



COMPACT ★ LIGHTWEIGHT ★ HIGHLY RELIABLE ★ MEET MIL SPECS ★ PLUG IN OR TURRET TYPES ★ NO LAG ★ NO WARMUP ★ NO DRIFT ★ REQUIRES ONLY 28 VDC POWER ★ GAIN CONSTANT WITH VARYING TEMPERATURES

Transistor Servo Amplifiers available in either 7-pin miniaturized plug-in units or turret header types. Miniaturized units capable of providing up to 120 watts controlled power at a weight factor of less than one ounce per watt. Performance characteristics of typical production models are listed below. Write for full details on other models available.

NOMINAL POWER RATING (9)	MODEL NO.	FREQ-(CPS)	POWER SOURCE (Volts D.C.)	SIZE D-W-H	GAIN Db	NOM. OUTPUT VOLTS RMS	TEMP. RANGE (3)
1 WATT	1800-0900	400	28	1x1x1	40	20	L
2 WATT	1800-0100	400	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$2\frac{7}{16}$	65	20	L
	1800-3500	BROAD BAND	28	$1\frac{1}{8}$x$1\frac{1}{8}$x$1\frac{7}{8}$	65	20	L
	1800-3700	BROAD BAND	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$2\frac{7}{16}$	65	20	L
3.5 WATT	1800-0500	400	28 and 60	$1\frac{3}{16}$x$1\frac{11}{16}$x$3\frac{13}{16}$	70	87.5	H
	1800-3300	400	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$3\frac{13}{16}$	70	20	H
5 WATT	1800-0500-7	400	28 and 75	$1\frac{3}{16}$x$1\frac{11}{16}$x$3\frac{13}{16}$	70	102.5	H
6 WATT	1800-0300	400	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$3\frac{13}{16}$	80	40	L
	1800-0300-1	BROAD BAND	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$3\frac{13}{16}$	80	40	L
	1800-0300-2	400	28	$1\frac{13}{32}$x$1\frac{29}{32}$x$4\frac{3}{32}$	90	40	L
	1800-0700	60	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$2\frac{7}{16}$	75	40	L
	1800-0700-2	BROAD BAND	28	$1\frac{3}{16}$x$1\frac{11}{16}$x$3\frac{13}{16}$	85	40	L
	1800-3100	60	28	$2\frac{3}{16}$x$2\frac{15}{16}$x3¼	70	40	COMMERCIAL SPEC.
25 WATTS (8)	1800-3900	400	28	$2\frac{3}{16}$x$2\frac{15}{16}$x2½	25	40	L
	1800-4300	60	28	$2\frac{3}{16}$x$2\frac{15}{16}$x3¼	20	40	L
120 WATT (8)	1800-4100	400	28	3x3½x3½	15	40	AS REQ.
	1800-4500	60	28	3x3½x$3\frac{13}{16}$	20	40	AS REQ.

NOTES:
1. Standard input impedance 10K and 20K. Others available as required.
2. 0° or 90° Internal Phase Shift available.
3. Standard Temperature Ranges: H —55°C. to +125°C; L —55°C to +71°C.
4. All units available with Plug-in or Solder turret header.
5. Standard units with case grounded. Undergrounded case available.
6. Surge Limiter per Mil-E-7894 included in 0500 and 0500-1. Available for all others.
7. Higher Output may be obtained with all units by decrease in ambient temperature range.
8. 25 watt and 120 watt Tramps utilize standard Tramps as drivers.
9. For resistive load the max. output power can be approximately 50% higher han the nominal rating.

COMPANION EQUIPMENT

QUADRATURE REJECTION TRAMP . . . Transistor Amplifier featuring Quadrature Rejection, with high impedance input and low impedance output to provide a quadrature suppressed signal to a Tramp Servo Amplifier.
LEAD UNITS . . . to provide loop stabilization in servo systems. Replaces rate generator.
D. C. CHOPPER AMPLIFIERS . . . transistorized DC to AC converter and converter amplifier.
DEMODULATORS . . . a transistorized AC to DC converter.
OUTPUT TRANSFORMERS . . . miniaturized matching transformers. Capable of matching the output of the Tramp to Servo motors where required.
MAGNETIC AMPLIFIERS . . . High power amplifiers capable of operation from TRAMP and Demodulator outputs.
ATTENUATORS . . . miniaturized pads to provide signal attenuation.
POWER SUPPLIES . . . Power supplies for operation of all TRAMPS from A.C. line.
SURGE LIMITERS . . . To provide control of line surges encountered under MIL-E-7894.

1051-0100 AIR DATA SYSTEM

An electromechanical instrument of modular construction which responds to inputs of static pressure, pitot pressure and stagnation temperature. An unusually high order of sensitivity is possible by using a mechanical force balance between pitot and static pressure bellows and their resultant force on a floating junction. An output shaft rotation, which is a function of either pressure ratio, pressure differential or absolute pressures, is obtained through a servo system. Write for complete technical details.

RB701 ROTOR BALANCING MACHINES

This versatile, compact (bench mounted), equipment indicates precisely the corrections required to eliminate vibrations in rotating parts. Measurement of both dynamic and static unbalance in micro ounce inches can be obtained at speeds from 1000 to 200,000 rpm, yet measurement is independent of speeds. Completely assembled units can be balanced with the spin axis in either horizontal or vertical plane. Convenient controls allow calibration in units such as drill depth or slug size. Write for detailed technical literature.

m. ten bosch inc.

"SPECIALISTS IN ELECTROMECHANICAL AND ELECTRONIC SYSTEMS"

APPLICATION & SALES DEPARTMENT

Pleasantville, New York · Phone Rogers 9-3000

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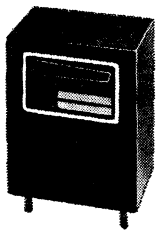
Westbury Electronics, Inc.

WESTBURY, NEW YORK

MAGNETIC AMPLIFIER AND TRANSFORMER DIVISION

400 Cps MAGNETIC AMPLIFIER
OUTPUT FULL WAVE PHASE REVERSIBLE

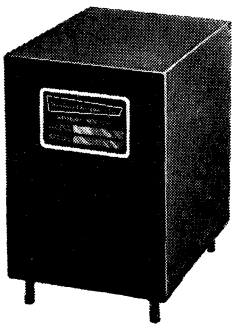


Model SR-4 Type No. RM ( )

Lowest cost all magnetic amplifier. Built to exceed MIL-T-27A requirements. This high gain amplifier can be used in a variety of applications where the highest reliability, and long life is a must. This unit can be coupled as required to any variety of preamplifiers. These are hermetically sealed for operation under any environmental conditions.

Westbury Type No.	Power Out Watts	Typical Load	Control Current MA	Output Volts	Control DCR Ohms	Westbury Type No.	Power Out Watts	Typical Load	Control Current MA	Output Volts	Control DCR Ohms
RM-1	2.5	KEARFOTT R118	8	26	4500	RM-5	5.0	KEARFOTT R804-2B	8	115	3320
RM-2	2.5	2000 ohms .27 Mfd.	8	70	3250	RM-6	5.0	KEARFOTT R110-2	8	115	3360
RM-3	3.5	KEARFOTT R119-2	8	115	3000	RM-7	10.0	KEARFOTT R111-2	8	115	4900
RM-4	4.8	MK 14	9	115	3360	RM-8	18.0	KEARFOTT R112	9	115	5600

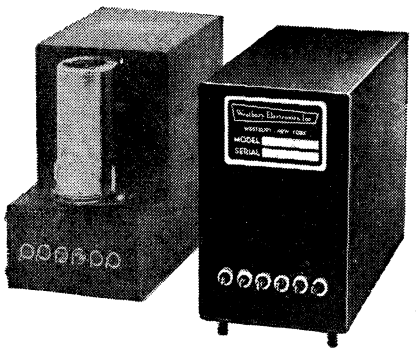
Model SS-4 Type No. 8W



The Westbury Model SS series is built in accordance with MIL-T-27A practices. It is a hermetically sealed all magnetic device which will give the highest reliability to any system. This unit is capable of operating under the most severe environmental condition where electronic or transistorized devices would fail. The full wave output of this device contains zero DC which minimizes load losses and gives the most efficient system. The item is light weight, self-shielding, low noise, low null and is fast in response. These characteristics will fill the needs of the most exacting requirements.

TYPICAL CHARACTERISTICS:

- Line — 115V, 400 Cps. (95-135V)
- Input Impedance — 10,000 Ohms, Minimum
- Input Voltage for Maximum Output —
  0.5 (No Neg. Feedback)
  3.0 (Max. Neg. Feedback)
- Maximum Power Gain — 300,000
- Response — 3 cycles
- Temperature Range — (—55°C to +85°C)
- Outside Dimensions — 2⅞" x 3 9/32" x 3¾"
- Weight — 2 lbs. 5 ounces



Model DM-4 Type No. 3W-6W

The Westbury Model DM-4 series is all magnetic and completely hermetically sealed. This series is built throughout to MIL-T-27A practices. There is no electronic device in this series. The reliability has been infinitely increased as has the efficiency. The drain from the power line has been reduced from comparable electronic types. The linearity is excellent with a low null. The DM-4 is an excellent replacement for items presently available with tubes with the added advantage of being all magnetic.

TYPICAL CHARACTERISTICS:

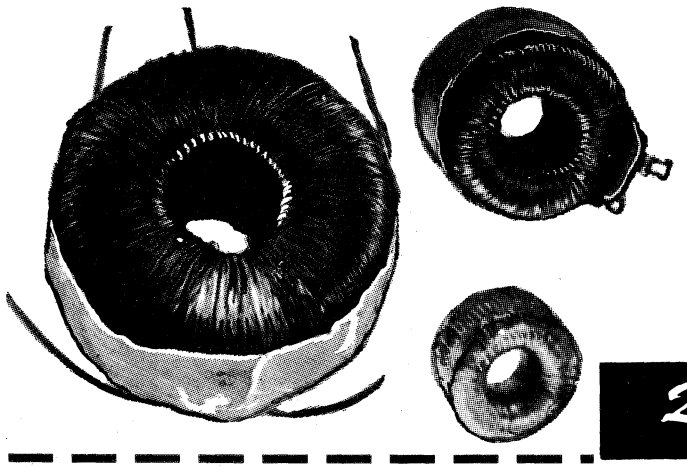
TYPE 3W

- Line — 115 V, 400 CPS
- Input Impedance — 15000 ohms minimum
- Input Voltage for Maximum Output — 2 volts A.C.
- Minimum Power Gain: 10,000
- Response — 4 cycles
- Duty Cycle — Continuous;
  Zero Signal Output Voltage — 1V max.
- Temperature Range — (—55°C to +85°C)
- Outside Dimensions — 2" x 2½" x 3⅛"
- Weight — 1 lb., 13 oz.

TYPE 6W

- Line — 115V, 400 CPS
- Input Impedance — 15000 ohms minimum
- Input Voltage for Maximum Output — 2 volts A.C.
- Minimum Power Gain: 22,000
- Response — 4 cycles
- Duty Cycle — Continuous;
  Zero Signal Output Voltage — 3V max.
- Temperature Range — (—55°C to +85°C)
- Outside Dimensions — 2⅜" x 3½" x 3 3/64"
- Weight — 2 lbs., 10½ oz.

TOROIDS



HI-Q for audio, filters, and hi-frequency applications.

Special techniques in winding assures uniform quality and stability.

The very latest in vacuum impregnating systems assures complete impregnation.

Molded as well as hermetically sealed units for low temperature and hi-temperature applications.

Special materials and techniques assure operation up to 200°C where desired.

Special designs and custom engineering are our specialty.

Quality is our Standard

See YELLOW SECTION for Local Offices, Telephones, etc.

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BEL FUSES *and* PROTECTIVE DEVICES

BELIMITER

A chemically activated fusible surge limiter for protection of circuits with momentary surge characteristics.

KEMFUZE

A chemically activated fuse offering lower resistance at steady state currents and reliable fusing characteristics.

HERMETICALLY SEALED FUSES

Suitable for casting in epoxy or continual operation in liquid. Designed to customer specifications.

GLASS TUBE FUSES *and mountings*

Standard glass tube fuses, UL listed, for circuit protection. Special miniature designs to customer specifications.

BEL FUSE INC. 198 VAN VORST STREET JERSEY CITY, NEW JERSEY

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MANUFACTURERS' DIRECTORY-SALES OFFICES	**YELLOW SECTION**
TRADE NAME DIRECTORY	**END OF YELLOW SECTION**

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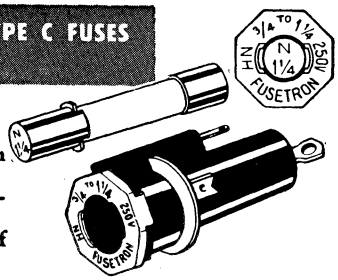
. . . You'll find the Type and Size Fuse you need

• • • IN THE COMPLETE LINE OF BUSS AND FUSETRON FUSES

The following is only a representative selection. The complete BUSS line of fuses includes: single-element, quick-blowing type; single-element for normal circuit protection type; dual-element, slow blowing type and signal or visual indicating types . . . ranging in size from 1/500 ampere up — plus a companion line of fuse clips, blocks and holders.

FUSETRON TYPE N and TYPE C FUSES and FUSEHOLDERS



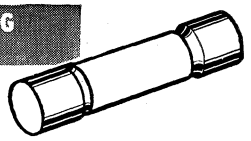
Especially suitable for protection of TV

Ears on fuses match slots in holder.

Marking on fuse and fuseholder in direct view.

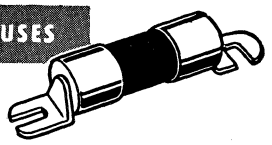
Safeguard against use of wrong size and type of fuse.

BUSS KTK HIGH INTERRUPTING CAPACITY FUSES



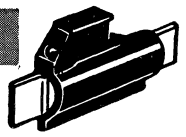
$^{13}/_{32}$ x 1½ inch. Capable of safely interrupting 68,000 amps.

FUSETRON ACK CLAMP TYPE FUSES



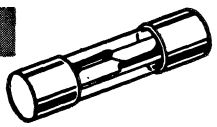
20 to 300 amp., Dual-element type.

BUSS ACO AIRCRAFT FUSES



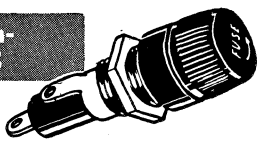
Mechanical Indicating — Limiter type 1 to 75 amp.

BUSS AGX FAST ACTING FUSES



¼ x 1 in. Glass tube 1/500 to 2 amp.

BUSS Series HJ and HK Non-Indicating FUSEHOLDERS

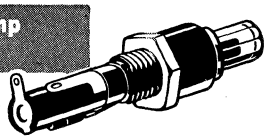


Panel mounted for ¼ x 1 inch and ¼ x 1¼ inch fuses.

BUSS GLD SIGNAL ACTIVATING FUSES

¼ x 1¼ inch. Silverplated pin pops out when fuse is blown and activates signal or alarm.

BUSS Series HJ and HK Lamp Indicating FUSEHOLDERS



Panel mounted for ¼ x 1 inch and ¼ x 1¼ in. fuses.

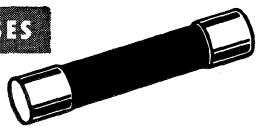
FUSETRON MDL FUSES

¼ x 1¼ inch. Dual-element — slow blowing type 1/100 to 30 amp.

BUSS No. 4051 ONE-PIECE CLIP and TERMINAL

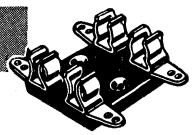
Solder type terminal for ¼ inch fuses.

BUSS ABC CERAMIC TUBE FUSES



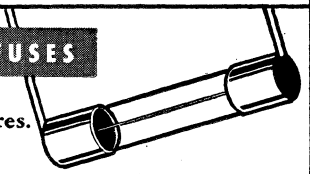
¼ x 1¼ inch. High interrupting capacity fuses ¼ to 30 amp.

BUSS No. 4409 FUSE BLOCKS



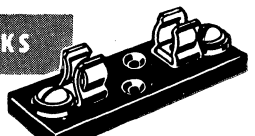
Small Base, solder type Side Terminals.

BUSS GJV PIG TAIL FUSES



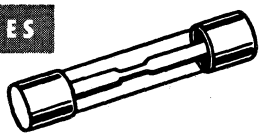
⅛ to 6 amp. Solder into circuit wires.

BUSS No. 4512 FUSE BLOCKS



Full Base, Screw type Terminals.

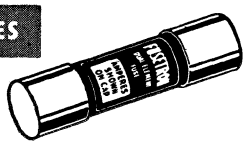
BUSS SFE STANDARD FUSES



Fuses of different amperages are different lengths — to make it impossible to insert too large a size.

For specific information . . . see your BUSS Fuse distributor—or write for BUSS Bulletin SFB on small dimension fuses and fuseholders—or refer to BUSS pages in Radio Electronic MASTER.

FUSETRON FNM FIBRE TUBE FUSES



$^{13}/_{32}$ x 1½ inch. Dual-element — slow blowing type.

BUSSMANN MFG. DIVISION
McGraw-Edison Co.
University at Jefferson
St. Louis 7, Mo.

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

BUSS makes a complete line of fuses for home, farm, commercial, electronic and industrial use.

EEM 59

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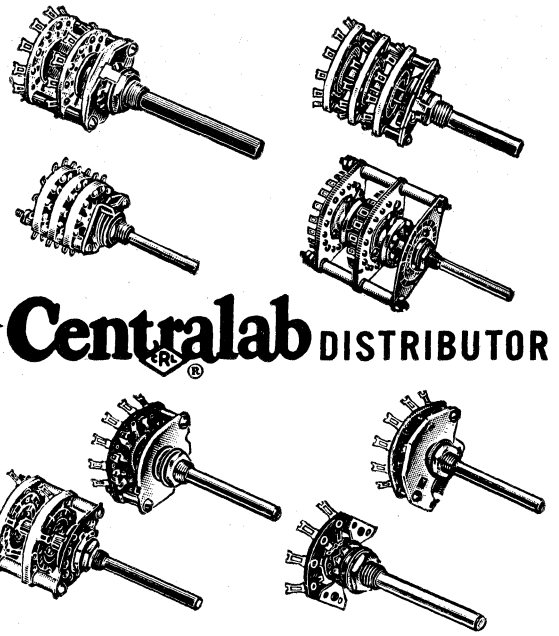
the SWITCH you need is listed in the Radio-Electronic MASTER and carried in stock by your



Centralab DISTRIBUTOR

The extensive CENTRALAB line of high reliability switches includes the unit *you* need. For military, industrial, communications, and many specialized applications, you'll find a CENTRALAB switch for the job, listed on pages 563 to 569 of the 1959 Edition of *The Radio-Electronic Master.*

Sub-miniature, miniature, standard and heavy duty; rotary and lever action; ceramic or phenolic—all are available from your distributor's stock. For industrial quantities, your distributor can call on the largest switch inventory in the industry for fast—almost immediate—delivery.

Special switches, built to your specifications, can also be supplied.

Centralab P-5924
A Division of Globe-Union Inc.
984 E. Keefe Ave. • Milwaukee 1, Wis.
In Canada: 804 Mt. Pleasant Rd., Toronto, Ont.

Order from Local Electronic Parts Distributor or Write for List.

CENTURY PRESSURE SWITCHES

PRECISION ENGINEERED FOR EXACTING REQUIREMENTS

FIVE STANDARD TYPES	ABSOLUTE	ALTITUDE	DIFFERENTIAL	GAGE	VACUUM
	Operating Pressure Range— 1 to 350 psia	Operating Pressure Range— 0 to 100,000 ft. alt.	Operating Pressure Range— 4″ H_2O to 2,000 psig	Operating Pressure Range— 4″ H_2O to 10,000 psig	Operating Pressure Range— Atmos. to 1 psia
	Unit Weights— 4¼ to 7 oz.	Unit Weights— 5¼ to 8¼ oz.	Unit Weights— 5¾ to 10¾ oz.	Unit Weights— 5 to 8½ oz.	Unit Weights— 4¼ to 7 oz.

Superior Repeatable Accuracy throughout standard Operating Temperature Range (—67° to +250°F.) Available on special order for extended temperature range use.

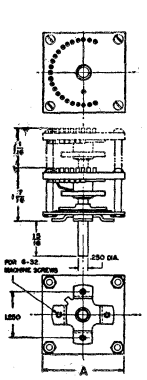
SALES REPS. in all Major Aviation Centers

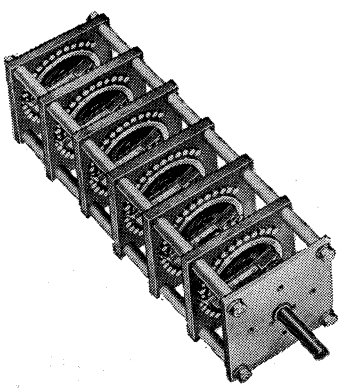
CENTURY Electronics & Instruments, Inc. 1335 No. Utica St. Tulsa 10, Okla. LUther 4-7111

CINEMA

SWITCHES—DECADE BOXES—ATTENUATORS

INSTRUMENT SWITCHES





For production test equipment and precision instruments. Well proven rotary type switch design. Each switch made to fit your exact requirements. Extremely flexible modular design. Permits hundreds of pole and position arrangements. Full-wiping contacts. Write for Catalog 17S.

Decade Boxes: Cinema Resistance Decades are made with the same fine components as Cinema Attenuators. A fine laboratory instrument. Frequency range from direct current to 20 KC. Write for Catalog 20D.

Attenuators: Cinema Audio Attenuators are a long-accepted standard in the sound recording trade. These are linear stepping types, mixing controls, VU meter attenuators and fixed pads. Write for Catalog 18A.

CINEMA ENGINEERING • 1100 CHESTNUT STREET • BURBANK, CALIFORNIA

See YELLOW SECTION for local offices, telephones, etc.

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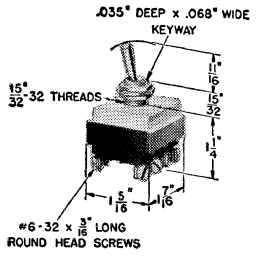
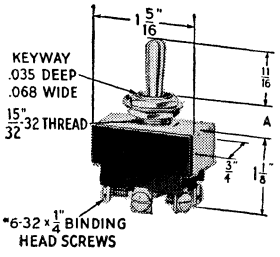
CUTLER-HAMMER, Inc.
321 N. 12th Street Milwaukee 1, Wis.

SWITCHES — MILITARY STANDARD — ONE HOLE MOUNTING

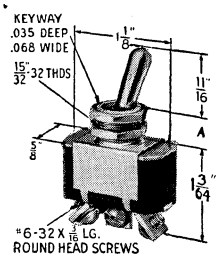
These switches are designed to meet the exacting requirements of communication and power apparatus for all branches of the government. All meet requirements of MIL-S-3950.



Cat. No. 8800
Single Pole — Double Throw



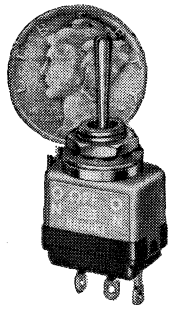
Cat. No. 8820
Double Pole — Double Throw



Cat. No. 7660
Four Pole — Double Throw

Single Pole		Double Pole		Four Pole		Lever Position		
MS Part No.	C-H Cat. No.	MS Part No.	C-H Cat. No.	MS Part No.	C-H Cat. No.			
MS35058-21	8800K16	MS35059-21	8820K16	MS25068-21	7662K7	On	Off	On
MS35058-22	8801K22	MS35059-22	8822K20	.....	.....	On	None	Off
MS35058-23	8810K15	MS35059-23	8824K14	MS25068-23	7664K5	On	None	On
MS35058-24	8801K23	MS35059-24	8822K21	MS25068-24	7660K13	On	Off	None
MS35058-25	8813K13	MS35059-25	8828K12	MS25068-25	7668K7	On	Off ★	None
MS35058-26	8804K13	.....	.....	MS25068-26	7664K5	On	None	On ★
MS35058-27	8812K14	MS35059-27	8834K5	MS25068-27	7672K5	On ★	Off	On ★
MS35058-28	8811K18	MS35059-28	8826K14	MS25068-28	7666K9	None	Off	On ★
MS35058-29	8813K17	.....	.....	.....	.....	On	None	Off ★
MS35058-30	8811K17	.....	.....	.....	.....	Off	None	On ★
MS35058-31	8809K16	MS35059-31	8832K6	MS25068-31	7670K6	On	Off	On ★

★Momentary contact



NEW!—A Highly Reliable *Miniature* Toggle Switch

An extremely compact power or dry circuit switch . . . usable as a pre-set switch in aircraft recognition systems . . . for walkie-talkies . . . electronic instruments and communications.

RATINGS: 2 Amps. @ 28 volts D-c
1 Amp. @ 50 Volts D-c
2 Amps. @ 115 Volts A-c
Minimum rating: 30 microamps @ 50 millivolts

TYPES: 2 and 3 position switches with maintained or momentary switch action.

DIMENSIONS: Single Pole — 9/16" W. 3/4" H. 3/8" D.
Double Pole — 9/16" W. 3/4" H. 9/16" D.

The switches shown on this page constitute only a partial listing of standard type Cutler-Hammer switches available. Additional data on other standard and special types may be obtained from your Cutler-Hammer electrical distributor or your nearest Cutler-Hammer sales office.

What you should know about Cutler-Hammer

Cutler-Hammer has long held the respect of the aircraft industry because this company has been part of the aircraft industry for over 35 years. Today, as for the decades past, Cutler-Hammer engineers are working closely with the aircraft industry's leaders . . . thinking ahead, planning, designing and building for the future. Here is the record:

1920 Cutler-Hammer designed and manufactured the first line of switches ever created specifically for use in aircraft.

1938 Cutler-Hammer designed and manufactured the first d-c power relays ever created specifically for use in aircraft.

1943 Cutler-Hammer designed and manufactured the first a-c power relays ever created specifically for use in air-craft.

1949 Cutler-Hammer started development of the first environment-free power relays for use in aircraft.

1953 Cutler-Hammer submitted samples and certified test reports on the first hermetically sealed power relay to WADC and Bu. Aer. Cutler-Hammer configuration was adopted as industry standard by ASG.

1955 Cutler-Hammer designed and manufactured the first one hole mounting Lever Lock aircraft switches.

CUTLER-HAMMER Inc.

Cutler-Hammer, Inc., Milwaukee, Wis. . Division: **Airborne Instruments Laboratory** . Subsidiary: **Cutler-Hammer International, C. A.**
Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation, Inc.

Order from Local Electronic Parts Distributors or Write for List.

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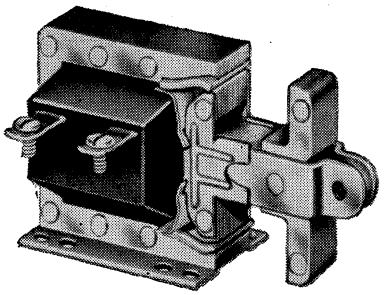
C C

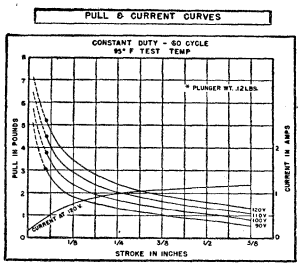
Switches, Solenoids and Timers

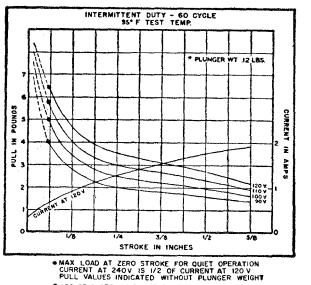


DOUBLE T SOLENOIDS

Exclusive double T plunger construction results in more pull at point needed. Tri-Podal seating and tightly locked shading rings add to quiet, efficient operation. Coil windings and terminals are encapsulated in a heavy, shock-resistant layer of EPOXY for increased protection against fire, moisture and impurities.

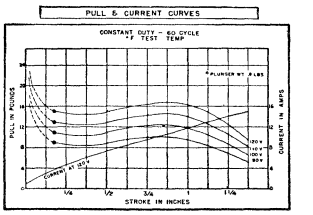
TT TYPE 801

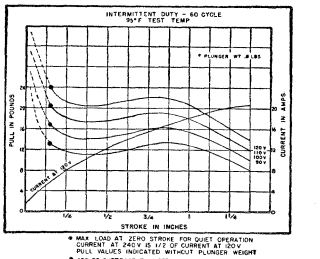




* MAX. LOAD AT ZERO STROKE FOR QUIET OPERATION CURRENT AT 240 V IS 1/2 OF CURRENT AT 120 V PULL VALUES INDICATED WITHOUT PLUNGER WEIGHT
* ADD OR SUBTRACT PLUNGER WEIGHT TO OBTAIN NET PULL WHEN OPERATED WITH OR AGAINST GRAVITY

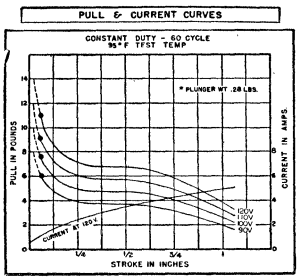
TT TYPE 821

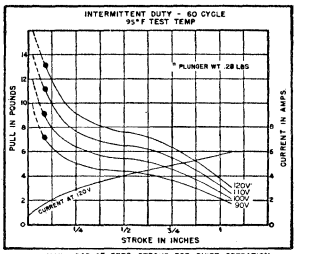




* MAX LOAD AT ZERO STROKE FOR QUIET OPERATION CURRENT AT 240 V IS 1/2 OF CURRENT AT 120 V PULL VALUES INDICATED WITHOUT PLUNGER WEIGHT
* ADD OR SUBTRACT PLUNGER WEIGHT TO OBTAIN NET PULL WHEN OPERATED WITH OR AGAINST GRAVITY

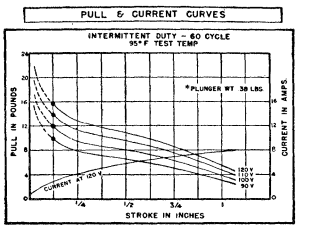
TT TYPE 812 (¾" stack)

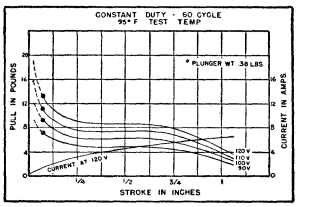




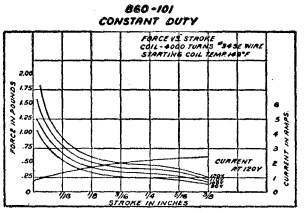
* MAX. LOAD AT ZERO STROKE FOR QUIET OPERATION CURRENT AT 240 V. IS 1/2 OF CURRENT AT 120 V PULL VALUES INDICATED WITHOUT PLUNGER WEIGHT
* ADD OR SUBTRACT PLUNGER WEIGHT TO OBTAIN NET PULL WHEN OPERATED WITH OR AGAINST GRAVITY

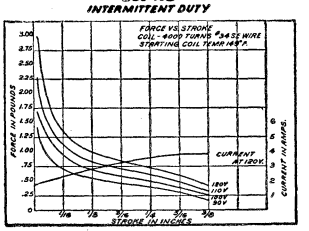
TT TYPE 812 (1" stack)





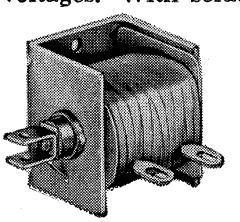
* MAX LOAD AT ZERO STROKE FOR QUIET OPERATION CURRENT AT 240 V IS 1/2 OF CURRENT AT 120 V PULL VALUES INDICATED WITHOUT PLUNGER WEIGHT
* ADD OR SUBTRACT PLUNGER WEIGHT TO OBTAIN NET PULL WHEN OPERATED WITH OR AGAINST GRAVITY





MODEL 860 SOLENOID

This compact solenoid was especially designed for applications where power is needed in a small sized unit. Operates quietly in any position. Shading coil is located in base of plunger for greater efficiency and high sealing pull. Regularly furnished for intermittent and constant duty on 120v. 60 cycle A.C. Can also be furnished for D.C. and other voltages. With solder terminals.



MODEL	860-101	860-102
VOLT	120	120
DUTY	Constant	Intermittent

See YELLOW SECTION for Local Offices, Telephone, etc.

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by Controls Company of America

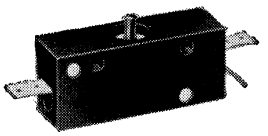
TYPE 750 SNAPAC SWITCHES

These versatile switches provide dependable snap action at a realistic price. Four models cover the broadest possible range of snap action switch applications.

ELECTRO-MECHANICAL FEATURES

- Instantaneous, positive make and break action
- High contact pressure
- Nonsensitive to vibration and shock
- Stable under momentary high overload

RATING: 15 amp 125v A.C. • 10 amp 250v A.C.
½ hp 125/250v A.C.



OPERATING CHARACTERISTICS

TYPE	Pre-Travel	Total Travel	Movement Differential	Operating Pressure	Available Circuits	Catalog Number
Pin Plunger	1/32" to 1/16"	3/32" to ⅛"	.010 to .035	13 Oz. Max. 6 Oz. Min.	SPDT	750-150
Lever Action	3/32" to 3/16"	7/32" to 9/32"	.030 to .070	9 Oz. Max. 4 Oz. Min.	SPDT	750-250
	¼" to 7/16"	7/32" to ¼"	.078 to .125	6.5 Oz. Max. 4 Oz. Min.	SPDT	750-251
Panel Mount.	1/32" to 1/16"	¼" to ⅜"	.010 to .035	13 Oz. Max. 6 Oz. Min.	SPDT	750-350

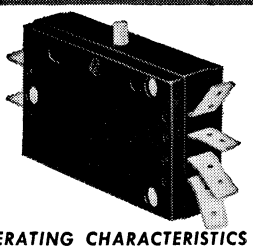
TYPE 755 SNAPAC SWITCH

Here's a compact, inexpensive switch designed to make or break two circuits simultaneously... for limit, safety interlocking and control switch requirements.

ELECTRO-MECHANICAL FEATURES

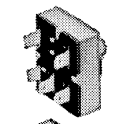
- Positive make and break action
- High contact pressure
- Nonsensitive to vibration and shock

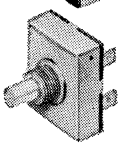
RATING: 15 amp 125v A.C. • 10 amp 250v A.C.
½ hp 125/250v A.C.



OPERATING CHARACTERISTICS

TYPE	Pre-Travel	Total Travel	Movement Differential	Operating Pressure	Available Circuits	Catalog Number
Double Circuit	1/32" to 5/64"	3/32" to 5/32"	.010 to .040	10 Oz. Min. to 26 Oz. Max.	DPDT	755-150





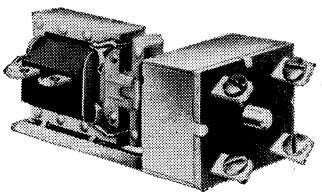
TYPE 777 ROTARY SWITCH

A compact, low-cost versatile unit sturdy enough for rugged industrial use.

ELECTRO-MECHANICAL FEATURES

- 1, 2, or 3 SPST switches
- 7 switch position
- Positive indexing

RATING: 10 amp 125v A.C.
⅓ hp 125/250v A.C.



TYPE 12270 SOLENOID-OPERATED SWITCH

A compact, lightweight unit ideal for controlling relatively large loads by a low-current pilot switch.

ELECTRO-MECHANICAL FEATURES

- Quick make and break action
- Powerful, dependable stroke
- Minimum millivolt drop

RATING:
Switch: 25 amp 125/250v A.C.
Solenoid Actuator: 110v—60 cycle; 220v—60 cycle

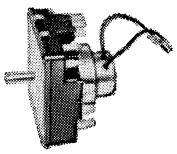
TYPE 105 INTERVAL TIMER

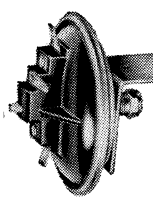
For high capacity applications requiring control for a preset period of time.

ELECTRO-MECHANICAL FEATURES

- Variable cycle time
- Dust proof enclosed design

RATING:
25 amp 125/250v 50 or 60 cycle, non-inductive
½ hp 125v 50 or 60 cycle, inductive





TYPE 700 TIME DELAY SWITCH

Positive make and break action for a wide variety of applications.

ELECTRO-MECHANICAL FEATURES

- Adjustments from 3 to 40 sec.
- Precision built orifice

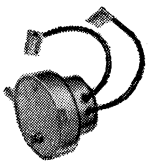
RATING: 4 amp 250v A.C.
8 amp 125v A.C.
⅓ hp 125/250v A.C.

SYNCHRONOUS MOTOR

These are permanent magnet type motors making them more reliable at higher torques.

AVAILABLE MOTOR SPEEDS

RPMS: 1/40, 1/32, 1/24, 1/20, 1/15, 1/3, 1/2, 2/3, 5/6, 1, 1-1/3.



CONTROLS COMPANY OF AMERICA

SCHILLER PARK, ILLINOIS • COOKSVILLE, ONTARIO, CANADA

Creative Controls for Industry

See YELLOW SECTION for Local Offices, Telephone, etc.

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Cunningham
ESTABLISHED 1878
CROSSBAR

CROSSBAR SWITCHES

Scanners — Monitors — Switching Systems

The following describes basic crossbar switch types. Standard switches in smaller and larger matrices are also available. Non-standard size matrices are built to order.

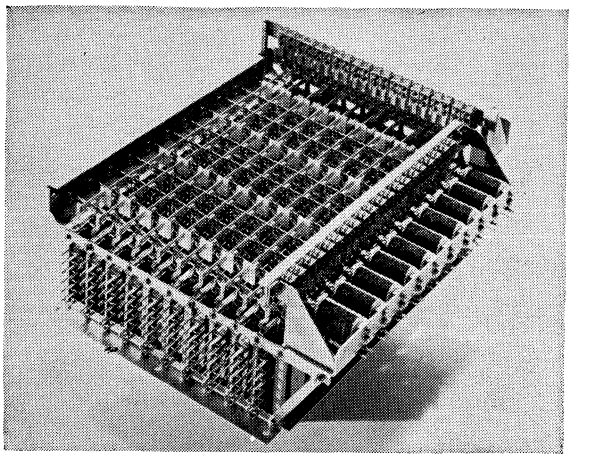
Outstanding Features:

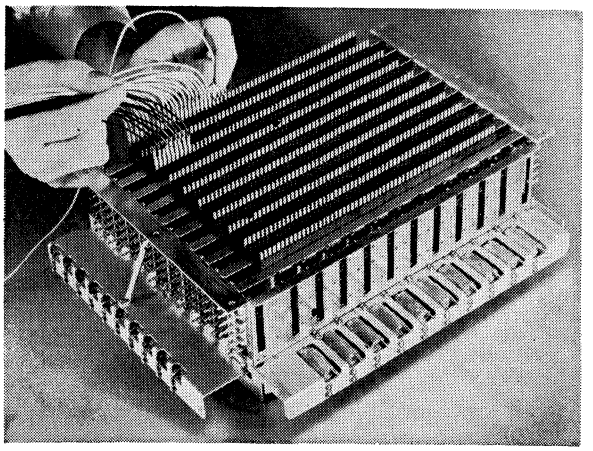
- switches up to 70 MC
- long life
- high insulation resistance
- low level switching
- small size and weight

TYPE A

Coordinate operation for signal distribution. 10 circuit group input to up to 20 circuit output (6 poles per circuit).

Function and operation: Group to Group switching. By means of a coordinate system of select and hold magnets operated sequentially, a mechanical operation is performed at a crosspoint. This mechanical operation in turn makes electrical connection at the crosspoint, closing a circuit between one input and one output. In sequence, by similar operation the balance of the inputs are connected to outputs in any combination.





Bottom view: Shows the 600 individual link terminals and several taper tab connectors in place.

TYPE F

Coordinate operation with terminal connections at each of 100 crosspoints, brings electrical information from as many as 600 sources to a single destination.

Function and Operation
Group to One Switching

By means of a coordinate system of select and hold magnets operated sequentially, a mechanical operation is performed at a crosspoint. This mechanical operation in turn makes electrical connection at the crosspoint, establishing a circuit to one of 100 crosspoint terminations. Each circuit has six poles.

TYPE P

Individually Controlled Magnets at each Crosspoint

Function and Operation
Group to Group Switching

Individual magnets at each crosspoint make an electrical connection at the crosspoint, closing a circuit between one input and one output. Any circuit combination can be set up in any sequence. Each circuit may have up to six poles. This operation is similar to normal relay operation but with the advantages of reduced space, the elimination of buss wiring, and the possibility of switching high frequencies.

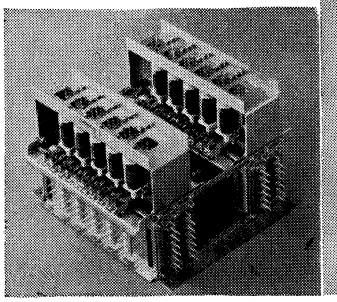
TYPE PT

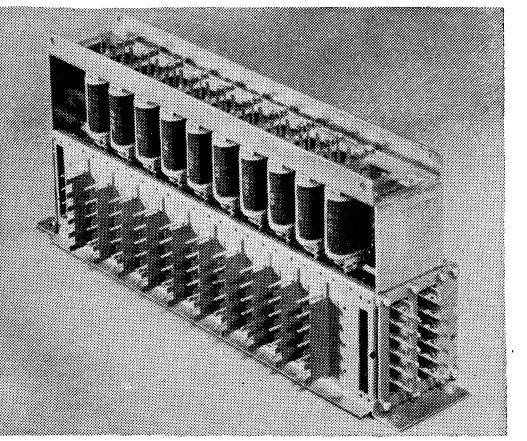
Group to One Switching

Similar to Type P, but with individual link terminals at each crosspoint.

2x10 six-pole switch with shielding.

4x5 six-pole switch with off-normal or control contacts.





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Cunningham
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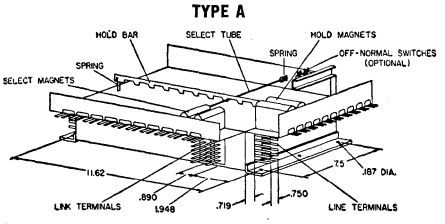
CROSSBAR

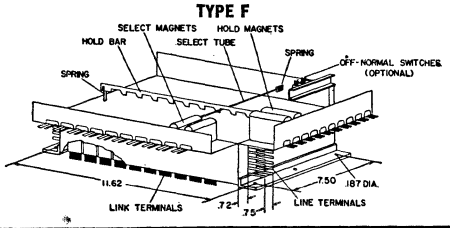
CROSSBAR SWITCH SPECIFICATIONS

	TYPE A	TYPE F	TYPE P
APPLICATIONS	Signal Distribution: Radar & TV Monitoring, Telemetering, Test Signal, Memory Systems, Tube & Transistor Testing. Telephone Telegraph Intercom	Data Reduction & Processing: Thermocouple, strain gage scanning, monitoring, cable and harness testing, computer programming & readout, patchboard verification, binary and digital storage, airport approach control systems.	Signal Distribution: Same as Type A (Type PT same as Type F)
ELECTRICAL			
A. SIGNAL CARRYING CHARACTERSTICS			
Crosstalk	Down 55 db at 4 mc. in a 10x10 switch with 75 ohm termination under the worst condition (parallel input paths connected to parallel output paths). Addition of shields on Type A switch in link direction gives a 75 ohm characteristic impedance through the switch, further reduces crosstalk.		74 db. down at 5 mc. between adjacent circuits and between conductors in the same circuit (with intermediate conductors grounded in a 2x10 switch on a 75 ohm line). Addition of shields in link direction gives a 75 ohm characteristic impedance through the switch, further reduces crosstalk.
Bridging Capacity	To ground between an input conductor connected to an output conductor in a 10x10 switch is 15 mmfd.	To ground between conductor to an output (crosspoint) conductor is 20 mmfd.	Line conductor to ground is 15 mmfd; link conductor to ground is 5 mmfd.
Breakdown Voltage	Occurs at not less than 1500 VAC between switching conductors and/or frame and across switching contacts.		
Insulation Resistance	Special materials give insulation resistance at 1 million megohms—conductors to frame and between conductors.		
Conductor Resistance	Through longest path is 0.3 ohms.		
Current Carrying Capacity	Contacts will carry 100 MA non-inductive at 50 VDC for 20 million operations; currents as high as 1 amp switched with some reduction in contact life. Off normal contacts: 150 mils non-inductive for 20 million operations for current required to operate switch magnet coils.		
Contact Bounce	Less than 200 microseconds on make—no bounce on break.		
B. OPERATING CHARACTERISTICS	Both hold and select magnets require 1.5 watts for normal operation.		
Coil Data	Coil will dissipate 3 watts continuously. Coils are available from 6 to 148 VDC. See SDS-108 for additional information.		
Off-Normal Contacts	Available for control or confirmation of magnet operation. Both SPDT & DPDT contacts are available associated with each magnet. Operating the switch magnet coils with proper arc suppression, the O/N contacts have a life of 20 million operations at 150 ma.		
Timing	Switch can be set up in 15 milliseconds at normal operate voltage. Scanning speeds of 60 CPS are attained with special drive circuits, see Bulletin 58-217. For additional timing information, Bulletin 58-212.		Operate time is 6 to 9 millseconds; release is 1 to 4 milliseconds at normal voltage, operate speeds down to 3 milliseconds can be attained with higher driving voltage.
Life	Normal life is 20 million operations per crosspoint without adjustment. Over 100 million is possible, dependent mostly upon electrical contact wear.		
MECHANICAL			
Terminals and Terminal Connectors	Connections to all terminals either by soldering or by use of AMP series 78 Taper Tab Connectors. Cunningham No. SP-1181 6-terminal connector may be used for plug-in connections to line terminals on all types of switches and to Link terminals on Type A & Type P switches. Plug-in connections to link terminals of Type F & Type PT switches may be made with Cunningham No. SP-1171 30-terminal connectors.		
Weight and Overall size	Net weight: 9¼ lbs. Height: 3 9/16" (w/o off-normals) 4 15/16" (w/off-normals) Length: 13 9/16" Width: 10⅞"	Net weight: 10¾ lbs. Height: 4 1/16" (w/o off-normals) 5 7/16" (w/o off-normals) Length: 13 9/16" Width: 10⅞"	Net weight: 4½ lbs. Height: 4 13/16" (w/o off-normal) 5 5/16" (w/o off-normals) Length: 12 3/16" Width: 2½" (wo off-normal) 3¾" (w/off-normals)
Installation	Switch may be mounted in any position. See mounting dimensions below. Data regarding vibration and shock resistance available on request, also see environmental data on following page.		
Suggested switch code for Sample Evaluation (see Switch Code Explanation)	A10BB10MM6G	F10BB10MM6G	P2B10M6G

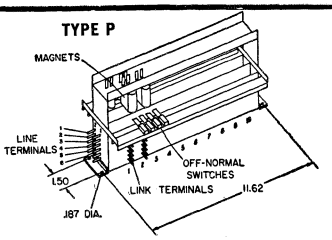
TYPE A



TYPE F



TYPE P



JAMES CUNNINGHAM, SON & CO., INC. Rochester 8, N. Y. Tel. BAker 5-7240

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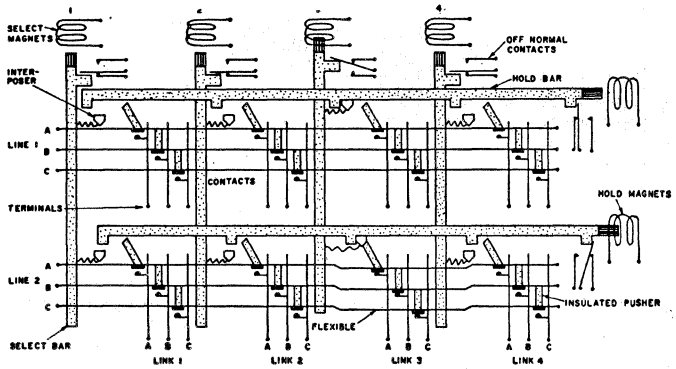
DIAGRAM OF TYPE F CROSSBAR SWITCH

Showing Schematic Mechanical Operation and Conductor Arrangement

1. For Simplicity, only 2 lines and 4 links of a 3 pole Type F Switch are shown—a 2x4x3 matrix, with select magnet No. 3 and hold magnet No. 2 actuated by externally applied D.C. voltage. This connects conductors as follows: Line 2A to second section of link 3A, line 2B to second section of link 3B, and line 2C to second section of link 3C. This same principle would apply to 2, 4, 5 and 6 pole switches.

This same schematic with link conductors being continuous through the entire length of the switch would serve to illustrate the Type A switch. The conductor arrangements of Types P & PT (directly operated) and Q & R (pushbutton) switches, are similar to those of the Types A & F (coordinately operated) switches, differing only in method of operation.



Modes of Operating and Controlling Switches

1. **Pushbutton** — Twenty pushbuttons arranged coordinately with the hold and select magnets of a 10x10 Type A or F switch, is the simplest form of control and random selection of any of the one hundred crosspoints. With the P switch, the buttons can operate the selected crosspoint directly.
2. **Dial** — For most remote control applications, the dial provides considerable saving of space and wiring and can also give scanning as well as random selection instructions to switch with only two wires. Multiple control can be easily set up.
3. **Punched Card or Tape** — Conventional binary (with decoder) or digital coded cards or tape can be used to select or scan switch. The addition of a simple ten-point high speed electronic multiplexer permits the switch to scan at high rates of speed.
4. **Self-Stepping** — Using off-normal or control contacts associated with the hold and select magnets, the switch will step itself at speeds up to 50 points per sec. The speed or scan program can be regulated by external command pulses.

Environmental Data

Vibration: Standard switches withstand acceleration forces of 20 gs. with excursions from 0 to .125 at 0 to 55 cps.

Humidity: Materials used are finished to provide good corrosion resistance.

Temperature: —55°C to 85°C operating range.

Fungus: Materials used in switch are inherently non-nutrient to fungus, except magnet coils.

Barometric Pressure: Down to 11.0" of mercury.

Applications

- Delay Line Switching
- Information storage
- Thermocouple scanning
- Strain gage scanning
- Instrumentation
- Printed circuit testing
- Circuit testing and analysis
- Audio, video, sonar, radar switching and monitoring
- Automatic machinery programming
- Telephone, telegraph
- Telemetering
- Vacuum tube and transistor testing

SWITCH CODE EXPLANATION

Example: Code No. F16CB10CX6G specifies an individual lead-out Coordinate Switch with 16 lines, 10 links, 6 poles, with 12 V. select coils, 25 V. hold coils, off-normal contacts on select, but none on hold, and gold contacts.

Substitute the code letters describing requirement in the positions indicated below.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
F	16	CB	10	CX	6	G

See reverse of sheet

(1) SWITCH TYPE (All standard switches have continuous line conductors.)
- A - Coordinately operated with continuous link conductors.
- F - Coordinately operated with individual lead-outs from link conductors at each crosspoint.
- P - Directly operated with actuating magnet at each crosspoint.
- Q - Manually operated; pushbutton at each crosspoint; continuous link conductors. See Note 1.
- R - Manually operated; pushbutton at each crosspoint; individual lead-outs from link conductors at each crosspoint. See Note 1.

(2) NUMBER OF LINE CIRCUITS (Lines are associated with hold magnets.)
10 is standard for types A, F, Q and R; 2 for P; others are special. See Note 2, also Special Features Code E.

(3) MAGNET COILS (See SDS-108 for additional electrical data.)
Types A and F switches: first letter specifies select magnet; second letter, hold magnet.
Type P switch: Use one letter only.

Coil Code	Operating Voltage	Coil Code	Operating Voltage
D	6.0	L	39.0
E	7.5	*A	48.0
F	10.0	N	62.0
*C	12.0	P	76.0
G	15.0	*M	96.0
H	20.0	J	120.0
*B	25.0	R	148.0
K	31.0		

*Coils carried in stock.

(4) NUMBER OF LINK CIRCUITS (Links are associated with select magnets.)
5 or 10 are standard for all types; others are special. See Note 2.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
F	16	CB	10	CX	6	G

(5) OFF-NORMAL CONTACTS (For control or confirmation of magnet operation)
Types A and F switch: first letter specifies select magnet; second letter, hold magnet.
Type P switch: Use one letter only.
- C - Single pole, double throw. (One "C" contact.)
- M - Double pole, double throw. (Two "C" contacts.)
- X - Indicates none required.

(6) POLE LEVELS
This is the number of normally open ("A") contacts at a given crosspoint. All contacts at one crosspoint close at the same time.
1, 2, 3, 4, 5 or 6 are available on all types. (6 is standard.)

(7) SPECIAL FEATURES
Omit this letter if no special feature is required.
- A - Cut off contacts (for telephone use.)
- B - Crosstalk shields to give 75 ohm impedance.
- C - Special insulation to give high switching leakage resistance.
- D - Line conductors electrically broken at center.
- E - 5 line switch in a 10 line frame. (Line plates separated by double spacing.)
- G - Gold contacts
- K - Link Terminals on both ends. (Applies only to types A, P and Q.)
- L1 - Coaxial cable lugs on one link side and one line side.
- L2 - Coaxial cable lugs on one link side and two line sides.
- L3 - Coaxial cable lugs on all four sides.
- T - Type P with individual lead-out feature. Link terminals at bottom.
- S - Specifies all special features not covered specifically by other special code letters. Must be described in further detail.

NOTES

1. Types Q and R switches do not use Magnet Coils or Off-normal Contacts. X must be used in these code positions.
2. When switches are ordered with less than a standard number of lines or links, magnets and associated switching parts will be eliminated from the basic structure starting from the higher numbers and working down. Refer to drawing SE-119. If adjusted switching parts are to be included to enable possible installation of magnets at a later date, this special requirement should be so specified..

ELECTRICAL COIL DATA
OPERATION VOLTAGE & CURRENT A, F & P SWITCHES

Coil Code	Resistance Ohms at 20°	Minimum Release 7.2NI Volts	Minimum Release 7.2NI Milliamps	Normal Operation 346 NI,(1.5 Watts) Volts	Normal Operation 346 NI,(1.5 Watts) Amps
D	22	.125	5.5	6.0	.266
E	35	.156	4.5	7.5	.216
F	57	.21	3.6	10.0	.173
C	90	.25	2.8	12.0	.133
G	145	.31	2.1	15.0	.106
H	235	.42	1.7	20.0	.084
B	370	.52	1.4	25.0	.068
K	590	.65	1.1	31.0	.053
L	930	.81	.87	39.0	.042
A	1500	1.0	.69	48.0	.033
N	2350	1.3	.54	62.0	.026
P	3750	1.6	.42	76.0	.020
M	5900	2.0	.33	96.0	.016
J	9400	2.5	.27	120.0	.013
R	14500	3.1	.21	148.0	.010

NOTES: 1. Switches are operationally inspected on ½ the normal operation voltage. 2. Coils operate continuously on voltage 35% above their normal listed operate voltage. 3. Choose highest resistance Coil for lowest operating power, best sensitivity. 4. Choose lower resistance Coil for faster operating speed, lowest coil cost.

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Cunningham ESTABLISHED 1838

CROSSBAR

CONNECTORS

Thirty point connectors for Type F Link Terminals and Six point connectors for Line Terminals and Types A 8 P Link Terminals may be used for easy installation and removal of switches or for use on patching cords. These plugs are molded of high leakage resistance plastic and have gold plated terminals. Covers for these plugs can be provided, if desired.

Prices (in small quantity):

30-pt. Plug SP-1171 @	$4.00
Cover - SP-1161	.58
6-pt. Plug SP-1181	1.80
Cover - SP-1162	.35

COVERS

Clear plastic covers with clip-on brackets are available for Types A and F switches. These serve primarily as protectors against possible damage to switches in handling and during installation.

PRICE SCHEDULE OF CROSSBAR SWITCHES

A. BASIC SWITCH PRICES*

Type	Matrix:	5 x 10	10 x 10	20 x 10
A		$300.00	$400.00	$750.00
F		415.00	550.00	950.00
Q		260.00	340.00	660.00
R		300.00	400.00	750.00

Matrix:	2 x 5	2 x 10	4 x 5	4 x 10	6 x 10
P	$150.00	$200.00	$260.00	$350.00	$550.00
PT	175.00	250.00	300.00	425.00	685.00

*For standard six-pole switches, palladium contacts; quantities up to 10.

B. QUANTITY DISCOUNTS:

a) 1 to 9 units ..... List
b) 10 to 24 units ..... Less 5%
c) 25 to 99 units ..... Less 10%
d) 100 to 499 ..... Less 15%
e) 500 or more ..... Less 20%

C. ADDITIONAL FEATURES:

1. **Pole Levels — Subtract** following amounts from 6-pole prices (par. A) for 2- and 4-pole switch prices (on 10 or more switches only):

Type	Poles	Matrix:	5 x 10	10 x 10	20 x 10
A, F, Q & R	2		$25.00	$35.00	$50.00
A, F, Q & R	4		15.00	20.00	30.00

Matrix:	2 x 5	2 x 10	4 x 5	4 x 10	6 x 10
P and PT	$10.00	$15.00	$20.00	$25.00	$30.00
P and PT	6.00	10.00	12.00	15.00	20.00

2. **Off-Normal (Control) Contacts** — Add $2.50 for each hold or select magnet equipped with single Form C (SPDT) off-normal contacts and $5.00 for double Form C (DPDT) contacts.
3. **Gold Contacts** — Add 5% to basic switch prices (par. A) for switches equipped with gold contacts.
4. **Special Coils** (see Coil Data Sheet SDS-108) for other than standard (12, 24, 48V.) voltage coils, add the following:
   Special Coils in 6 to 50 volt range — .25 per coil
   Special Coils in 50 to 100 volt range — .50 per coil
   Special Coils in 100 and over volt range — 1.50 per coil
5. **Shielding** — To further reduce crosstalk and provide line impedance of approx. 75 ohms, add 25% to basic switch prices.
6. **Coaxial Grounding & Mounting Lugs & Ferrules** — Lugs — .75 each
   for RG-59-U and RG-11-U Cable Ferrules — .10 each
7. **High Leakage Resistance:** Add 10% to basic switch price (Type F, R & PT only).
8. **Fungus Proofing** — Per specifications — Add $25.00.
9. **Terminal Plugs and Cover**

	(Type F & PT) 30-Pt. Link Plug* Part SP-1171	Cover SP-1161	(Type A, F & P) 6-Pt. Line Plug Part SP-1181	Cover SP-1162
1 to 24 (each)	$4.00	$0.58	$1.80	$0.35
25 to 99 (each)	3.80	.48	1.71	.33
100 to 499 (each)	3.60	.45	1.62	.32
500 or more (each)	3.20	.40	1.44	.28

*Plug inserts are gold-plated.

10. **Plexiglass Switch Cover**—Part SA-53602 (for 10x10x6 switch)—$5.00 each.
    Part SA-53605 (for 20x10x6 switch)— 7.50 each.
11. **Extra Link Terminals** — For Types A and P, add $15.00 for 10 link switches, and $10.00 for 5 link switches, equipped with link terminals at both ends.

SELECTED CROSSBAR LITERATURE

LITERATURE AVAILABLE ON REQUEST

Bulletin No.	Description
58-101	Type P Crossbar Switch
58-102	Type A Crossbar Switch
58-103	Type F Crossbar Switch
58-108	Type P-TV Crossbar Switch
58-111	Solenoid Actuator
57-107	Types Q & R Pushbutton Crossbar Switches
55-201	Principles of Operation — Type P
55-202	Principles of Operation — Type A
55-203	Principles of Operation — Type F
58-216	High Speed, Low Level Scanner
58-502	Scanner Questionnaire
58-217	Model SC4 Self-Stepping Scanner
58-503	Type A Crossbar for Video Switching
58-212	Timing Data — Type A & F Switches
57-207	Contact Protector Data
57-211	Crosstalk and Impedance Data — Type P
58-403	Field Service Information
SDS-101	Switch Designation Code
SDS-108	Coil Data

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BROOKDALE ENGINEERING	#6 Beacon St., Rm. 705	Boston	Massachusetts	CApitol 7-1515
R. P. KENNEDY	182 Mayflower Drive	Rochester	New York	BRowning 1-6322
ELECTRO-REP	22,519 Telegraph Rd.	Detroit	Michigan	ELgin 6-7211
SCIENTIFIC SALES ENGINEERING CO.	2162 Piedmont Rd., N.E. 918 Shell Isle Blvd. 2831 So. Main St.	Atlanta St. Petersburg Winston-Salem	Georgia Florida N. Carolina	TRinity 3-2475 ST. P 5-7874
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McLEOD & RAYMOND	5403 E. Evans Ave.	Denver	Colorado	SKyline 6-1589
LUSCOMBE ENGINEERING	1129 So. Fair Oaks Ave. 130 North B St.	Pasadena San Mateo	California California	RYan 1-3386 DIamond 2-7057
AIREQUIPMENT SALES	P. O. Box 35012	Dallas	Texas	FLeetwood 2-6943
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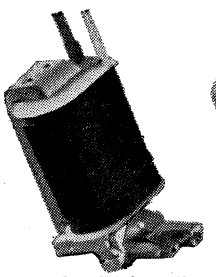
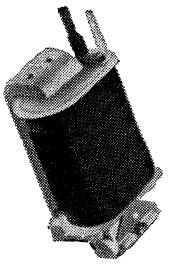
ROCKE INTERNATIONAL (EXPORT)	13 E. 40th St.	New York	New York	MUrray Hill 9-0200

A NEW CONCEPT IN ACTUATORS — *Available with both Push & Pull Linkages*



Arm Set for Pull



Arm Set for Push

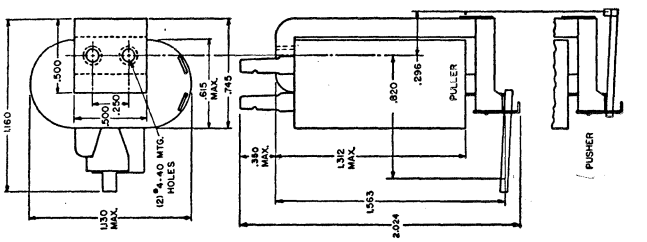
FOR

- Reciprocating Motion
- Vibration Generators
- Rotary Step Motion
- Model Actuators
- Valve Actuators
- Remote Switches
- Release Catch Mechanisms
- Computation and Automation

BY

- Virtue of these outstanding features
- Miniature size — 1.4 cubic inches
- Lightweight — 50 grams
- Optimum power for size
- Low input — 1.8 watts

MAGNET DIMENSIONS



- Fast Operation — 7 milliseconds at normal voltages
- Cool continuous operation
- Easy changeover from pull to switch

JAMES CUNNINGHAM, SON & CO., INC. Rochester 8, N. Y. Tel. BAker 5-7240

See YELLOW SECTION for local offices, telephones, etc.

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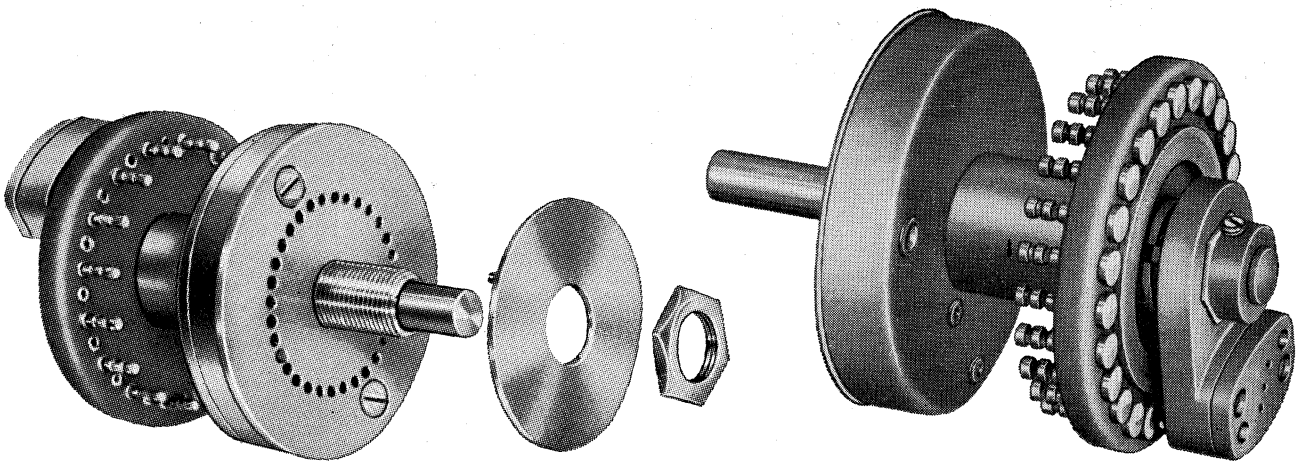
the new DAVEN adjustable stop switch



For flexibility in all types of circuit experimentation, laboratory work, breadboard setups, and in circuitry where the exact number of switch positions might be changed at a later date, the new DAVEN Rotary Switch with an Adjustable Stop is ideal. This unit has a maximum of either 24 positions with 15° spacing or 32 positions with 11¼° spacing. One, two, three, and four pole units are available in this design.

In common with all other DAVEN Rotary Switches, the Adjustable Stop Switch features sturdy, dependable construction; large silver alloy contacts and slip rings; tamper-proof, KNEE ACTION silver alloy rotor blades; high grade, accurately machined dielectric; and gold flashed turret-type terminals for ease of soldering.

STURDY, DEPENDABLE CONSTRUCTION FOR MILITARY USE

DAVEN switches are constructed to meet and exceed applicable military specifications on humidity, moisture, environment, temperature cycling, contact resistance, life, vibration and shock.

MILITARY SPECIFICATIONS

There is no specific military specification written around this switch. However, these switches will meet and exceed applicable paragraphs of MIL-S-3786, MIL-E-5272 and MIL-T-945A.

ELECTRICAL SPECIFICATIONS

Continuous current carrying capacity (not make or break) is 10 amperes. Switches are smooth operating, positive action, rotary selector type. Switch contact resistance remains extremely uniform and is in the order of .003 ohms. The capacitance between switch contacts, and between switch contacts and return slip rings, varies from 0.4 mmf to 2.5 mmf depending on the switch. Breakdown voltage between contacts and slip ring is 3000 Volts Peak.

ENCLOSED, KNEE ACTION, MULTI-LEAF ROTORS

Each leaf of the enclosed switch arms employs separate pressure springs to provide self alignment, KNEE ACTION and equalized pressure, to insure low and uniform contact resistance. The KNEE ACTION rotor is of tamper-proof construction.

All DAVEN Adjustable Stop Switches listed in the following section employ enclosed KNEE ACTION blades.

HIGH GRADE ACCURATELY MACHINED DIELECTRIC

Switch contacts, slip rings and rotary blades are securely mounted in high grade, low moisture absorption type dielectric. Under normal service conditions, the leakage between contacts remains in the thousands of megohms.

ACCURATE CONTACT POSITIONING (DETENTS)

Positioning is obtained by a spring loaded, free turning roller and a large accurately fabricated stainless steel gear, permanently swaged to the stainless steel shaft.

ADJUSTABLE IN THE FOLLOWING COMBINATIONS:

ADJUSTABLE STOP WITH A MAX. OF 24 POSITIONS	15° BETWEEN POSITIONS	SHORTING
11 CM-24A	1 POLE	24 POS. MAX. PER POLE
21 CM-12A	2 POLES	12 POS. MAX. PER POLE
31 CM-8A	3 POLES	8 POS. MAX. PER POLE
41 CM-5A	4 POLES	5 POS. MAX. PER POLE

ADJUSTABLE STOP WITH A MAX. OF 12 POSITIONS	30° BETWEEN POSITIONS	NON-SHORTING
11 CB-12A	1 POLE	12 POS. MAX. PER POLE
21 CB-6A	2 POLES	6 POS. MAX. PER POLE
31 CB-4A	3 POLES	4 POS. MAX. PER POLE
41 CB-3A	4 POLES	3 POS. MAX. PER POLE

ADJUSTABLE STOP WITH A MAX. OF 32 POSITIONS	11¼° BETWEEN POSITIONS	SHORTING
12 CM-32A	1 POLE	32 POS. MAX. PER POLE
22 CM-15A	2 POLES	15 POS. MAX. PER POLE
32 CM-10A	3 POLES	10 POS. MAX. PER POLE
42 CM-7A	4 POLES	7 POS. MAX. PER POLE

ADJUSTABLE STOP WITH A MAX. OF 16 POSITIONS	22½° BETWEEN POSITIONS	NON-SHORTING
12 CB-16A	1 POLE	16 POS. MAX. PER POLE
22 CB-8A	2 POLES	8 POS. MAX. PER POLE
32 CB-5A	3 POLES	5 POS. MAX. PER POLE
42 CB-4A	4 POLES	4 POS. MAX. PER POLE

THE DAVEN CO.
LIVINGSTON, NEW JERSEY

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SWITCHING PROBLEMS?...

in aircraft, missile, electronic, or industrial applications

ELECTROSNAP ENGINEERING CAN HELP YOU

Qualified engineering can save you time, money and effort on any switch application — with "standard" switches achieving specified performance demands.

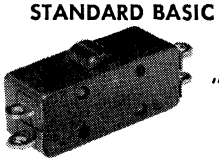
Thousands of switch configurations available for "off-the-shelf" delivery.

SUB-MINIATURE BASIC SWITCHES

E4-100 Series

Actual size: 25/32" x 1/4" x 25/64"
Single-Pole, Double-Throw
5 amps.; 125/250 V., A.C.
Temp. Range —65° to +350° F.
Conforms to Military Specifications
Operating Characteristics can be tailored to meet any requirements

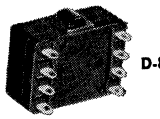
STANDARD BASIC SWITCHES



"S" Type

Actual size: 1-1/4" x 1/2" x 1/2"
Single-Pole, Double-Throw, 2 circuit
10 amps.; 125/250 V., A.C.
Conforms to Military Specifications
Various standard switch characteristics can be developed to meet unlimited application needs.

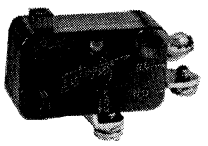
MULTI-POLE SWITCHES



D-8 Series

Actual size: 1-1/4" x 1/2" x 7/8"
Double-Pole, Double-Throw, 4 circuit
15 amps.; 125/250 V., A.C.
10 amps.; 30 V., D.C., Ind.
Temp. range —100° to +375° F.
Conforms to Military Specifications
Simultaneous operation; Triple-Pole (K3 Series) also available

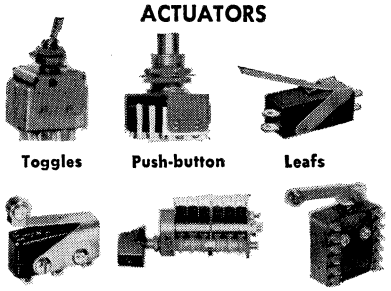
MINIATURE BASIC SWITCHES



F2 Series

Actual size: 1-3/32" x 13/32" x 5/8"
Single-Pole, Double-Throw
10 amps.; 125/250 V., A.C., 60 cycle
10 amps.; 28 V., D.C., Ind. or resistive
Temp. range —100° to +350° F.
Conforms to Military Specifications

ACTUATORS



Toggles Push-button Leafs

Roller leafs Rotary Gangs Levers

Hundreds of "standard" styles. "Specials" engineered to your requirements.

ENVIRONMENT FREE

Push-button, panel mounted
Single-Pole, Double-Throw, 2 circuit
4 amps.; 28 V., D.C., Res.
Temp. range —100° to +221° F.
Conforms to Military Specifications
Mounting adjustable within 7/8", wire locking
Sealed against all environment conditions
High vibration and shock resistance

EF-100 Series H11-2

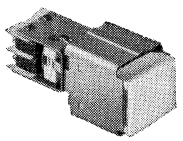
Sealed Basic Subminiature mounts anywhere for exposed control or indicating applications.

HERMETICALLY SEALED LIMIT SWITCHES

H1-8

Rotaries and subminiatures with 500 various actuators
Double-Pole, Double-Throw, 4 circuit
10 amps.; 125/250 V., A.C.
15 amps.; 28 V., D.C.
Temp. range —65° to +400° F.
Sealed against all environment conditions
Conforms to Military Specifications

LIGHTED PANEL SWITCHES

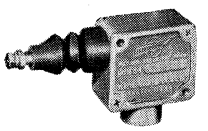


C-6

C-6 Series — combines 2-piece, color coded push-button, pilot-light and switching unit in one space-saving component, panel mounted. Use singly or "stacked". Momentary and alternate action.

C-8 Series—combines 3-color monitoring and switching in one compact, modular unit, panel mounted. Ten second lamp module replacement from panel front. Variety of colors available.

DIE CAST ENCLOSED SWITCHES



ES4 Series

Single-Pole, Double-Throw, 2 circuit
10 amp.; 125/250 V., A.C.
Temp. range —67° to +160° F.
Housing resists entrance of oil, dust, moisture
One-Way Impulse action type also available

NEED A SPECIAL SWITCH?

Often standard switches can be modified to do the job. If a special switch is required, Electrosnap engineering can create new switches in any quantity to your specifications. Send us your problem . . . our answer can save you time and money.

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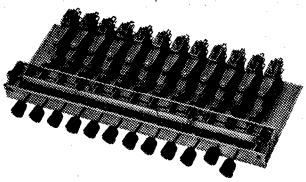
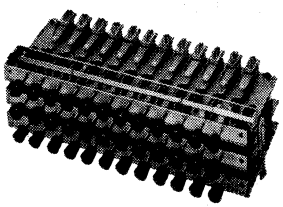
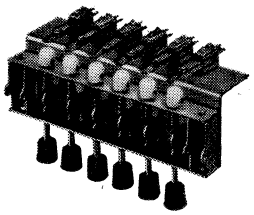
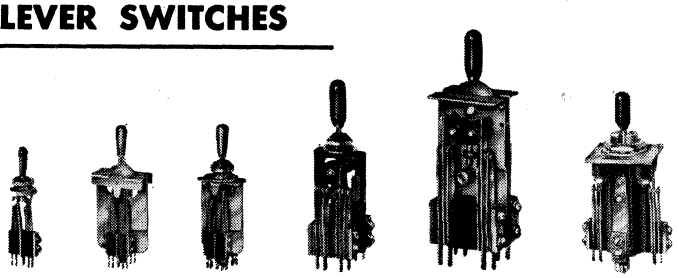
PUSH BUTTON SWITCHES

Send for Bulletin EM-300

LEVER SWITCHES



Send for Bulletin EM-100

FOOT SWITCHES

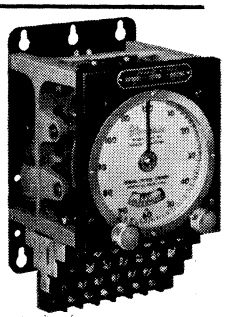
Send for Bulletin EM-200

Switching
Timing
Control Panels

For complete description and specifications on our complete line of products, please see our catalog in the current edition of . . .
The Radio Electronic MASTER

PRODUCTS OF PROGRESS

TIMERS



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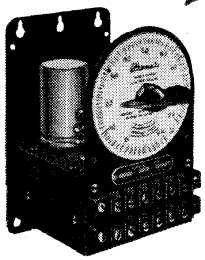
Synchronous-motor Timers
Electronic Timers



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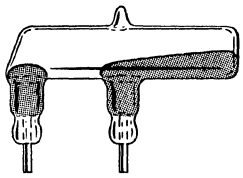
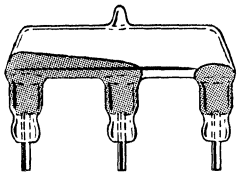
GORDOS

MERCURY SWITCHES

mean controlled power with controlled quality

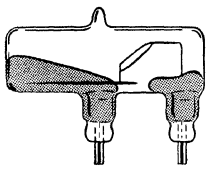

HG 721 LO

HG 253 LO


HG 719 LO

HG 217 LO

HG 609 LO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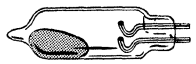
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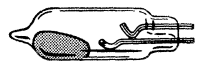
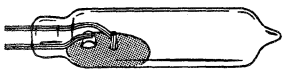

HG 431 LO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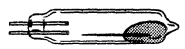
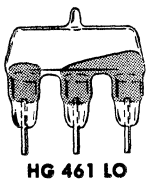
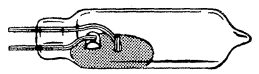
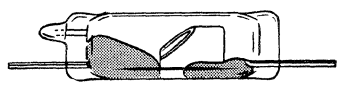
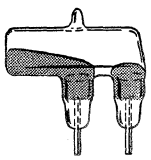

HG 251 LO

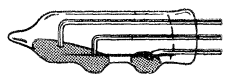

HG 461 LO

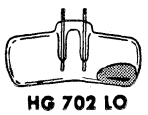

HG 454 LO

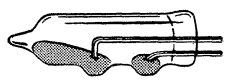
HG 252 LO

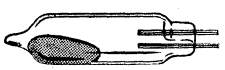

HG 471 LO

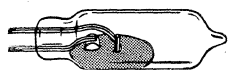

HG 421 LO

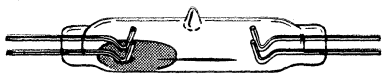

HG 420 LO


HG 702 LO

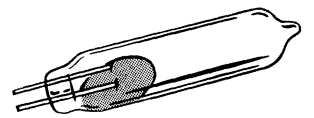

HG 410 LO

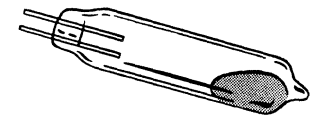

HG 441 LO


HG 445 LO


HG 628 LO

Items Shown Above Approximately One Half Size.


TILTED DOWN — ON


TILTED UP — OFF

Gordos mercury switches have positive, trouble free action with no moving parts to wear out. Only the mercury moves, and all that is needed is a tilting motion with little operating force required. Installation of Gordos switches is never complicated.

SPECIFICATIONS

STYLE	RATING	ACTION	DIFF. ANGLE	MAX. HEIGHT INCHES	MAX. LENGTH INCHES	MAX. DIAMETER INCHES	WEIGHT IN OUNCES
HG 217 LO	3	SPST	12°	—	1½	.335	.16
HG 609 LO	1	SPDT	12°	5/8	1¾	.335	.18
HG 445 LO	10	SPST	10°	—	2¼	.612	.67
HG 452 LO	10	SPST	3°	—	2⅞	.612	.70
HG 454 LO	10	SPST	5°	—	2½	.612	.60
HG 628 LO	5	SPDT	7°	7/8	3	.542	.56
HG 482 LO	45	SPST	5°	1 21/32	2 5/16	.688	2.15
HG 471 LO	25	SPST	6°	—	2¾	.688	1.4
HG 461 LO	15	SPDT	12°	1⅜	1 7/16	.480	.80
HG 421 LO	15	SPST	8°	1⅜	1 7/16	.480	.63
HG 721 LO	25	SPST	8°	1⅞	2⅜	.549	1.2
HG 719 LO	25	SPDT	20°	1⅞	2⅜	.549	1.8
HG 702 LO	1	SPST/ Pulse	12-20°	1	1⅜	.513	.26
HG 410 LO	15	SPST	12°	5/8	2¼	.549	.55
HG 420 LO	5	SPDT	12°	5/8	2¼	.549	.50
HG 441 LO	3	SPST	Centri-fugal	—	2¼	.549	.55
HG 431 LO	5	SPST	4°	—	2 5/16	.506	.44
HG 432 LO	5	SPST	5°	—	2 5/16	.506	.39
HG 252 LO	2	SPST	12°	—	1⅜	.335	.16
HG 251 LO	1	SPST	3°	—	1¾	.335	.16
HG 253 LO	MA.	SPST	5°	—	1⅜	.335	.16

GORDOS Hg

GORDOS CORPORATION

250 GLENWOOD AVENUE • BLOOMFIELD, NEW JERSEY • PILGRIM 3-4800

See YELLOW SECTION for Local Offices, Telephone, etc.

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MINIATURE ROTARY TAP SWITCHES

SERIES 24

For Precision Requirements

Fully enclosed tap switch designed for high reliability military and commercial applications. Accurate indexing and best detent action. One pole per deck, 1 to 10 decks, 2 to 9 positions with built-in stop, or 10 positions continuous rotation, shorting or non-shorting contacts, 36° indexing. Rating: break 1 ampere, 115 VAC, resistive, or carry 5 amperes. ⅜-32 threaded and keyed bushing, 1 31/32" O.D. includes solder terminals, 5/16" long shaft flatted opposite contacting position. Illustration shows difference between single deck and multiple deck construction. Studs of multi-deck units of 5 decks and over extended ¼" at rear to facilitate double-ended mounting. Housing of molded melamine and phenolic materials; studs, shaft, end plates of 303 stainless steel; single deck cover, bushings, nuts, of brass, cadmium plated .0003" to .0005" thick; special heavy silver plate on contacts. Have passed military tests such as 125G shock, 10 - 500 cps vibration, 100 hours salt spray, explosion, sand and dust, 28 day fungus exposure, humidity; will operate —55°C to +85°C, and up to 50,000 feet at rated load. Supplied with mounting nut. Non-turn washer and lockwasher, special shafts and bushings, etc., available on special order.

SERIES 6

Miniature Concentric Shaft Switch

Fully enclosed tap switch permitting new flexibility, and allowing 2 switches to be mounted in space normally occupied by one. Each shaft controls from one to three decks, with two to ten shorting, or non-shorting, positions per deck. Can be furnished in over 6500 combinations of decks and positions. Only 1" in diameter including solder lugs.

Rating: Break 1 amp. 115 VAC resistive, carries 5 amps. ⅜-32 threaded and keyed bushing, supplied with knobs and mounting nut.

Spring Return Rotary Switch

Same as Series #24 except momentary contact, spring return to either side of center position. Available 1 to 3 decks (incl.), one pole per deck, shorting or non-shorting contacts. Also available with up to 4 detent positions plus spring return position to either right or left of detent position.

PUSH BUTTON SWITCHES

LIGHTED PUSH BUTTON SWITCH

Equipped with a NE2 neon bulb, with light circuit independent of switch circuit. Switch rated at 1 amp. 115 VAC with approximate life of 500,000 operations. Normally open. Momentary contact. ⅜-32 threaded bushing, 7/16" max dia., 1¼" behind panel length. Fine silver contacts. Solder type terminals.

SNAP ACTION SWITCH

Snap action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Rating: 10 amperes, 115 VAC, resistive. Life approximately 50,000 operations. 15/32-32 threaded bushing, 7/8" O.D., 1 59/64" overall length including solder type terminals.

No. 2201—Normally Open (Red Button)
No. 2202—Normally Closed (Black Button)

SILENT ACTION SWITCH

Silent action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Rating: ½ ampere, 115 VAC, resistive, for approximately 800,000 operations, or 1 ampere for approximately 180,000 operations. 15/32-32 threaded bushing, 51/64" O.D., 1 17/32" overall length including solder type terminals.

No. 4001—Normally Open (Red Button)
No. 4002—Normally Closed (Black Button)

DOUBLE POLE SWITCH

Silent action, Normally Open, momentary contact, DPST, push button switch. Rating: ½ ampere, 115 VAC, resistive. Life over 100,000 operations. Button and housing molded phenolic. 51/64" O.D., 1 17/64" overall length including solder terminals.

No. 35-1 (Red Button)

MINIATURE PUSH BUTTON SWITCH

Silent action, momentary contact, Normally Open, SPST, switch rated at ¼ ampere, 115 VAC, resistive. Life approximately ½ million operations. Button and housing molded phenolic. 5/16-32 threaded bushing, ½" O.D., 1 3/64" overall length including solder terminals.

No. 23-1 (Red Button)

SUB-MINIATURE SWITCH

Silent action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Conservatively rated at 1/10 ampere, 115 VAC, resistive. Life approximately ½ million operations. Button and housing molded phenolic. ¼-32 threaded bushing, ⅜" O.D., 63/64" overall length including solder terminals.

No. 30-1—Normally Open (Red Button)
No. 30-2—Normally Closed (Black Button)

ULTRA-MINIATURE SWITCH

Silent action, momentary contact, Normally Open, SPST, push button switch. Conservatively rated at 1/10 ampere, 115 VAC, resistive. Life over 1 million operations. Button and base molded phenolic. ¼" O.D., 19/32" overall length including solder terminals.

No. 39-1 (Red Button)

SOLDERLESS WIRING SWITCH

Silent action, Normally Open, momentary contact, SPST, push button switch. Built-in receptacles for A-MP #53 taper pins plus "in-and-out" wiring provision on one side. Rating: ½ ampere, 115 VAC, resistive. Life over 100,000 operations. Button and housing molded phenolic. ⅜-32 threaded mounting bushing and knurled nut black anodized aluminum. Lockwasher provided. ½" O.D., 31/32" overall length.

No. 34-1 (Red Button)

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KULKA

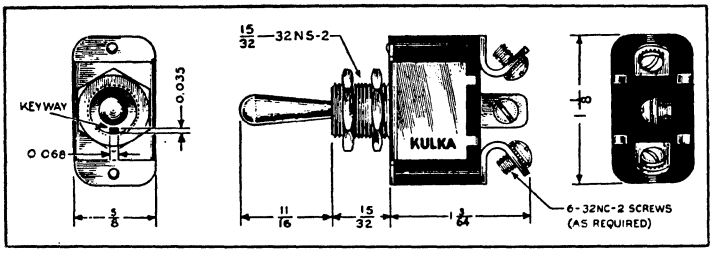
ELECTRONIC SWITCHES

Made to Joint Army and Navy specifications: JAN-S-23, MIL-S-21195, MIL-S-6745 and MIL-S-3950A, for electronic, aircraft and communication uses.

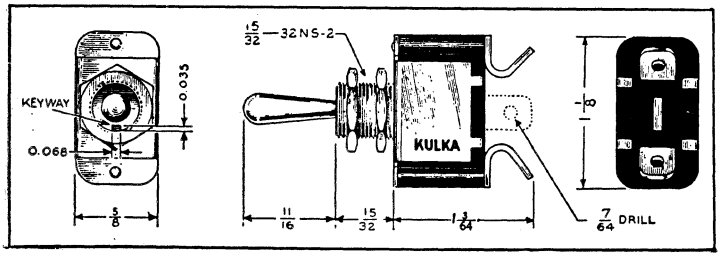
Designed for quick, easy, one-hole mounting. Ruggedly built for long, trouble-free service. Operating cycles are above minimum required by specifications. In SPST, SPDT, DPST and DPDT types. DC, and AC up to 1600 cycles.

All metal parts treated against corrosion. Switches come with mounting nuts and sleeve lock-washer. All switches made to MIL-S-3950A and MIL-S-6745 are supplied with toggle seal. Units are tested regularly by quality control in production procedure, insuring top performance.

Write for Kulka Catalog on wiring devices.



ST 40 SERIES — WITH SCREW TERMINALS



ST 42 SERIES — WITH SOLDER LUGS

SINGLE POLE SWITCHES

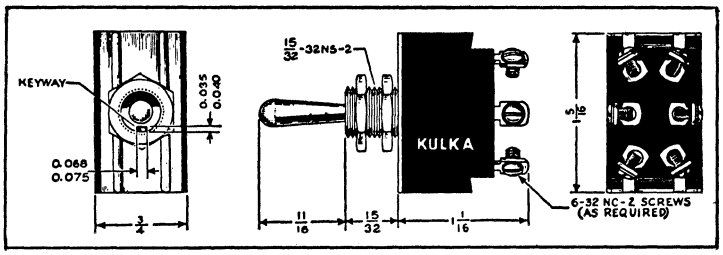
Former MS-35058, Screw Term. from —1 to —8; Solder Term. from —9 to —19. Kulka Catalog Nos. shown, apply only to column two.

KULKA CATALOG NUMBERS	MIL-S-3950A Screw Term MS-3058	FORMER MS NO. MS-35058	MIL-S-6745 Screw Term AN-3021	JAN-S-23 Screw Term.	JAN-S-23 and MIL-S-21195 Solder Term.	CIRCUIT CHARACTERISTICS		
						ONE EXTREME POSITION	CENTER POSITION	OTHER EXTREME POSITION
3401	—21	—5 —16	—1	ST40E	ST42E	ON	OFF	ON
3402	—22	—9	—	ST40A	ST42A	ON	NONE	OFF
3403	—23	—4 —15	—3	ST40D	ST42D	ON	NONE	ON
3404	—24	—1 —12	—10	—	—	ON	OFF	NONE
3405	—25	—3 —14	—12	—	—	ON	MOM. OFF	NONE
3406	—26	—6 —17	—	ST40F	ST42F	ON	NONE	MOM. ON
3407	—27	—7 —18	—7	ST40G	ST42G	MOM. ON	OFF	MOM. ON
3408	—28	—2 —13	—11	—	—	NONE	OFF	MOM. ON
3409	—29	—10	—	ST40B	ST42B	ON	NONE	MOM. OFF
3410	—30	—11	—	ST40C	ST42C	OFF	NONE	MOM. ON
3411	—31	—8 —19	—5	ST40H	ST42H	ON	OFF	MOM. ON

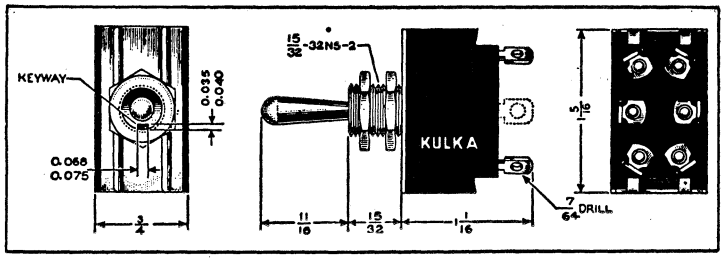
DOUBLE POLE SWITCHES

Former MS-35059, Screw Term. —1 to —8; Solder Term. —9 to —19. Kulka Catalog Nos. apply to column two.

KULKA CATALOG NUMBERS	MIL-S-3950A Screw Term. MS-35059	FORMER MS No. — MS-35059	MIL-S-6745 Screw Term. AN-3027	JAN-S-23 Screw Term.	JAN-S-23 and MIL-S-21195 Solder Term.	CIRCUIT CHARACTERISTICS		
						ONE EXTREME POSITION	CENTER POSITION	OTHER EXTREME POSITION
3501	—21	—5 —16	—1	ST50P	ST52P	ON	OFF	ON
3502	—22	—9	—	ST50K	ST52K	ON	NONE	OFF
3503	—23	—4 —15	—3	ST50N	ST52N	ON	NONE	ON
3504	—24	—1 —12	—9	—	—	ON	OFF	NONE
3505	—25	—3 —14	—10	—	—	ON	MOM. OFF	NONE
3506	—26	—6 —17	—6	ST50R	ST52R	ON	NONE	MOM. ON
3507	—27	—7 —18	—7	ST50S	ST52S	MOM. ON	OFF	MOM. ON
3508	—28	—2 —13	—11	—	—	NONE	OFF	MOM. ON
3509	—29	—10	—	ST50L	ST52L	ON	NONE	MOM. OFF
3510	—30	—11	—	ST50M	ST52M	OFF	NONE	MOM. ON
3511	—31	—8 —19	—8	ST50T	ST52T	ON	OFF	MOM. ON



ST 50 SERIES — WITH SCREW TERMINALS



ST 52 SERIES — WITH SOLDER LUGS

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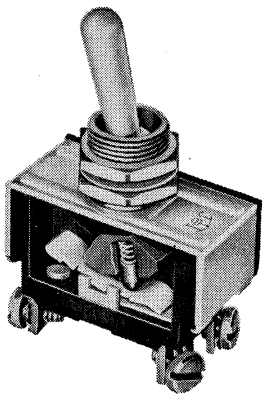
J-B-T INSTRUMENTS, INC.

TOGGLE SWITCHES — HEAVY DUTY — SINGLE-HOLE

GOVERNMENT-QUALITY TYPES DESIGNED FOR JAN-S-23, DDAX SERIES, MIL-S-21195 (Ships) AND (WITH TOGGLE SEALS AND OTHER VARIATIONS) MIL-S-6745, AN-S-20a, AND MIL-S-3950A. REGULARLY TESTED TO MEET ADVERSE OPERATING CONDITIONS



Overload . . . Tested to make and break at 50% overload for brief periods. To assure performance of these switches with their comparatively heavy current ratings, J-B-T features ample size **solid coin silver contacts and rocker arms** instead of clad or brazed construction. Contact resistance is under 0.005 ohms. High dielectric exceeds 1000 volts r.m.s. at 60 cycles at sea level.

Cold and Heat . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at —85°F to 185°F.

Vibration and Shock . . . No momentary make or break or mechanical damage during severe shake and 75 G's drop tests.

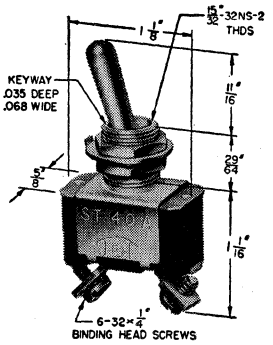
High Humidity . . . Materials, dull finish on outside metal parts (per Armed Services specifications) and lubricant enable switches to withstand tropical climates.

Salt . . . Meet 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum of JAN-S-23.

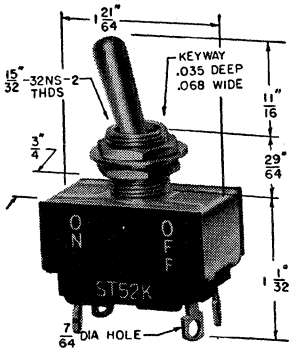
Rugged Service . . . Generously proportioned and substantially built for extra life. For instance, both screw-type terminals and solder lugs easily withstand a 30 pound pull test. Operating cycles far in excess of minimum specified as acceptable. Quality standards are maintained by in-plant production testing.

20 AMP. — HEAVY DUTY

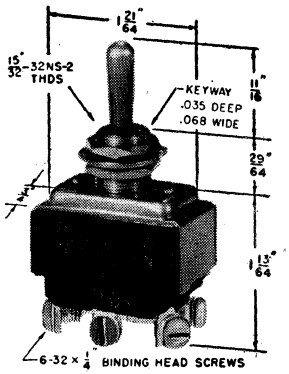
This page covers 114 models of toggle switches nominally rated at 20 amp. at 125 VAC, and 10 amp., 250 VAC, and other higher and lower ratings where specified in JAN-S-23 or other pertinent specifications.



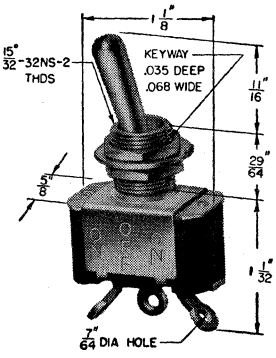
(2 terminals sc.) ST40A, B, C
(3 terminals sc.) ST40D, E, F, G, H



(4 terminals sc.) ST50K, L, M
(6 terminals sc.) ST50N, P, R
(4 terminals s.l.) ST52K, L, M
(6 terminals s.l.) ST52N, P, R



(6 terminals sc.) ST50S, T
(6 terminals s.l.) ST52S, T



(2 terminals s.l.) ST42A, B, C
(3 terminals s.l.) ST42D, E, F, G, H

CIRCUIT DIAGRAM AND TYPE	MODEL NUMBER — SCREW TERMINAL: JAN-S-23	MIL-S-6745 See Note A	MIL-S-3950 See Note A	MIL-S-3950A See Note A	SOLDER LUG: JAN-S-23 & MIL-S-21195 (Ships)	MIL-S-3950 See Note A	CIRCUIT ARRANGEMENT A	B	C KEYWAY
SPST	ST40A	AN3021-2	—	MS35058-22	ST42A	MS35058-9	On	None	Off
	ST40B	AN3021-9	—	MS35058-29	ST42B	MS35058-10	On	None	Off*
	ST40C	AN3021-8	—	MS35058-30	ST42C	MS35058-11	Off	None	On*
	—	AN3021-10	MC35058-1	MS35058-24	—	MS35058-12	On	Off	None
2 terminals	—	AN3021-11	MS35058-2	MS35058-28	—	MS35058-13	None	Off	On*
	—	AN3021-12	MS35058-3	MS35058-25	—	MS35058-14	On	Off*	None
SPDT	ST40D	AN3021-3	MS35058-4	MS35058-23	ST42D	MS35058-15	On	None	On
	ST40E	AN3021-1	MS35058-5	MS35058-21	ST42E	MS35058-16	On	Off	On
	ST40F	—	MS35058-6	MS35058-26	ST42F	MS35058-17	On	None	On*
	ST40G	AN3021-7	MS35058-7	MS35058-27	ST42G	MS35058-18	On*	Off	On*
3 terminals	ST40H	AN3021-5	MS35058-8	MS35058-31	ST42H	MS35058-19	On	Off	On*
	—	AN3021-6†	—	—	—	—	On	Off	On*
DPST	ST50K	AN3027-2	—	MS35059-22	ST52K	MS35059-9	On	None	Off
	ST50L	AN3027-4	—	MS35059-29	ST52L	MS35059-10	On	None	Off*
	ST50M	AN3027-5	—	MS35059-30	ST52M	MS35059-11	Off	None	On*
	—	AN3027-9	MS35059-1	MS35059-24	—	MS35059-12	On	Off	None
	—	AN3027-11	MS35059-2	MS35059-28	—	MS35059-13	None	Off	On*
4 terminals	—	AN3027-10	MS35059-3	MS35059-25	—	MS35059-14	On	Off*	None
DPDT	ST50N	AN3027-3	MS35059-4	MS35059-23	ST52N	MS35059-15	On	None	On
	ST50P	AN3027-1	MS35059-5	MS35059-21	ST52P	MS35059-16	On	Off	On
	ST50R	AN3027-6	MS35059-6	MS35059-26	ST52R	MS35059-17	On	None	On*
	ST50S	AN3027-7	MS35059-7	MS35059-27	ST52S	MS35059-18	On*	Off	On*
6 terminals	ST50T	AN3027-8	MS35059-8	MS35059-31	ST52T	MS35059-19	On	Off	On*

† AN3021-6 same as AN3021-5 with jumper. * Momentary Position.

Note A: AN and MS types use internal sand dust toggle seal and high performance features involving extra cost; some models not regularly stocked

Note B: Specification MIL-S-3950 covering suffix numbers—19 and below, has been withdrawn by the Government, and is being superseded by MIL-S 3950A which has suffix numbers—21 and above. For heavy duty switches, specification MIL-S-3950A provides for screw terminals only. This type may be used for soldering by removing screws.

Note C: Dimensional data: All AN3021 switches, MS35058—1 thru 8, and MS35058—21 thru—31 have the same dimensions as ST40 switches as illustrated. MS35058—9 thru—19 have the same dimensions as ST42 switches as illustrated. All AN3027 switches and MS35059 switches are the same dimensionally as the ST50K switch as illustrated except AN3027-4, -5, -6, and -10; MS35059 -3, -6, 10, -11, -14, -17, -25, -26, -29 and -30, which are the same as the ST50S switch as illustrated.

For standard J-B-T products and quantity net prices, see authorized electronic parts distributors, and for further technical information, see current Radio-Electronic Master or request J-B-T Catalog 558-B.

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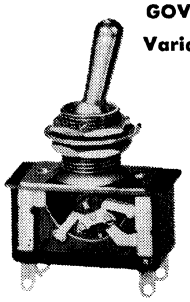
Instrument Quality J-B-T Components

J-B-T INSTRUMENTS, INC.

TOGGLE SWITCHES—MEDIUM DUTY—SINGLE-HOLE

GOVERNMENT-QUALITY TYPES DESIGNED FOR JAN-S-23, DDAX SERIES, AND MIL-S-21195 (Ships)

Variations in construction under development for MIL-S-3950A, Series MS25098 and MS25100



Single Pole • Double Pole
Single Throw • Double Throw
Side Connected • Rear Connected
Series ST12, ST13, ST16, ST17
Series ST22, ST23, ST26, ST27

6 AMP. — MEDIUM DUTY
This page covers 40 models of toggle switches nominally rated at 6 amp. at 125 VAC, 3 amp. at 250 VAC. 32 models have threaded bushings 29/64" in length; eight 1/4" in length.

Like J-B-T- Switches in the rotary, lever-action and heavy-duty toggle switch fields, this ST12-27 Series has quality as its first objective. J-B-T controls quality by doing its own designing, actual manufacturing and in-plant testing of production samples.

Sound Electrical Characteristics . . . Stationary contacts are brass, heavily silver plated; double wiping contacts are phospher bronze, heavily silver plated. Tested to meet 50% overload for brief periods. Contact resistance well under 0.01 ohm requirement of military specifications. High dielectric exceeds 1000 volts r.m.s., 60 cycles at sea level.

Cold and Heat . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at both low and high temperatures (—67°F to 185°F).

High Humidity . . . Materials, plating, construction and lubricant enable switch to withstand tropical climates.

Salt . . . Meets 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum.

Vibration and Shock . . . No momentary make or break or mechanical damage during stringent shake tests and 75 G's drop test.

Specified Plating . . . Dull finish plating on outside metal parts follows requirements of applicable Government Specifications. For substantial orders, other plating will be quoted on request.

Exceptionally Rugged Construction . . . Enclosed molded body, with no unused holes for side terminals . . . terminals in this series are all solder-type, hot-tin dipped, and withstand 5 pound pull test . . . operating cycles far in excess of minimum specified as acceptable.

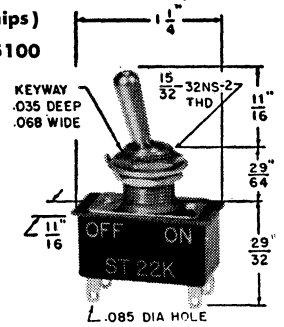
For Electrical Characteristics, Current Values and Full Information, Ask for Bulletin TS-6A.

CIRCUIT DIAGRAM AND TYPE	MODEL NUMBER: JAN-S-23 and MIL-S-21195 (Ships) 29/64" BUSHINGS	JAN-S-23 and MIL-S-21195 (Ships) 1/4" BUSHING	MIL-S-3950 29/64" BUSHINGS Note A Note B	MIL-S-3950A 29/64" BUSHING Note A Note B	CIRCUIT ARRANGEMENT A	B	C (KEYWAY)
SPST 2 terminals	ST12A	ST13A	MS25098-1	MS25098-22	On	None	Off
	ST12B	—	MS25098-2	MS25098-29	On	None	Off*
	ST12C	—	MS25098-3	MS25098-30	Off	None	On*
	ST16A	ST17A			On	None	Off
	ST16B	—			On	None	Off*
	ST16C	—			Off	None	On*
SPDT 3 terminals	ST12D	ST13D	MS25098-4	MS25098-23	On	None	On
	ST16D	ST17D			On	None	On
DPST 4 terminals	ST22K	ST23K	MS25100-1	MS25100-22	On	None	Off
	ST22L	—	MS25100-2	MS25100-29	On	None	Off*
	ST22M	—	MS25100-3	MS25100-30	Off	None	On*
	ST26K	ST27K	—	—	On	None	Off
	ST26L	—	—	—	On	None	Off*
	ST26M	—	—	—	Off	None	On*
DPDT 6 terminals	ST22N	ST23N	MS25100-4	MS25100-23	On	None	On
	ST26N	ST27N			On	None	On

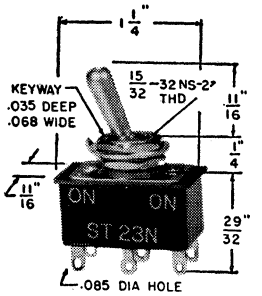
*Momentary Position

Note: A: Specification MIL-3950 covering suffix numbers—19 and below has been withdrawn by the Government, and is to be supeseded by MIL-S-3950A which has suffix numbers—21 and above. For medium duty switches MIL-S-3950A provides only for solder lug terminals.

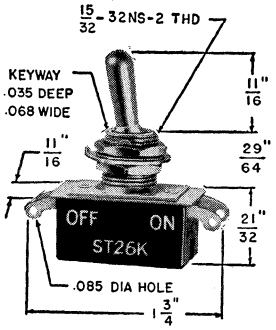
Note B: Differs in construction details and marking from JAN-S-23 and MIL-S-21195 (Ships), involves extra cost. All MS25083 and MS25100 have solder lug terminals. Sand and dust toggle seal is under test.



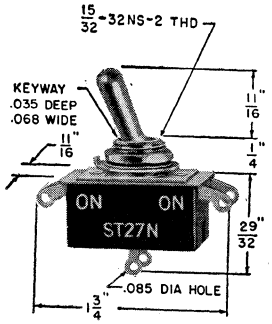
(2 terminals) ST12A, B, C
(3 terminals) ST12D
(4 terminals) ST22K, L, M
(6 terminals) ST22N



(2 terminals) ST13A
(3 terminals) ST13D
(4 terminals) ST23K
(6 terminals) ST23N



(2 terminals) ST16A, B, C
(3 terminals) ST16D
(4 terminals) ST26K, L, M
(6 terminals) ST26N



(2 terminals) ST17A
(3 terminals) ST17D
(4 terminals) ST27K
(6 terminals) ST27N

For standard J-B-T products and dealer net prices, see authorized electronic parts distributors, and for further technical information, see current Radio-Electronic Master or request J-B-T Catalog 558B.

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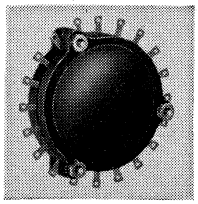
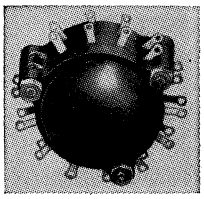
Instrument Quality J-B-T® Components

J-B-T INSTRUMENTS, INC., NEW HAVEN 8, CONN.

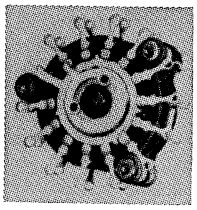
INSTRUMENT AND TESTER SWITCHES — MOLDED OR LAMINATED
14 or 20 Position Rotary — 3, 4, or 5 Position Lever Action



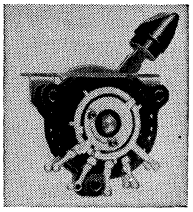
MS-20-1



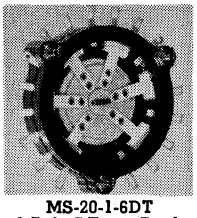
MS-14-2



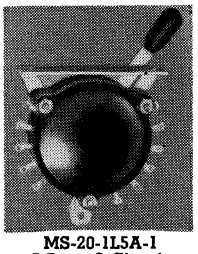
SS-14-2



SS-14-1L4F-2



MS-20-1-6DT
6-Pole DT per Deck



MS-20-1L5A-1
5 Pos., 2 Circuit

J-B-T instrument-type switches are used widely in quality test equipment, portable indicators, inspection set-ups, and electronic or aviation applications where trouble-free, dependable performance is of major importance. All models stem from three basic types, molded or laminated, 14 and 20 positions—designs which give extra contacts in minimum space.

Most models are manufactured in shorting make-before-break or non-shorting break-before-make. Laminated rotary type SS-14 is standard as 1 to 6 decks; molded rotary types MS-14 or MS-20 are shown as 1 to 6 decks in the catalog, but frequently are built longer to order. Laminated lever action switches are made in 1 or 2 decks, 3 or 4 positions, shorting or non-shorting, some with spring return. The molded lever, 5 position type, is described separately.

Features of these Switches

Reliability — Rigid, 3-post deck suspension, instead of the usual 2; all current carrying parts are brass or phosphor bronze, silver flashed and then heavily plated with fine silver to meet 100 hour salt spray test. For SS-14: ball bearing action, beryllium-copper balanced spring and sharp detent assure positive indexing. Springs of switches are generally replaceable without disturbing soldered connections. Laminated plastic decks and rotors selected for maximum mechanical and dielectric strength. Insulation resistance above 50,000 megohms. For MS-14 and MS-20: all moving contacts are enclosed to minimize dirt and corrosion. Rectangular drive shaft and a new balanced pawl give precision, positive indexing. Test results are available on request covering certain procedures of MIL-E-5272A on insulation resistance; high and low temperature and temperature shock; humidity; altitude; salt spray; vibration; fungus resistance; rain, sand and dust; explosion; shock; and endurance values.

Compactness — 14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2 3/32" circle. Each deck above first adds only 5/16".

Low Contact Loss — Double-grip collector arms, and large-area contacts, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

Ample Dielectric — AC or DC; normal carrying capacity (make-and-break) 1 amp., 125 volts inductive; maximum momentary capacity (not make-and-break) 5 amp.; maximum dielectric voltage between contacts 1,500 volts, R.M.S.; between decks and ground, 2000 volts R.M.S.

Reasonably Priced — Because of quantity production, standard models of these switches are priced a notch above the usual radio switch but substantially below various specialized brands.

Military and Other Variations — The following can be supplied on special order at extra cost: (a) laminated plastic, Type PBE-P per Spec. MIL-P-3115B; (b) vacuum impregnation of laminated rotors, decks, spacers, and ceramic spacers with approved fungicides; (c) hot tin dip on contact surfaces to be soldered; (d) 14 live positions, no off, (add suffix F, as SS-14-2F); (e) common position in non-standard location; (f) bonded construction in molded types, as mentioned below.

MOLDED 5-POSITION LEVER

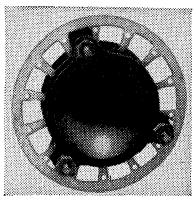
For the first time designers have available 5 live positions, 2-circuits per deck, in a molded lever action switch, the MS-20-1L5A-1 as illustrated. Characteristics are similar to the basic MS-20 series. For mounting information, request print SK-64.

MOLDED 6-POLE DOUBLE-THROW

The cut-away illustration of MS-20-1-6DT shows this unique switch which can simplify circuits, save space, and speed up switching. Available in 1 or 2 decks with 6-poles per deck, as DT (non-shorting) or DTS (shorting) Series, the DT models offer the same quality features as MS-20 and the DTS are similar, except rated 1500 volts R.M.S. between contacts and ground, 1000 volts R.M.S. between contacts.

BONDED RUGGEDIZED (B-TYPE)

The MS-14 and MS-20 series may be ordered with bonded construction as MS-14B- or MS-20B-. Thus, a 14-position two-deck switch is MS-14B-2. Cured laminations bond the adjacent decks for ruggedization, shock-proofing, and further enclosure. This superior quality feature adds 35¢ per deck to the catalog price.

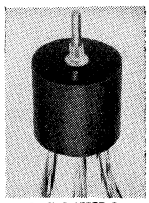


MS-14R-1
Unique Contact Ring

RING-CONTACT (R-TYPE)

To Minimize Soldering

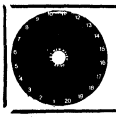
Molded MS-14R- (per print SK-88) and MS-20R- (per print SK-89) are available on special order with the outside edge of all contacts held together by an integral ring, as illustrated. This exclusive feature eliminates the need for soldering jumpers between adjacent contact positions and assures excellent connections. The ring can be easily cut out between contacts. Adds 7/32" to O.D. (Excellent for development work or assembly savings.) Illustrated above.



MS-14XX-3
Encapsulated

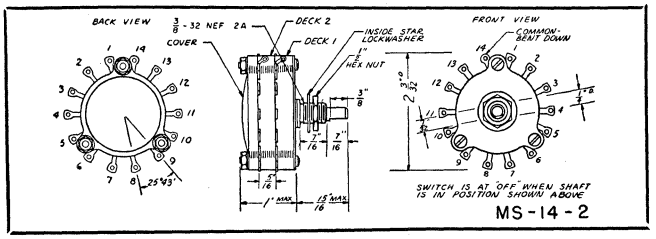
NEW ENCAPSULATED (XX-TYPE)

In response to requests for extra-high-reliability switches which are vaportight and fully encapsulated, J-B-T is producing on a custom basis switches of the MS-14XX- (diameter 2 3/8") and MS-20XX- series. Please request sketch SK-107 and data on properties of encapsulation material. Gland-sealed shaft and rear connections by coded wire pins, or AN connector will be quoted on request. Illustrated at right.

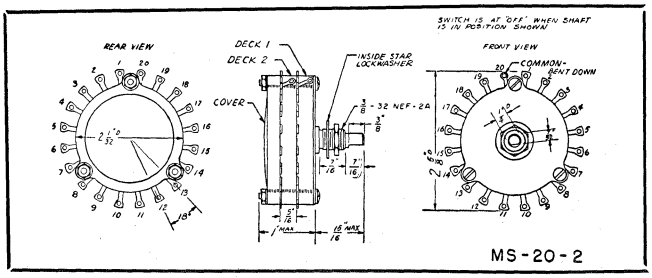


ETCHED DIAL PLATES

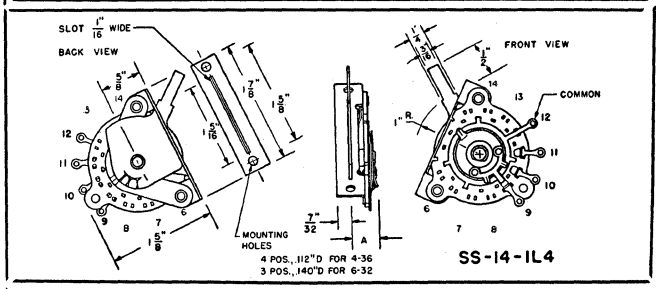
For EP-19, off through 19, illustrates the dial indexing plates available for the SS-14, MS-14 and MS-20 rotary series. All have dull black finish — with raised bright numerals — and are 2¾" in diameter.



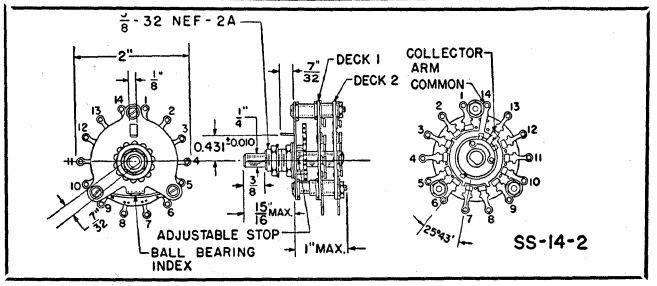
MS-14-2



MS-20-2



SS-14-1L4



SS-14-2

For standard J-B-T products and dealer net prices, see authorized electronic parts distributors, and for further technical information, see current Radio-Electronic Master or request J-B-T catalog 558 B.

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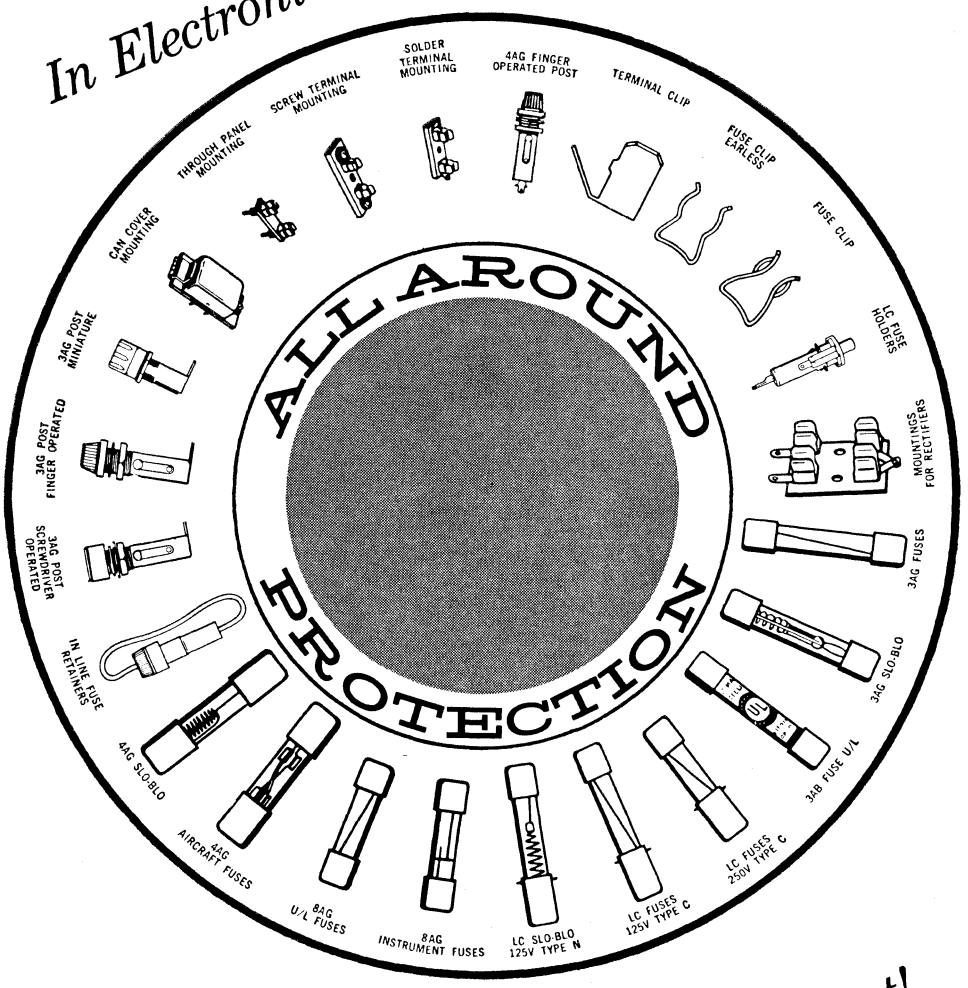

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MELETRON
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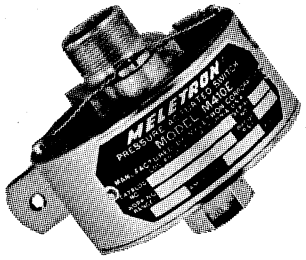
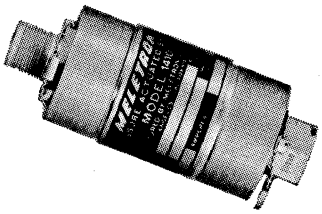
PRESSURE ACTUATED SWITCHES
SNAP-ACTION SWITCHES

DIAPHRAGM PRESSURE ACTUATED SWITCHES



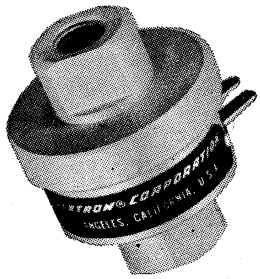
Variations of this model are available for sensing gage, differential and absolute pressure in systems ranging from 1.0 inch of water absolute to 1000 psi. The temperature range of these switches is —65° to +300°F. Adjustable ranges are from 1.0 inch of water absolute to 150 psi.

TIER TUBE PRESSURE ACTUATED SWITCHES



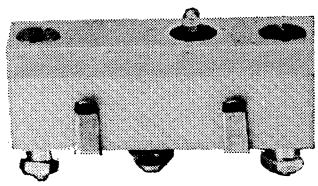
Models are available for sensing gage pressures in systems ranging from 4 to 10,000 psi. The temperature range of these switches is from —300° to +500°F. Adjustable ranges are from 4 to 5000 psi.

PNEUMATIC PRESSURE ACTUATED SWITCHES



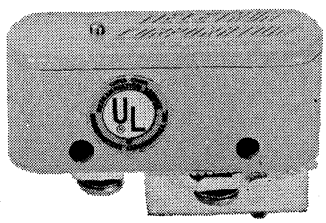
Models are available for sensing gage, differential and absolute pressure, in systems ranging from 0.5 psi absolute to 200 psi. The temperature range of these switches is from —65° to +160°F. Adjustable ranges are from 0.5 psi absolute to 80 psi.

MELEX SNAP-ACTION SWITCH



This high temperature, shock resistant, snap-action switch will operate in temperatures of from —300° to +500°F, under vibrations of from 50 to 2000 cycles per second, and withstand a shock of 40 to 50 G's. External dimensions are 1¼ inches long, 31/64 inch high and 5/16 inch wide. Switch is housed in a glass bonded mica case and incorporates a glass plunger which ensures repeatability under severe humidity and temperature variations.

MELEMATIC SNAP-ACTION SWITCH



This precision snap-action switch is designed and built for repeatability at very close movement differential in temperatures of —65° to +250°F. External dimensions are 1-5/16 inch long, 3/4 inch high and 11/16 inch wide. This switch conforms to the dimensional requirements of military standard MS 25026 and also carries the Underwriter's Laboratory Seal of Approval.

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See our catalog pages in this year's edition of
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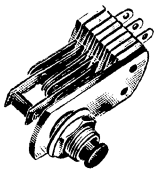
SWITCHCRAFT® INC.

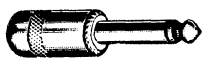
ELECTRONIC COMPONENTS

"LITTEL-JAX"

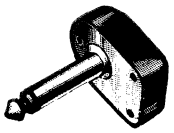
"LITTEL-SWITCH"



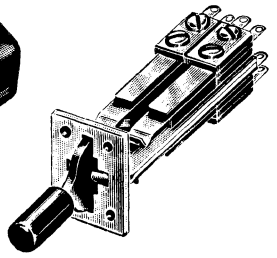
"FF-SWITCH"



"LITTEL-PLUG"

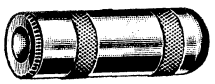


"FLAT-PLUG"

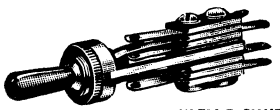


"TELEVER SWITCH"

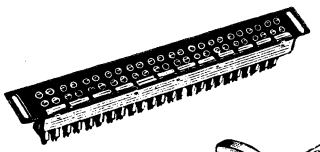
"BUTTON-SWITCH"



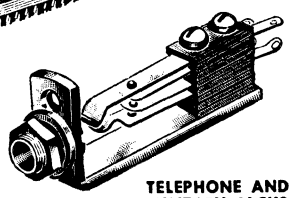
"EXTENSION JAX"



"LEV-R-SWITCH"



"JACK PANEL"



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For description, specifications, dimensional drawings, prices and additional illustrations on our complete line . . . refer to this year's edition of RADIO ELECTRONIC MASTER.

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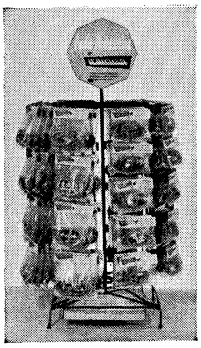
Switchcraft components are stocked in ample quantities by the leading Electronic Distributors. Contact them for immediate delivery or write to us for the name of our nearest distributor.

Special adaptations of our standard products can often be made without large tool cost. Our distributor will gladly discuss this with you or you may write direct to us for assistance.



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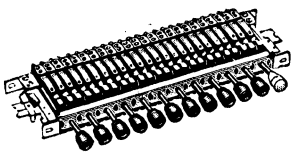
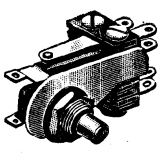
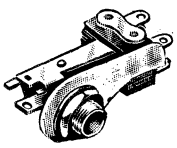


"MULTI-SWITCH"



"RS-SWITCH"



"SF-JAX"

SWITCHCRAFT INC.
5553 ELSTON AVENUE
CHICAGO 30, ILL., U.S.A.
Canadian Rep. Atlas Radio Corp., Ltd., 50 Wingold Ave., Toronto, Ontario

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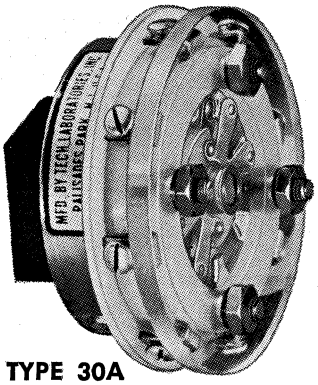
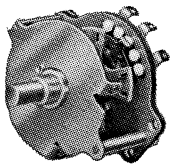
SWITCH TO TECH LABS for Precision Electrical Resistance Instruments

TAP SWITCHES



TYPE 30A
A rugged multi-pole control switch, 15-25 amp.



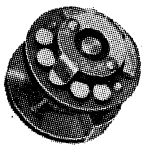
TYPE 2A & 2M
Standard control switch with phenolic or Melamine insulation, 3-5 amp, rating.

The following listings are limited to a few standard units only. All switches shown meet government specifications. For further information write or teletype us direct.
Type 30A is a heavy duty control switch with Nylon insulation. Furnished with either one or two poles per deck and there may be as many as 25-30 decks in a stack with several stacks geared together to give as many as 150 poles. The max. number of positions is 8 when single pole. Has screw terminals and will carry 25 amp.

Type 2A switch is our standard control switch for electronic instruments and equipment of better quality. Made in innumerable combinations with as many as four poles per deck and 24 positions. Phenolic insulation. Type 2M is identical except for Melamine insulation. Code No. "S" stands for "shorting" and "N" for "non-shorting."

Type	Code #	Diam.	Rating	No. Pos.	No. Decks	Pold.	Price
30A	30A1N7	2¾"	15A.	7	1	1	$15.00
30A	30A1N7-2	2¾"	15A.	7	2	1	$25.00
30A	30A2N3-6	2¾"	15A.	3	6	2	$71.00
2A	A1S24	1¾"	3A.	24	1	1	$ 4.50
2A	A4S5	1¾"	3A.	4	1	4	$ 5.25
2A	A1N10-2	1¾"	3A.	10	2	1	$ 7.00
2M	M1S24	1¾"	3A.	24	1	1	$ 5.00
2M	M4N3	1¾"	3A.	3	1	4	$ 5.75

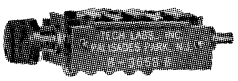
Miniature Tap Switches



TYPE 2B MINIATURE TAP SWITCH

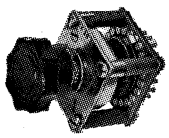
This switch is only 1" in dia., carries 3 amp. and is ruggedly built. Can be furnished with two or more decks, price similar to 2A.

CAM SWITCHES



TYPE 8A CAM SWITCH

A new development of great interest. Small size, long life and great flexibility. Have been made with from one to 30 contact springs. Will carry 3 amp. Standard unit has four contact springs and 10 positions, price $12.50.

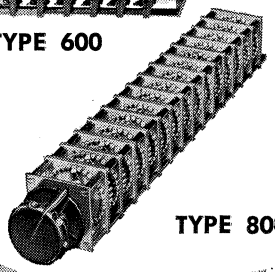


TYPE 10A TAP SWITCH

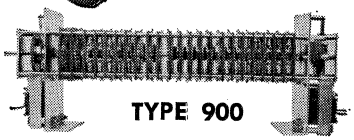
A multi-deck switch of small dimensions, 1⅜" sq. This is a precision switch designed to meet high requirements in smallest possible space. Up to 24 positions, shorting. Price approx. $10 per deck, plus frame $5.

SQUARE SWITCHES

TYPE 600



TYPE 800



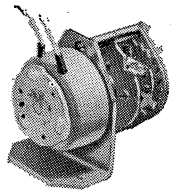
TYPE 900

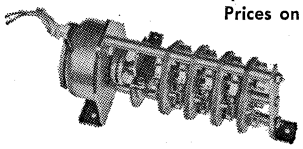
These standard rugged control switches are the stand-by for equipment calling for dependable switches in a hurry. Will meet all standard government specs. All parts carried in stock. An infinite number of combinations possible. Teletype your specs.

The price of the basic frame is the same for all, viz. $4.00 each. The type 600 and 800 are priced at $8.00 per deck plus frame price, and the type 900 switches are $9.50 per deck plus frame $4.00.

Type	Size	Rating	Max. Pos. Short.	Max. Pos. Non-Short.
600	1¾" sq.	5A.	24	12
800	2¼" sq.	5A.	32	16
900	2¾" sq.	10A.	48	24

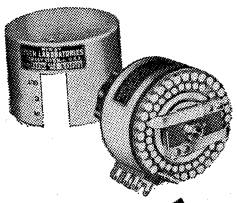
OTHER TECH LAB SWITCHES

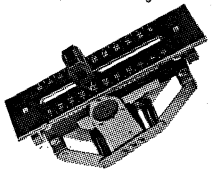




STEPPING SWITCHES

TECH LAB switches are now standard equipment in most missiles as well as in ground controls. Furnished sealed to meet all specs. Write for details. Prices on request.





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A complete line of audio and r.f. attenuators with both manual and REMOTE CONTROL. We will design components to meet your specific requirements, if standard units are inadequate. Please write for catalogue and send us your specs for estimate.

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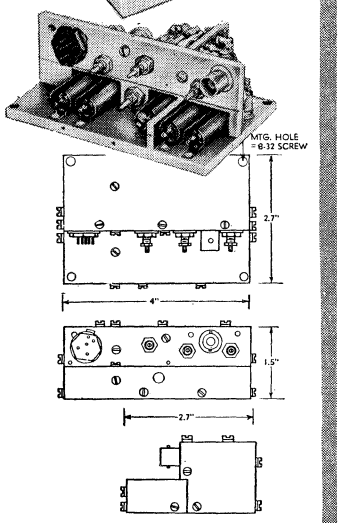
TELEMETRY TRANSMITTERS

★ LIGHTWEIGHT
★ COMPACT
★ DEPENDABLE

ADVANCED ELECTRONICS CORPORATION is in the production of FREQUENCY MODULATION TELEMETRY TRANSMITTERS currently in use in telemetering systems of operational missiles. Our design, development and manufacturing facilities are organized to produce telemetry transmitters to meet customer requirements.

The outputs available, range from 2 watt to 50 watt within the 215-260 mc band. Frequency deviation of 100 kc or 125 kc can be achieved with F.M. inputs down to .25 volts. Frequency stability is kept within .01% of carrier frequency, which is in accordance with existing I.R.I.G. standards. Our transmitters are characterized by low power consumption; extremely lightweight, rugged construction; excellent shock and vibrational properties; and operational temperature range of minus 35°C to plus 125°C.



SIZE: 1.5" x 2.7" x 4.0"
MOUNTING: Four 0.181" diameter holes on 3.687" x 2.437" mounting centers.
CASEMENT: Silver plated aluminum case.

TRANSMITTER MODEL T-2A 2 WATT POWER OUTPUT	TRANSMITTER MODEL T-10 10 WATT POWER OUTPUT	*R.F. AMPLIFIER MODEL R-10 10 WATT POWER OUTPUT
WEIGHT: Approx. 11 ozs.	WEIGHT: Approx. 24 ozs.	WEIGHT: Approx. 8 ozs.
VOLUME: 13 cubic inches	VOLUME: 50 cubic inches	VOLUME: 24 cubic inches
POWER REQUIREMENTS:	POWER REQUIREMENTS:	POWER REQUIREMENTS:
Plate: 200 VDC at 60 MA	Plate: 300 VDC at 75 MA	Plate: 300 VDC at 75 MA
Filaments: 10 watts DC or AC at 6.3 Volts or 26 Volts	200 VDC at 60 MA	Filaments: 6.3 VDC or AC
	Filaments: 6.3 VDC or AC	*Driven by 2 WATT TRANSMITTER

For further information, contact your ADVANCED ELECTRONICS Representative, or inquire direct.

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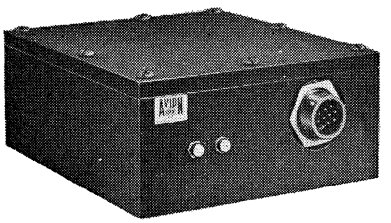
NEW



AVION

COMMUTATOR AMPLIFIER

zero common mode • low level drift free • broadband high reliability • all transistor

SPECIFICATIONS

INPUT VOLTAGE: 5 millivolts to 500 millivolts
Gain: 1 to 200

INPUT IMPEDANCE: 50K to 500K ohms (a function of frequency)

FREQUENCY RESPONSE: D.C. to 25kc

LINEARITY: 1% or better

COMMON MODE VOLTAGE: Zero

ZERO DRIFT: (with time) .0005% per frame at normal ambient; .002% over the temperature range —55°C to 85°C

POWER REQUIREMENT: 28v D.C. .75 watts (Max.). By adding Avion power supply, can be operated from 60 cycles or 400 cycles

TEMPERATURE: 55°C to 85°C

Vibration, Acceleration, Shock, Humidity, Altitude: in accordance with standard missile-aircraft specifications.

SEND FOR LITERATURE

Used in missile — aircraft telemetry systems to amplify low level signals. Suitable for use with currently available commutators, and easily adaptable to telemetering systems presently being specified.

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See YELLOW SECTION for local offices, telephones, etc.

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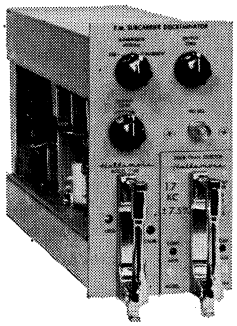
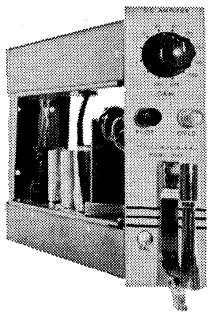
HALLAMORE "BUILDING-BLOCK" INSTRUMENTATION SERIES

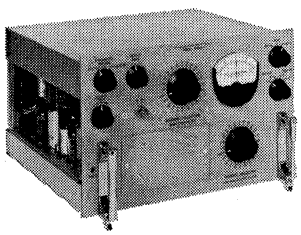
The need for economy, time and space savings, and elimination of operator error has brought about the development of the Hallamore building-block series of system components. Plug-in configuration permits simple adaptation to existing systems . . . extreme versatility in newly developed systems. Modification or repair in the field becomes a simple replacement operation, within the capabilities of relatively unskilled operators. Application of the most recent advances in the state-of-the-art provide high dependability and outstanding new levels of performance.



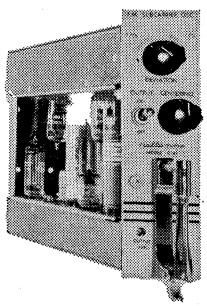
PHASE LOCK DISCRIMINATOR (HEC-0162A), a modular design, includes three discriminators and a metering assembly (HEC-0176). Module case (HEC-0145) is 8-3/4″ high, 19″ wide, 18-1/2″ deep. Each discriminator requires one channel selector (HEC-0168), available for all IRIG channels, I through E, and one regulated power supply (HEC-0144). Module accepts signals at levels of 10 millivolts to 20 volts and converts frequency intelligence to an analog output voltage, flat within 0.5 db over the IRIG specified bandwidths.



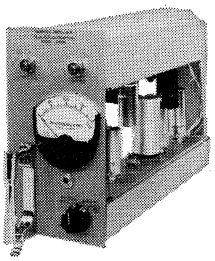
DC AMPLIFIER (HEC-0142A) is a low-drift, chopper stabilized amplifier, featuring wideband response. The front panel switch has 12 positions: off, on, and 10 accurate gain steps (from 1 - 1000) with overlapping Vernier potentiometer. It is suitable for signal conditioning in instrumentation systems, operational use in analog computer systems, or any application requiring amplification of a DC or AC signal up to 40 kc. Eight units fit module case (HEC-0145) for mounting on a 19″ standard relay rack.



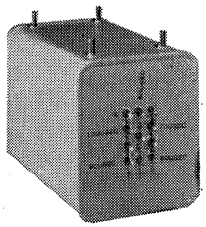
BAND-SWITCHED PHASE-LOCK DISCRIMINATOR (HEC-0169A), a modular design, houses all input filters, output filters, switching circuitry, and tape speed compensation networks, in addition to the basic discriminator, in a panel space of 7-3/4″ by 12″. It covers all IRIG channels, and a single control provides complete switching to each channel. Its flexibility affords outstanding advantages in missile checkout, quick-look analysis of recorded data, and laboratory development work.



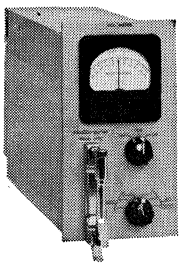
FM SUBCARRIER OSCILLATOR (HEC-0161) accepts analog voltages nominally 0 to ±2.5V and provides an output frequency modulated by the incoming signal. The nominal center frequency for a given unit is selected by means of a plug-in oscillator channel selector (HEC-0164), available for all IRIG channels, I through E. As many as six units may be mounted in a standard (HEC-0145) module case together with a summing amplifier (HEC-0166).



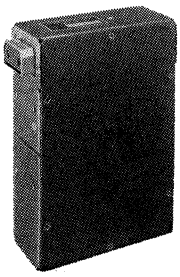
SUMMING AMPLIFIER (HEC-0166B) accepts up to 18 subcarrier oscillator outputs for recording a composite signal on a single magnetic tape channel. Each unit includes a timing oscillator capable of generating timing signals on 50 kc or 100 kc for tape speed compensation. The summing amplifier is normally powered by power supply (HEC-0143A).



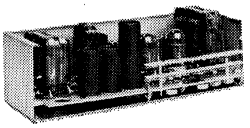
SUBCARRIER DELAY UNIT (HEC-0197) provides the requisite time delay for the composite set of subcarrier channels (I through E) when using the Hallamore reference discriminator (HEC-0170) to generate compensation signals. The delay unit measures 3-3/8″ by 3-15/16″ by 4-1/4″ and is normally mounted behind the patch panel.



METER ASSEMBLY (HEC-0176) is intended for common metering of the outputs and test points of three (HEC-0162) discriminators. A meter switch is provided for selecting 10 volt and 100 volt scale positions. A switch is provided for selecting the desired discriminator output or test point.



POWER SUPPLY (HEC-0143A) provides the requisite power for Hallamore instrumentation series components in all cases where the common supply (HEC-0144) cannot be economically utilized and/or where it is desired to maintain dc isolation between circuits. The individual supply provides all filament power, +250vdc, −250 vdc, and a bias voltage of −480 vdc.



REGULATED POWER SUPPLY (HEC-0144) is mounted internal to module case (HEC-0145) and is capable of supplying any combination of the Hallamore "building-block" series components, including up to eight DC amplifiers or six FM subcarrier oscillators. This supply provides all filament power, +250 vdc, −250 vdc and a bias voltage of −480 vdc. Regulation is 0.1%, ripple 10 millivolts or less.

HALLAMORE ELECTRONICS CO., 8352 Brookhurst Ave., Anaheim, California/a Division of The Siegler Corporation TWX: AH9079

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HALLAMORE

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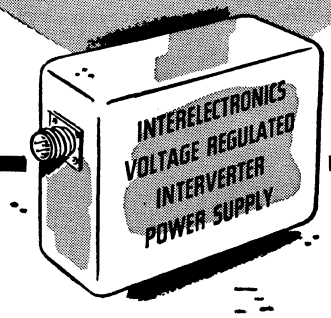
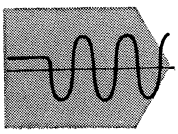
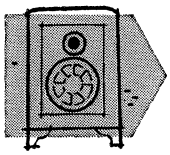
NEW!

DC to DC and DC to AC solid-state power converters voltage regulated, frequency controlled, for missiles, telemetering, gyros, servos

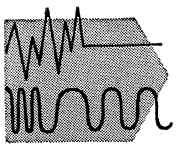




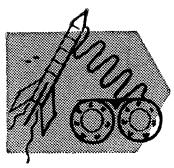
Interelectonics Interverter solid-state thyratron-like elements and magnetic components convert DC to any number of voltage regulated or controlled frequency AC or filtered DC outputs from 1 to 1800 watts. Light weight, compact, 90% or better conversion efficiency.



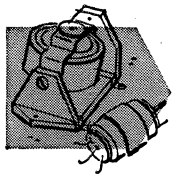
Ultra-reliable in operation, no moving parts, unharmed by shorting output or reversing input polarity. Complies with MIL specs for shock, acceleration, vibration, temperature, RF noise.



Now in use in major missiles, powering telemetering transmitters, radar beacons, electronic equipment. Single and polyphase AC output units now power airborne and marine missile gyros, synchros, servos, magnetic amplifiers.



Interelectronics — first and most experienced in the DC input solid-state power supply field, produces its own solid-state gating elements, all magnetic components, has the most complete facilities and know-how — has designed and delivered more working KVA than any other firm!



For complete engineering data write Interelectronics today, or call LUdlow 4-6200 in N. Y.

INTERELECTRONICS CORPORATION 2432 GR. CONCOURSE, N. Y. 58, N. Y.

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From research—
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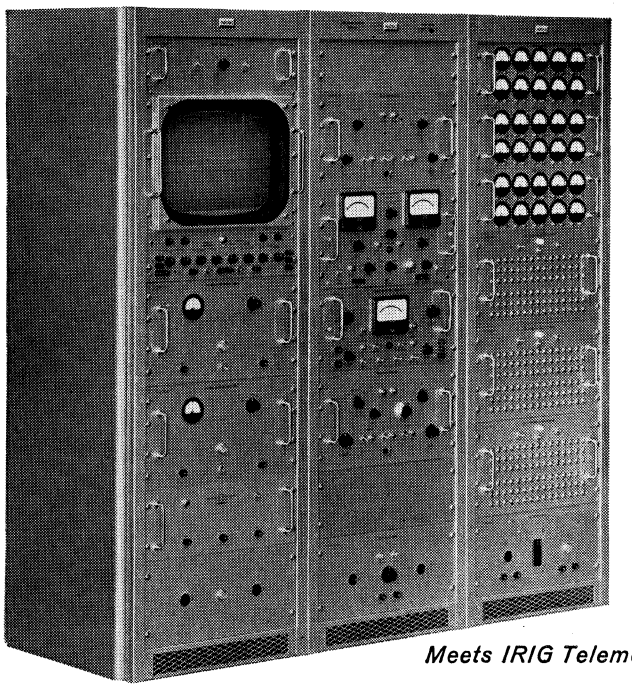
TELEMETRY

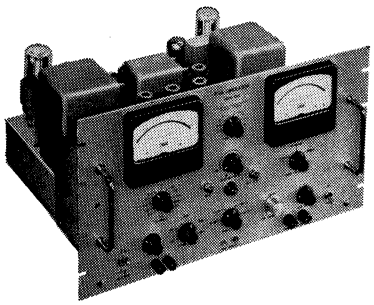


DECOMMUTATION STATION

90 channel PAM or PDM version with thirty channel readout and visual display, PAM commutator simulator, PDM signal simulator, and sweep generator for PDM line-dot display.

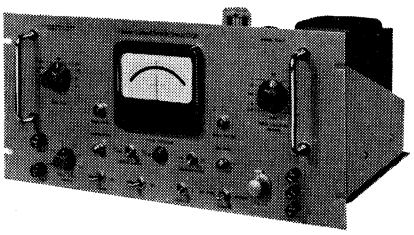
Output Linearity and Stability within ½%.
Front Panel Operation and Maintenance.
Optimum Stability Thru Integrated Design.
Built-in Test and Calibration Equipment.
Test Point Selector Switch.
Wave Forms Can Be Monitored During Operation.
Push-Pull or Single-Ended Input with Minimum Levels of 3 Volts, Peak-to-Peak.
Filtered, Forced Air Cooling.

Meets IRIG Telemetry Standards and USAF Mil specifications.



PDM SIGNAL SIMULATOR

All Electronic Commutation
IRIG Commutation Rates
Automatic Calibration
Variable Channel Modulation
Calibration Voltage Steps
Adjustable Output Pulse Train
Compact Self-Contained Package
Rack or Cabinet Mounting



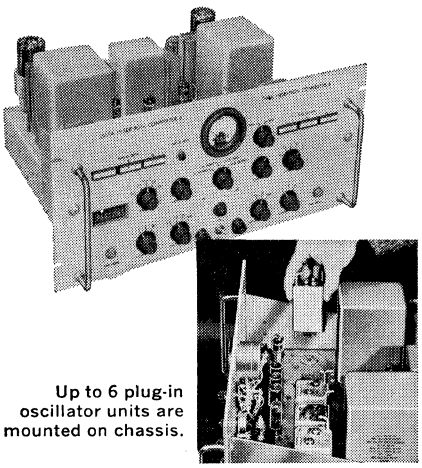
PAM COMMUTATOR SIMULATOR

For Checkout of Telemetering Equipment

PARSONS Electronic Commutator Simulator generates a PAM pulse train which simulates the output of a conventional commutated subcarrier discriminator.

This unit also provides a source of power and selectable modulation for an accessory plug-in subcarrier oscillator which permits simulation of the output of a conventional commutated subcarrier oscillator.

Generates zero and full scale Calibration values. Missing pulses can be switched into signal train. Meets IRIG Standards & USAF MIL Specifications.



Up to 6 plug-in oscillator units are mounted on chassis.

DATA INSERTION CONVERTER

VERSATILE—
15 separate frequencies are available, 960 to 70,000 cps, by changing plug-in oscillators.

PRECISE—
Frequency stability exceptionally high through use of regulated power supplies.

COMPACT—
Completely self-contained in standard rack or cabinet mounting with less than 9 inches of panel space.

Meets IRIG Standards and USAF MIL Specifications.

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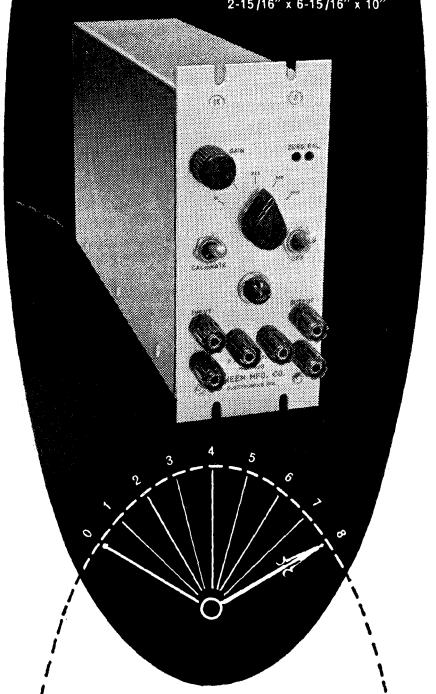
ONLY ± SIX MICROVOLT INPUT DRIFT OVER AN EIGHT HOUR PERIOD



high input impedance with extremely low drift

The Model REL-120 is a completely transistorized, direct-coupled, instrumentation d-c amplifier featuring: (1) long life resulting from the use of such passive elements as transistors and diodes; (2) low heat generation from an average required input power of only 10 watts; and (3) a self-contained power supply that works directly from either 60 or 400 cycles.

Write for Data File EEM-501-1

RHEEM MANUFACTURING COMPANY
Defense and Technical Products Division
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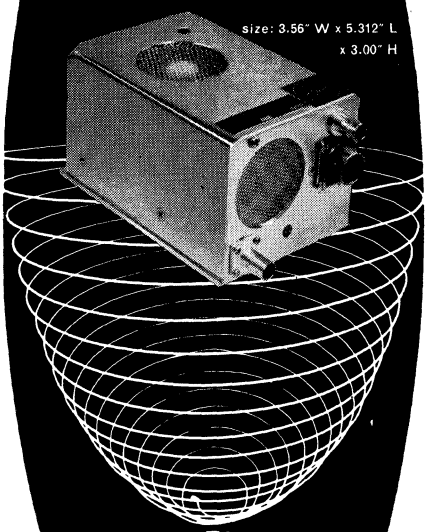
Rheem

INCREASED SIGNAL POWER



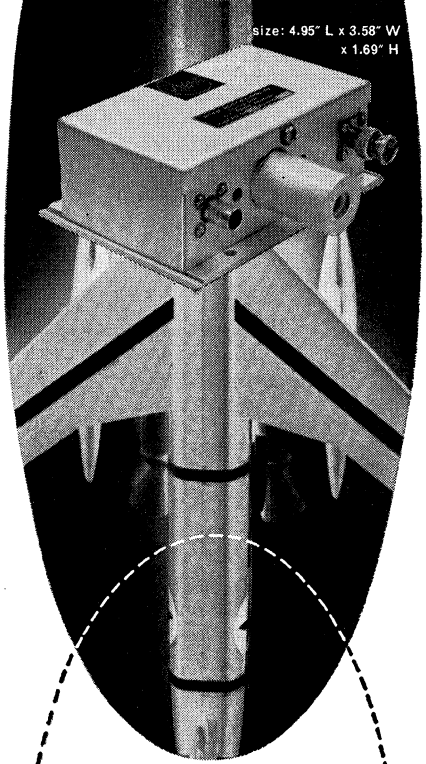
in the 215 mc to 260 mc telemetering band

The Model REL-10 R-F Power Amplifier is a high-output unit for airborne applications. With power outputs from 10 to 100 watts, it dramatically increases the range of missile and aircraft telemetering systems...teams up with presently available FM transmitters...meets missile environmental requirements.

For full specs, write for Data File EEM-500-1

The REL-10 functioned perfectly during 1,760 mile ride on Thor missile, on 75,000 mile journey into space in U. S. Lunar Probe, and in orbit as part of the Atlas Project Score satellite.

MISSILE-PROVED RELIABILITY



in the 215 mc to 245 mc telemetering band

The Model REL-09-HF is a ruggedized miniature R-F power amplifier. With a solid history of reliability in current missile systems, the unit has proved capable of withstanding the most rigorous airborne applications. The 5-inch, 1-pound amplifier delivers an 11-watt output to a 52-ohm load with a 1.4-watt input drive.

For full specs, write for Data File EEM-504-1

The REL-09 functioned smoothly as a part of the Vanguard satellite successfully launched into orbit.

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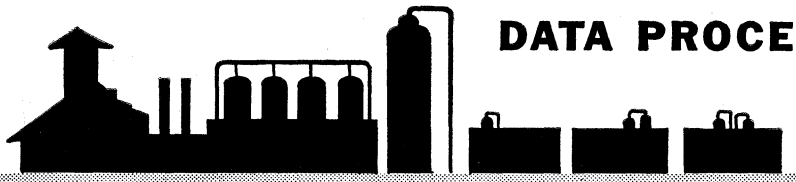
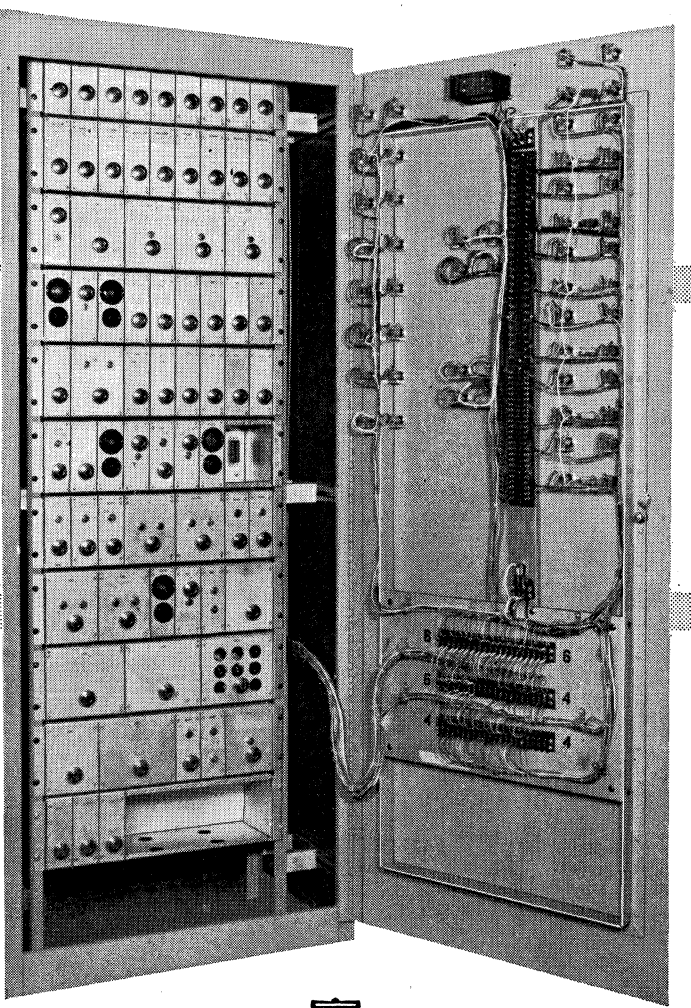
SPELLMAN MODULAR COMPONENTS and SUB-SYSTEMS FOR DATA X'MISSION and DATA PROCESSING SYSTEMS



ENCODER-DECODER SETS
For use with Telephone, Telegraph & Microwave Link Equipment.

TELEMETERING ACCESSORIES
Pulse-Time, Variable Frequency & Digital X'Mitting & Receiving Devices.

SCAN-SWITCH SYSTEMS
1-100 Points per Sec. Electronically driven Time-sharing Switching Systems for Submission of Analog Data to A-to-D Converters and Analog Computers. 10; 100; 1,000 Point Systems



DIGITAL CLOCKS
For Handoff to Typewriter & Printer Devices and Repeat Cycle Programming Actions. 24:00 & 12:00 Constructions.

TYPEWRITER PROGRAMMING INTERLOCKS
For Data Line Programming. Tabulator, Spacer, Time & Data Printout Control.

AUTOMATIC TELEPHONE DIALING EQUIPMENT
Complete With Memory for 1-100 5-Digit Codes. Provision for Programmed Sweep of all Codes. Responds to "System Busy" & "System Clear" Supervisory Signals.

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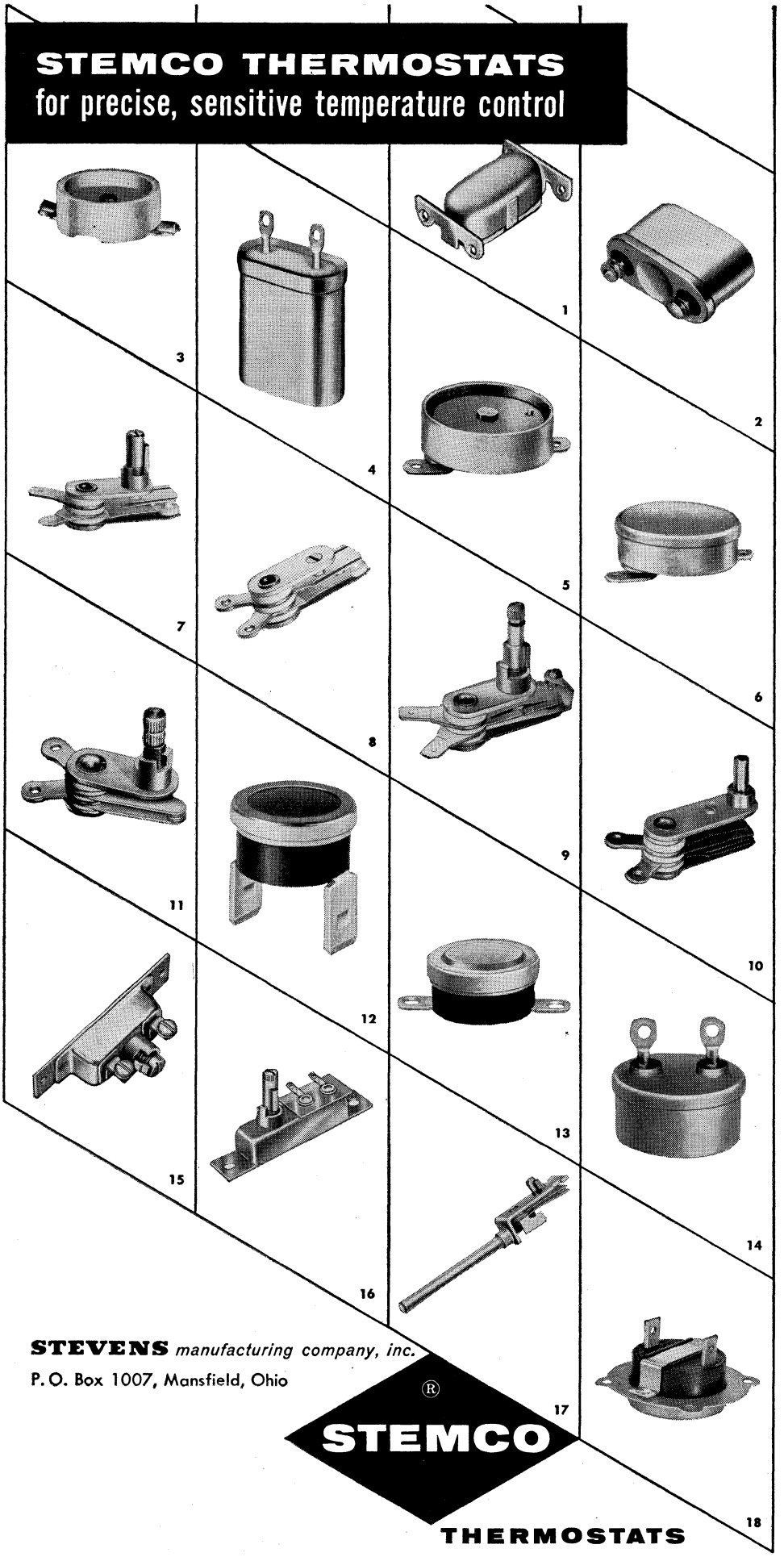
STEMCO THERMOSTATS
for precise, sensitive temperature control



1, 2, TYPE C ***semi-enclosed*** **(1),** ***hermetically sealed*** **(2).** Small, positive acting with electrically independent bimetal strip for operation from -10° to 300°F. Rated at approximately 3 amps, depending on application. Hermetically sealed type can be furnished as double thermostat "alarm" type. Various terminals and mountings. Bulletin 5000.

3, 4, TYPE M ***semi-enclosed*** **(3),** ***hermetically sealed*** **(4).** Electrically independent bimetal disc types for appliance and electronic applications from -20° to 300°F. Rating: 8 amps at 115 VAC, 4 amps at 230 VAC and 28 VDC. Semi-enclosed with virtually any type terminal; hermetically sealed with pin or solder terminals, wire leads, various mounting brackets. Bulletin 6000.

5, 6, TYPE MX ***semi-enclosed*** **(5),** ***hermetically sealed*** **(6).** Snap acting miniature units to open on temperature rise for missile, avionic, electronic and similar uses. 2° to 6° differentials available. Rated at 3 amps to 1 amp, depending on duty cycle, at 115 VAC and 28 VDC for 250,000 cycles. Semi-enclosed types with metal or ceramic bases; hermetically sealed in circular or CR7 cans. Various terminals, mountings, brackets, etc. Bulletin 6100.

7, 8, TYPE S* ***adjustable*** **(7),** ***non-adjustable*** **(8).** Positive acting with single stud or nozzle mounting. Operation to 600°F. Rated at 15 amps at 115 VAC, 7 amps at 230 VAC. Spade, screw or elevated terminals, various adjusting stems, etc. Bulletin 1000.

9, TYPE SA* ***adjustable*** **(9)** ***or non-adjustable.*** Snap acting with electrically independent bimetal. Also single-pole, double-throw. Single stud or nozzle mounting. Non-inductive-load rating: 15 amps at 115 VAC, 10 amps at 230 VAC. Spade or screw terminals. Bulletin 2000.

10, TYPE SM* ***manual reset*** **(10).** Electrically same as Type SA (above) except for manual reset feature. Bulletin 2000.

11, TYPE B ***adjustable*** **(11)** ***or non-adjustable.*** For uses where heat generated by passage of current through bimetal strip is desirable. Various terminals, single stud or nozzle mounting. Operation to 400°F. Nominal rating: 5½ amps at 115 VAC of 40 cycles and higher. Bulletin 9000.

12, 13, 14, TYPE A* ***semi-enclosed*** **(12, 13),** ***hermetically sealed*** **(14).** Insulated, electrically independent bimetal disc gives fast response and quick, snap action control for appliance, electronic and apparatus applications from -20° to 300°F, or higher on special order. Rating: 3 to 4 amps, depending on duty cycle, at 115 VAC, 2 amps at 230 VAC and 28 VDC. Various enclosures and mountings, including brackets. Bulletin 3000.

15, TYPE R* ***sealed adjustable*** **(15),** ***sealed non-adjustable.*** Positive acting for operation to 600°F. Rated at 15 amps at 115 VAC, 4 amps at 230 VAC. Screw terminals. Bulletin 7000.

16, TYPE W* ***adjustable*** **(16),** ***or non-adjustable.*** Snap action bimetal strip type for operation to 300°F. Rated at 5 amps at 115 VAC, 3 amps at 230 VAC. Screw or nozzle mountings; spade, solder or screw terminals. Bulletin 4000.

17, TYPE H† ***adjustable.*** Positive acting for fry pans, skillets, sauce pans, etc. Fail-safe, open in low to 500°F in high. Rated at 1650 watts at 115 VAC. Bulletin 10,000.

18, TYPE D* ***automatic*** **(18),** ***or manual reset.*** For laundry dryers or other surface and warm air applications. Snap acting disc type U.L. approved for operation to 350°F. Open or enclosed styles. Rated at 25 and 40 amps at 120-240 VAC. Screw or spade terminals. Bulletin 8000.

Illustrations, for general information only, do not necessarily show size comparisons. Fully dimensioned and certified prints on request. Manufacturer reserves right to alter specifications without notice. AA-9151

*Refer to Guide 400 E0 for U.L. or C.S.A. approved ratings.
†Patent Applied For.

STEVENS *manufacturing company, inc.*
P. O. Box 1007, Mansfield, Ohio

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THERMOSTATS

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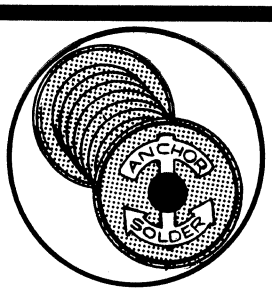
SOLDER HEADQUARTERS

ANCHOR METAL



SHURFLO ROSIN CORE SOLDER

When heated, a special activating agent is released, which provides a more vigorous fluxing action for the rosin and makes a faster soldering job possible. Readily solders brass, zinc, nickelplate, and other metals. During soldering the activating agent is destroyed and only pure rosin remains. Conforms to Fed. Spec. QQ-S-571c Available in all diameters from .015 up, on spools, 1, 5 and 25 lbs.

ANCHOR SOLID WIRE

Ideal where the flux is used separately. Available in standard diameters of 1/32", 1/16" and 1/8". Put up in 1, 5, 25 and 50 lb. spools. Packed 50 lbs. to carton.

ANCHOR ACID CORE SOLDER

A general purpose solder. Free flowing, non-sputtering; making a strong bond. Used extensively in the automotive, hardware and industrial field. Easy to use.

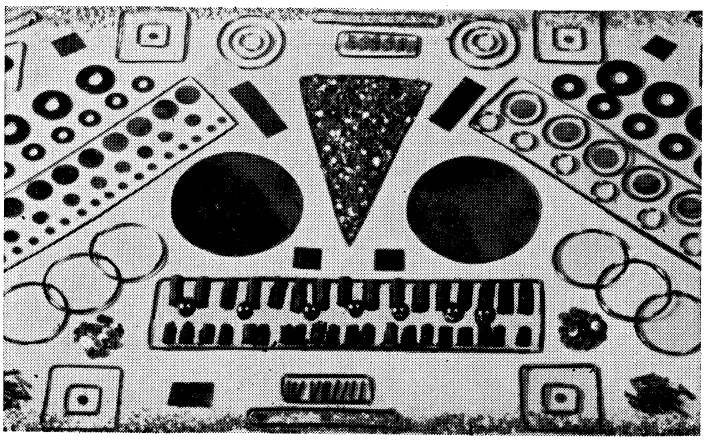
Available in 1, 5 and 20 lb. spools.

ANCHOR SOLDER ALLOY CHART

% TIN	% LEAD	% SILVER	% ANTI-MONY	% BIS-MUTH	Temperature at which solder becomes Plastic C°	Temperature at which solder becomes Plastic F°	Temperature at which solder becomes Liquid C°	Temperature at which solder becomes Liquid F°
0	100						327	620
5	95				272	522	314	597
10	90				224	435	302	576
15	85				183	361	290	554
20	80				183	361	280	536
25	75				183	361	268	514
30	70				183	361	257	496
35	65				183	361	247	477
38	62				183	361	242	468
40	60				183	361	238	460
45	55				183	361	225	437
48	52				183	361	218	424
50	50				183	361	212	414
55	45				183	361	200	392
60	40				183	361	188	370
63	37				Eutectic Alloy*		183	361
65	35				183	361	184	364
70	30				183	361	186	367
75	25				183	361	192	378
80	20				183	361	199	390
85	15				183	361	205	403
90	10				183	361	213	415
95	5				183	361	222	432
100	0						232	450
95			5		232	450	238	460
35	63		2		187	369	237	459
20	78.7	1.3			181	358	276	529
16	32			52	Eutectic Alloy*		96	204
27	70	3			178	352	253	487
	97.5	2.5			Eutectic Alloy*		305	581
	95	5			305	581	360	680

*A Eutectic Alloy is that composition of two or more metals that has one sharp melting point and no plastic range.

ANCHOR SOLDER MICROFORMS



ANCHOR MICROFORMS are available in alloys having a melting point as low as 135°F. to as high as 1700°F.

Tin and Lead, Tin and Silver, Lead and Silver, Lead and Antimony, Fusible Alloys, Indium, Brazing Alloys.

Tailor-made to your individual specifications to give you the precise amount of solder required. Available in Rings, Discs, Pellets, Drops, Segments, Foil, Washers, Balls, Rectangles, Squares with or without flux.

ROSIN FLUXES

Activated and non-activated rosin fluxes are non-corrosive, and have individual qualities which make them particularly suitable for specific jobs in soldering electrical and electronic components, printed circuitry, dip soldering, tinning of leads, pot solder.

BAR SOLDERS

ANCHOR Bar solders are made in all alloys for dip soldering or tinning printed circuits, in ¼, ½, 1 and 5 lb. bars.

METALS AND ALLOYS FOR SEMI-CONDUCTOR FIELD

Tin, Lead, Cadmium, Gold, Silver, Aluminum, Platinum, Copper, Nickel, Zinc and Indium.

Our Engineering Staff can produce any "Doped Alloy" to your Specification.

ANCHOR METAL CO., INC. 966A Meeker Ave., Brooklyn 22, N. Y.

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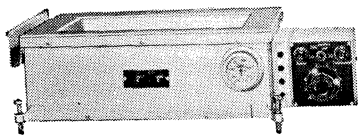
DEE PRINTED CIRCUIT SOLDER POTS
AND HIGH TEMPERATURE SOLDER POTS

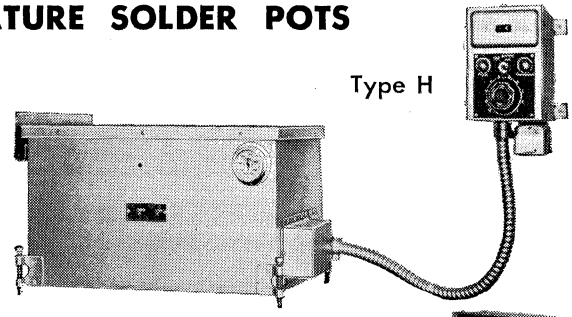
VOLTAGE CODE

110 Volts, 1 Phase — X • 220 Volts, 1 Phase — O
220 Volts, 3 Phase — ±

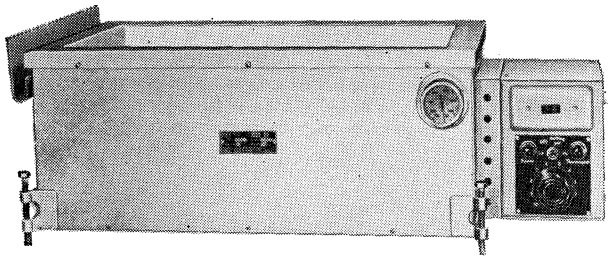


Type F

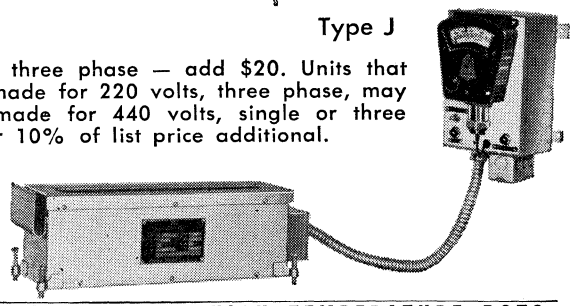
Prices are based on 110 or 220 volts, single phase.



Type H



Type G



Type J

220 volts three phase — add $20. Units that may be made for 220 volts, three phase, may also be made for 440 volts, single or three phase, for 10% of list price additional.

When ordering specify: Model, Type, Voltage, and Phase.

MODEL	CAVITY DIMENSIONS			LBS.	PRINTED CIRCUIT POTS 300 — 600° F.					HIGH TEMPERATURE POTS 200 — 900° F.			
	L	W	D	CAP.	TYPE F	TYPE G	TYPE H	Watts	Volts	Type J	Watts	Volts	Ship. Wt.
270	9½	9½	5	150	—	$265	$290	2000	0	$378	3100	0 ±	90
275	10	3½	2¼	27	$215	—	240	1000	X 0	320	1800	0	45
280	10	6	5	100	—	262	287	1800	X 0	371	2800	0 ±	96
285	12	2½	2½	25	210	—	238	1000	X 0	315	1800	0	44
286	12	2½	8	80	—	265	290	1600	X 0	360	2400	0 ±	75
287	12	3½	4	42	—	$240	$265	1200	X 0	$347	2000	0	50
290	12	6	2	48	$225	—	250	1200	X 0	346	2200	0	62
295	12	8	2	64	245	—	270	1600	X 0	—	—		73
296	12	8	4	128	—	268	293	2000	0	382	3000	0 ±	82
300	12	12	2	96	—	297	322	2300	0	—	—		100
301	12	12	4	192	—	$325	$350	3000	0 ±	$425	4100	0 ±	118
305	13	6½	3½	99	—	258	283	1800	0	367	3100	0 ±	80
310	14	7½	2½	88	—	261	286	1700	0	376	3000	0 ±	85
313	15	5	4	100	—	270	295	1800	0	382	2800	0 ±	80
315	15	8	6	240	—	387	412	3200	0 ±	485	5400	0 ±	170
320	16	2½	2½	33	$240	—	$265	1400	X 0	$348	2000	0	55
325	16	13	2	139	—	$366	391	3000	0 ±	—	—		120
330	16	16	4	341	—	479	504	4800	0 ±	594	7400	0 ±	192
335	18	10	2	120	—	333	358	2600	0 ±	—	—		85
336	18	10	4	240	—	395	420	3900	0 ±	500	5900	0 ±	97
340	19½	12	8½	663	—	$493	$518	6000	0 ±	$621	8500	0 ±	250
345	20	12	2	160	—	390	415	3000	0 ±	—	—		140
346	20	12	4	320	—	466	491	4300	0 ±	607	6300	0 ±	178
350	20	15	2	200	—	472	497	3700	0 ±	—	—		160
351	20	15	4	400	—	515	540	5100	0 ±	635	7300	0 ±	188
355	21	3	2	42	—	$260	$285	1800	0	$373	2800	0 ±	85
370	24	2	2	32	$272	—	297	1500	X 0	384	2800	0	70
374	24	12	2	192	—	452	477	3600	0 ±	—	—		160
375	24	12	4	384	—	518	543	5400	0 ±	617	8200	0 ±	195
376	24	18	4	576	—	570	595	7000	0 ±	712	9400	0 ±	290
377	24	24	4	768	—	$645	$670	8300	0 ±	$765	11,500	0 ±	400
380	26	5	4½	195	—	330	355	2600	0 ±	442	3800	0 ±	200
405	36	4	6	288	—	408	433	4100	0 ±	515	6300	0 ±	230
406	36	6	6	432	—	460	485	5600	0 ±	575	8500	0 ±	275
415	40	12	4	640	—	595	620	7800	0 ±	715	11,000	0 ±	270

ADDITIONAL SIZES: 21x11¼x3⅜, 21½x10x8¾, 36x18x4, 36x24x4, 36x36x3, 96x12x4.

DEE ELECTRIC COMPANY

1101 N. PAULINA STREET • CHICAGO 22, ILLINOIS • Phone: BELMONT 5-5151

Terms: 1—10, Net 30. Prices F.O.B. Chicago.

See YELLOW SECTION for Local Offices, Telephone, etc.

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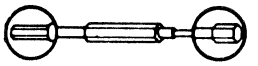
FOR EVERY ALIGNMENT NEED

G-C "SHORTY" TV ALIGNMENT TOOL

G-C No. 8289

G-C TELEVISION 2-in-1 ALIGNMENT TOOL



G-C No. 8606

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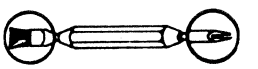

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G-C LONG REACH ALIGNMENT SCREWDRIVERS

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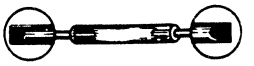
G-C K-TRAN TOOL



G-C No. 5097

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Multicore

FIVE-CORE SOLDER

World's finest!

Available in the 7 lb. bench reel, 1 lb. dispenser carton and the 50¢ Service Pak

Available in the 7 lb. bench reel and 1 lb. Dispenser Carton

STANDARD TIN/LEAD ALLOYS

Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in the same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to thin rapidly produces perfect joints with less solder. Greater coverage per pound.

ONLY SOLDER MADE WITH NON-CORROSIVE, EXTRA-ACTIVE ERSIN FLUX!

ERSIN FLUX

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high grade, water white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use. Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

NEW! COPPER-LOADED SAVBIT ALLOY

Copper-loaded SAVBIT is one of a number of solder alloys developed for the industry by Multicore, it is entirely different—and, it is patented. SAVBIT alloy contains its own copper, and therefore will not take the copper of the soldering iron tip into the molten solution during soldering. This absorption of copper when any standard alloy is used is a basic reason for the wearing out of expensive copper tips, and the need for constant refinishing of the tip.

Comparative tests with solders having pure tin/lead alloys and the new Ersin Multicore copper-loaded SAVBIT alloy have been made on assembly lines of electronics plants. Results of these tests have proven that startling production efficiencies and economies may be realized when the wear and corrosion of copper soldering iron tips is curbed, using SAVBIT alloy. Equally as important... a higher standard of soldering quality is assured for a much longer period of time.

It is hardly necessary to emphasize the great economies that can be effected in soldering iron maintenance and great efficiency on the assembly line, by using this new alloy. SAVBIT alloy is available in Ersin Multicore 5-Core Solder containing non-corrosive extra fast Ersin Flux in 14, 16 and 18 gauge. Its melting point is virtually the same as standard tin/lead alloys. There is no appreciable difference between SAVBIT and normal tin/lead alloys in electrical conductivity or tensile and shear strength — in fact, the strength of SAVBIT is slightly greater.

Alloys and Melting Points					Approximate lengths per pound in feet						
Alloy	B. S. Grade	Multicore Color Code	Melting Temp. °C °F	Recommended Bit Temp. °C °F	S.W.G.	Diameter	Dia. M/Ms	60/40	50/50	45/55	40/60
60/40	K	Red	188 370	228 442	14	.080	2.032	65.7	62.6	61	60
50/50	F	Yellow	212 414	252 476	16	.064	1.626	102	98	97	94.5
45/55	(M)	Crimson/ Buff	215 419	255 491	18	.048	1.219	182	174	172	167
40/60	G	Green	234 453	274 525	20			324			
					22			536			

Address your inquiries to Dept. MY1299.

MULTICORE SALES CORPORATION · PORT WASHINGTON, NEW YORK

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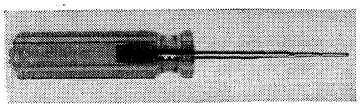
ELECTRONIC TOOLS

REVERSIBLE RATCHETS

A rugged ratcheting box wrench. No buttons, no levers—just turn it over to reverse the ratchet.

1/4" x 5/16"	$2.35 net	5/8" x 11/16"	$3.90 net
3/8" x 7/16"	2.65 net	5/8" x 3/4"	3.90 net
1/2" x 9/16"	3.60 net	3/4" x 7/8"	4.50 net

TRI-TAPS



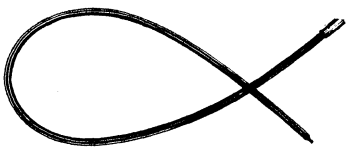
The original 3-in-1 tool with 6/32", 8/32" and 10/32" taps to clean or cut three of the most common threads used in electronic work.

T-3 ..... $1.95 net T-4 tap only for HT-24 ..... 1.45 net

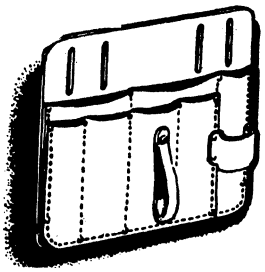
HT-24 with replaceable tap ..... $2.50 net

TIPPY STICKS

Flexible alignment tools of tenite II with a non-magnetic stainless steel tip. Permits snaking around obstructions and still turn screws and slugs.



ST-186 6" long ..... .40 net
ST-1810 10" long ..... .45 net
ST-1814 14" long ..... .50 net



TOOL POUCHES

Electrician's Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. 7 pockets, loop for hammer, snap loop for rall of tape.

#17 10" x 9" ..... $4.00 net

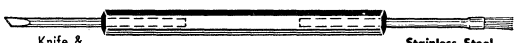
NINE OTHER POUCHES AVAILABLE

NORSEMAN SOLDERING AIDS

#2 ..... $.60 net

#4 ..... $.75 net

#3 ..... $.60 net



#5 ..... $.75 net

HANDLES— are Hi-Impact Styrene 4" x 3/8" hex—won't roll off the work bench.

METAL ENDS— (separated from each other) non-magnetic stainless steel, to which solder won't adhere. Are firmly seated in handles and are twist-proof.

FORKED END— straddles the wire and with a slight twist, grips it for easy unwinding and removal, or guides it into another lug for soldering. Since handles act as insulation, there is no danger of shock when working on sets in operation. 1/8" forks are made especially for use on printed circuits and transistors.

SPADE END— is a reamer to clean lug holes of solder.

CURVED END— can be used as a scriber for marking chassis. As a circuit tracer when looking for loose connections. As a dial cord stringer. Hook can be bent to a 90 degree angle if desired.

WIRE BRUSH— has approx. 200 bristles of stainless steel wire .0035 in dia. For use in cleaning connections before soldering, brushing out splattered solder and in repairing printed circuits.

KNIFE & SCRAPER— for cutting and repairing printed circuits.

NOTE— all four aids also made with unbreakable aluminum alloy handles.

Berg SWEDISH STEEL PLIERS

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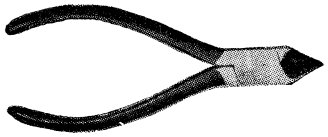
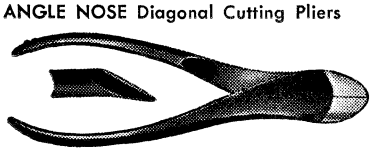
Only the best Swedish Charcoal Steel is used in the manufacture of Berg Pliers. Produced under exacting standards of control, they embody the most modern techniques of heat treatment and manufacture. Each plier is carefully engineered and designed to afford the greatest practical utility; lightness and ease of operation; and strength coupled with durability.

Special Electronic Diagonal Cutting Pliers with extra thin cutting edges, pointed nose and BOX JOINT



No. 525 - 5" 4.40

ANGLE NOSE Diagonal Cutting Pliers

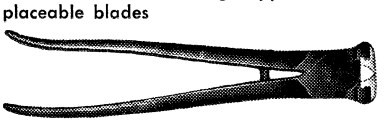


No. 2528 ..... 6½" 3.70 7½" 4.20

PIANO WIRE Side Cutting Nippers with replaceable blades

No. 1518	9"	5.50	10"	6.50
Extra Blades	9"	2.30	10"	2.55

PIANO WIRE End Cutting Nippers with replaceable blades



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Extra Blades 2.60

Straight Cutting Pliers with extended jaws

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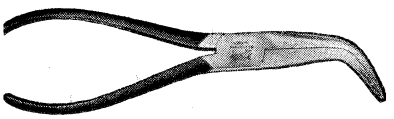
Special Bent Nose Pliers



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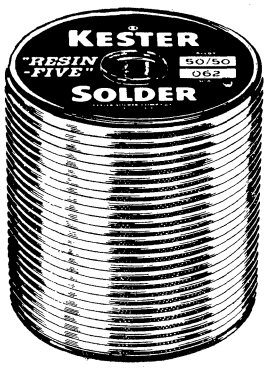
FIRST CHOICE FOR EVERY APPLICATION...

Kester "44" Resin-Core Solder

The Solder that's widely used in the electronic industry for TV, radio and similar applications. Has a new activated resin flux that permits the fastest soldering operation. Absolutely non-corrosive and non-conductive. Supplied on 1-, 5- and 20-lb. spools.



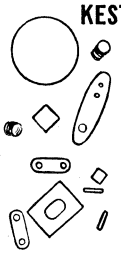
Kester "Resin-Five" Core Solder

Standard "accelerated" resin flux for easy soldering of such metals as copper, zinc, brass, nickel-plate and others. Ideal for printed circuit work. Available in all tin and lead combinations. Non-corrosive and non-conductive. In 1-, 5- and 20-lb. spools.

Kester Plastic Rosin-Core Solder

Time-proved "standard" in the electrical-electronic industry. Kester's Plastic Rosin is plasticized, preventing decomposition and permanently preserving the full fluxing quality of the original rosin; it's completely non-corrosive, non-conductive and fungus resistant. Available in wide range of tin-lead combinations, core sizes. In 1-, 5- and 20-lb. spools.

KESTER "SOLDERFORMS"



The original pre-formed solder, supplied in exact sizes, shapes and formulations for every production line or assembly requirement. Flux-filled or solid washers, discs, rings of every description, engineered to your needs.

KESTER SPECIALIZED FLUX-CORE SOLDERS

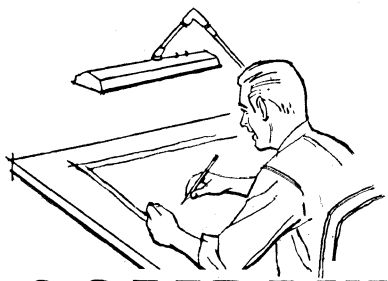
The formulation and production of special flux-core solders for any specific application is a famous Kester feature . . . the logical outgrowth of over 60 years' experience in serving the soldering needs of all types of industry.

KESTER SOLDERING FLUXES

Scientifically compounded to make all soldering operations easier, faster, more economical, the four basic types of Kester Fluxes include 160 different formulations.

CALL ON KESTER FOR ENGINEERING ASSISTANCE

Since 1899, Kester's business has been SOLDER. With this background, your particular soldering problem is quickly solved to your entire satisfaction. There's no obligation of any kind . . . ever! Call —write—wire for the details.



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OVER 60 YEARS' EXPERIENCE IN SOLDER AND FLUX MANUFACTURING

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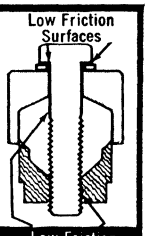
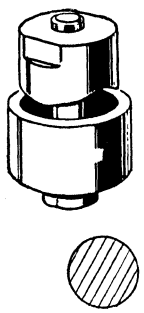
L.T.* CHASSIS PUNCHES REQUIRE 50% LESS EFFORT!



*EXCLUSIVE WALSCO LOW-TORQUE DESIGN THROUGH NEW ELECTRO-COATING!



New permanent (never wears off) electro-coating process reduces friction, thus lowers torque. New design gives cleaner holes with less effort. Walsco L.T. Chassis Punches REQUIRE NO LUBRICATION, and will give perfect service indefinitely. Join the switch to Walsco for better Chassis Punches.

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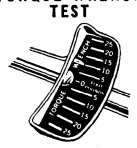

Ordinary Punch Torque in Foot Pounds

Walsco "L.T." Punch Torque in Foot Pounds

Walsco ELECTRONICS MFG. CO.
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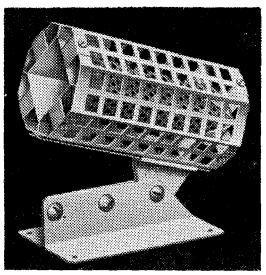
FIRST WILDER IN QUALITY

ADJUSTABLE SOLDERING IRON HOLDERS

SOLDER with SAFETY and SPEED

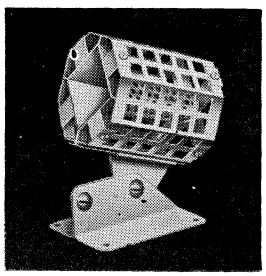
HOLDERS



NO. 55 HOLDER

For soldering irons with heating element casings up to 1¼" in dia. Equipped with lead in cone and removable back plate for cleanout of solder drippings. For use on top of or underneath bench. Can be used with wiping pad or clamp. Adjustable to any angle.

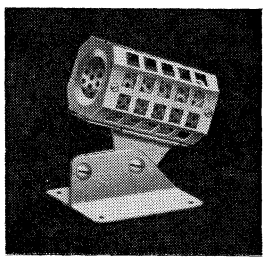
Holder Size .....3½" x 3½" x 7"



NO. 54 HOLDER

For pencil type soldering irons with heating element casings up to ¾" in dia. Equipped with lead in cone and removable back plate for cleanout of solder drippings. For use on top or underneath bench. Can be used with wiping pad or clamp. Adjustable to any angle.

Holder Size .....3½" x 3½" x 4"



NO. 53 HOLDER

For small expendable type soldering irons. Inside diameter of cylinder 1¼". Equipped with lead in cone and removable backplate for cleanout of solder drippings. For use on top of or underneath bench. Can be used with small bracket, wiping pad or clamp. Adjustable to any angle.

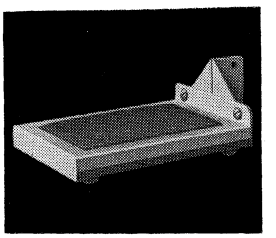
Holder Size .....2½" x 2½" x 4"

ACCESSORIES

NO. 61 WIPING PAD

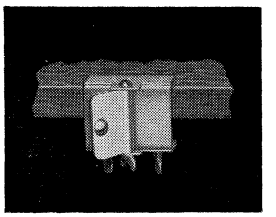
Provides permanent wiping facility directly in front of holder. Can be used with all holders. Removable metal frame permits fast replacement of flameproof canvas pad and felt cushion whenever necessary.

Wiping Surface .....4" x 6½"



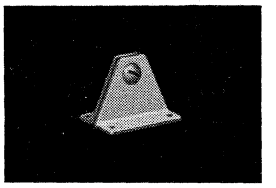
NO. 65 CLAMP

Can be used with all holders. Hinged bracket permits holder to be placed at any left to right position. Clamps to any shelf or top up to 2" thick and with 1" or more overhang.



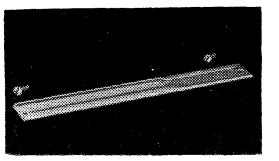
NO. 66 BRACKET

For fastening No. 53 Holder permanently. The standard bracket furnished with the No. 53 Holder, permits holder to stand without fastening. Base Size 1½" x 2".



NO. 67 SLIDE

Used to fasten No. 53 Holder to No. 55 Holder when large and small irons are used simultaneously by the same operator.



DON'T forget that a HOT Soldering Iron placed on a bench without adequate protection can cause serious BURNS, resulting in LOSS of Time and Production.

DON'T forget that LOSS of Time and Production in Soldering means LOSS of MONEY.

DON'T forget that a Soldering Iron having a proper holder enables the Operator to work more EFFICIENTLY and at a greater SPEED.

DON'T wait until serious INJURY and loss of valuable hours occur before equipping your Operators with WILDER Soldering Iron Holders.

WRITE FOR COMPLETE INFORMATION
CONTACT US ON YOUR SPECIAL HOLDER PROBLEMS

WILDER MFG. CO., INC. MECHANIC ST. & ERIE R.R. PORT JERVIS, NEW YORK

See YELLOW SECTION for local offices, telephones, etc.

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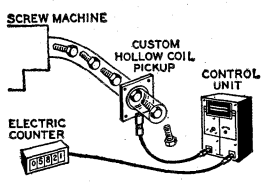
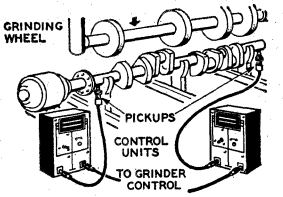
Electro ELECTRONIC EQUIPMENT

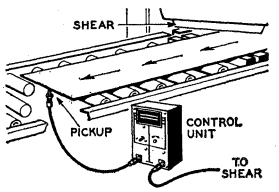
Proximity Transducer Systems*



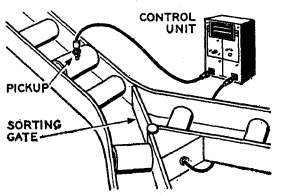
Cutting parts from screw machine



Positioning crankshaft for grinding



Cutting metal to lengths



Sorting & gauging pistons

SWITCH WITHOUT CONTACT:

Electronically detects all moving or stationary ferrous or non-ferrous metal objects *without* physical contact. Proximity pickups can detect parts as small as 0.1" dia. Pickups available with sensing range to 2'. Pickup can be mounted 100' from control unit.

FUNCTIONS:

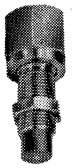
- Limit switch
- Positioning control accurate to 0.001"
- Sensing element for all types of counters

APPLICATIONS:

- Transfer machines
- Automatic production lines
- Punch presses
- Parts feeders
- Counting piece work

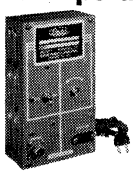
*Patents pending

Electro Standard Proximity Pickup for use with Electro Proximity Control Units



Model 4910-HL for hazardous use. Water, vapor-proof. Same mounting and electrical specifications as 4910-AN except electrical conduit fitting (½" I.P.T.). *Length:* 2½". *Cable:* Use AN-1 with Units 4901-RY or 4901-RAC. Use Belden 8422 cable with other units.

ELECTRO Standard Proximity Control Units for operating Electro Proximity Pickups



Model 4901-RY for control circuits and electromechanical counters. *Maximum switching rate:* 600 operations/min. *Output:* SPDT relay, contacts rated at 5 amps. non-inductive load. *Operation:* 117v 50/60 cycles AC.

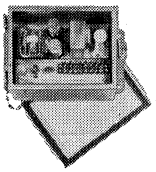
Model 4901-RAC Same as 4901-RY except for output of 117v. AC. Electrical counter can be directly operated from unit.

Electro Standard Proximity Pickups for use with Electro Proximity Control Units

Model 4910-WPN Water, oil proof . . . functions if submerged or in contact with cutting oil or coolants. Same mounting and electrical specifications as 4910-AN but potted to 10' cable with connector. Use with Units 4901-RY or 4901-RAC. *Length:* 2¼".

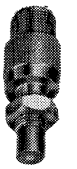
Model 4910-WPL same as 4910-WPN, except cable has terminal lugs. Use with Units 4905-JIC or 4907-JIC.

ELECTRO High Sensitivity Proximity Control Unit for operating Electro Proximity Pickups



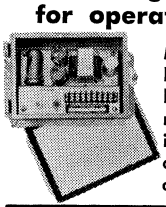
Model 4905-JIC for control circuits, transfer machines, batch counters, vibratory feeders. *Maximum switching rate:* 600 operations/min. *Output:* SPDT relay, contacts rated at 5 amps, non-inductive load. JIC enclosure. *Operation:* 117 v. 50/60 cycles AC. Special time delay, pulse stretcher, or zero speed circuits available.

ELECTRO Miniature Proximity Pickup for use with Electro Proximity Control Units



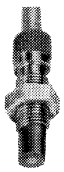
Model 4912-AN Detects parts 1/10" dia. or larger. Can be excited by gear teeth of 10 diametral pitch. *Sensing range:* Up to ¼" for ⅜" dia. parts or larger. *Sensing face:* ⅜" dia. *Mounting:* 7/16"-20 threaded hole. *Length:* 2-3/16". *Cable:* Use AN-1 or AN-2.

ELECTRO High Speed Proximity Control Unit for operating Electro Proximity Pickups



Model 4907-JIC for production line automation. A very high speed unit for control circuits, transfer machines, batch counters. *Maximum rate:* Up to 3600 operations/min. *Output:* SPDT relay, contacts rated at 3 amps, non-inductive load. JIC enclosure. *Operation:* 117 v. 50/60 cycles AC. Special time delay or pulse stretcher circuits available.

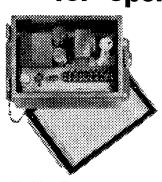
ELECTRO Miniature Proximity Pickups for use with Electro Proximity Control Units



Model 4913-WPN Water, oil proof . . . functions if submerged or in contact with cutting oil, coolants. Same electrically as 4912-AN but potted to 10' cable with connector. *Sensing face:* 5/16" dia. *Mounting:* ⅜"-24 threaded hole. *Length:* 1-11/16". Use with Units 4901-RY or 4901-RAC.

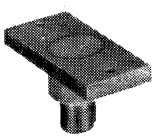
Model 4913-WPL same as 4913-WPN, except cable has terminal lugs. Use with Units 4905-JIC or 4907-JIC.

ELECTRO High Sensitivity Proximity Control Unit for operating Electro Proximity Pickups



Model 4903-JIC for operating electronic counters and circuits beyond the range of relays and also down to zero. *Maximum rate:* 60,000 operations/min. *Output:* 2 v. DC square wave or integrated pulses in excess of 30 v. *Operation:* 117 v. 50/60 cycles AC.

ELECTRO Extended Range Proximity Pickup for use with Electro Proximity Control Units

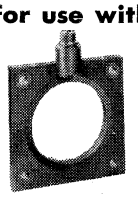


Model 4915-AN Extra-sensitive flush type unit. Detects stationary or moving metal parts ⅜" dia. or larger. *Sensing range:* up to ½" for ⅞" dia. parts or larger. *Mounting:* Mounting hole centers are 2½" apart. *Size:* Base 1¼ x 3". Height 1⅜". *Cable:* Use AN-1 or AN-2.

ELECTRO Standard Proximity Pickup for use with Electro Proximity Control Units

Model 4910-AN *Sensing range:* up to ¼" for ½" dia. parts or larger. *Sensing face:* ½" dia. *Mounting::* ⅝"-18 threaded hole. *Length:* 2⅝". *Cable:* Use AN-1 or AN-2.

ELECTRO Custom Proximity Pickup for use with Electro Proximity Control Units



Model 4922-AN made to order for counting or controlling flow of parts through tube. Also used as flush pick-up to detect large masses of metal. *Sensitivity:* extends ranges of all control units. Mounting details: minimum clearance between custom proximity pickups and metal mountings depends on size of pickup and control unit used.

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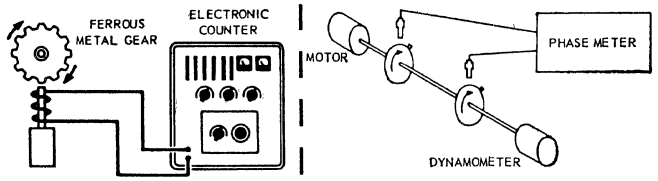
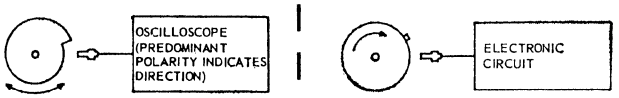


Counting Revolutions | Measuring Torsion



Indicating Direction of Rotation | Synchronizing Timing Position Indicating

Magnetic Pickups

For Converting Mechanical Motion Into Electrical Output *Without* Contact

These variable reluctance type transducers present negligible loading to mechanical assemblies for electrically indicating speed, vibration, position and torque. Also for synchronizing, counting and control.

Magnetic pickups are voltage and power generating devices; thus require no external power supplies. In most cases no additional amplification is required to power electrical or electronic circuitry. Variations in the physical construction and environmental conditions for this type of transducer are indicated in the pickups below.

Each Pickup supplied with 1 locknut. Mating connector, extra.

ELECTRO Standard Magnetic Pickups

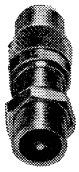
Model 3010-AN *Size:* 2¼" long x ¾" dia. *Mounting thread:* ⅝"-18. *Mating connector needed:* Amphenol AN3106A-10SL-4S. *Impedance:* 260 ohms ±20% at 1000 cps. *Resonant frequency:* Over 210KC. *Temperature range:* —100° to +225° F. *Weight:* 1.46 oz.

Model 3010-A same as 3010-AN except for connector. Uses Amphenol 80MC2F1.

ELECTRO Specially Engineered Pickups

Research, engineering and manufacturing facilities are available to produce custom-designed pickups where standard units do not meet requirements.

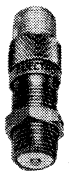
ELECTRO High Sensitivity Magnetic Pickups



Model 3030-AN *Size:* 2¼" long x ¾" dia. *Mounting thread:* ⅝"-18. *Mating connector needed:* Amphenol AN-3106A-10SL-4S. *Impedance:* 3400 ohms ±20% at 1000 cps. *Resonant frequency:* Over 85KC. *Temperature range:* —100° to +225° F. *Weight:* 1.89 oz.

Model 3030 Same as 3030-AN except for connector. Uses Amphenol 80MC2F1.

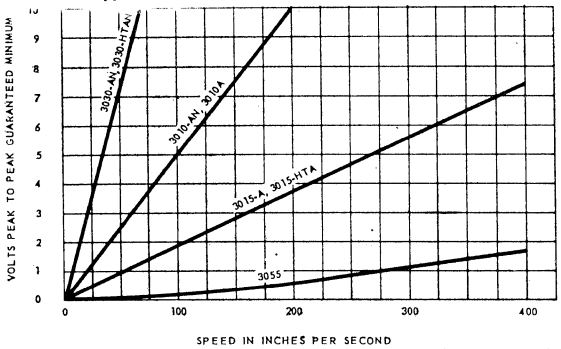
ELECTRO High Sensitivity, High Temperature Pickup



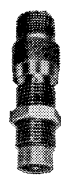
Model 3030-HTAN *Size:* 2¼" long x ¾" dia. *Mounting thread:* ⅝"-18. *Mating connector needed:* Amphenol 97-3106A-10SL-4S(496) for high temperatures, AN3106A-10SL-4S up to 225° F. *Impedance:* 3500 ohms ±20% at 1000 cps. *Resonant frequency:* Over 95KC. *Temperature range:* —300° to +500° F. *Weight:* 1.74 oz.

Composite Output Curves for Electro Magnetic Pickups

Proximity Pickup voltage versus surface speed generated by a 30-tooth, 20-pitch ferrous gear at .005 inch clearance. Load = 100,000 ohms, 10 feet of Belden type 8401 cable.

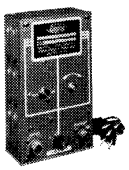


ELECTRO Power Magnetic Pickup



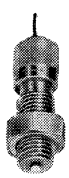
Model 3040 self-generating power source for operating speed control relays or warning devices *without* amplification. Produces 10 times the output of 3010AN. *Size:* 2-9/16" long x ¾" dia. *Mounting thread:* ⅝"-18. *Mating connector needed:* Amphenol AN3106A-10SL-4S. *Impedance:* 540 ohms ±20% at 1000 cps. *Resonant frequency:* Over 200KC. *Temperature range:* —100° to +225° F. *Weight:* 1.73 oz.

ELECTRO Voltage Amplifier



Model 3400-B boosts voltage from Magnetic Pickups and other devices. *Output level:* Sine wave 10 v. r.m.s. Saturation 50v. peak. *Gain:* Over 200 at 1 to 20,000 cps; 50 at 200,000 cps. 117 v. 50/60 cycles, 16 watts. *Size:* 2⅝ x 4⅝ x 8".

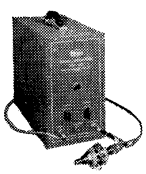
ELECTRO Miniature Magnetic Pickups



Model 3015-A *Size:* 1-9/32" long x 7/16" dia. *Mounting thread:* ⅜"-24. *Connector:* Has two 6" Vinyl leads. *Impedance:* 260 ohms ±20% at 1000 cps. *Resonant frequency:* Over 300 KC. *Temperature range:* —100° to +200° F. *Weight:* 0.35 oz.

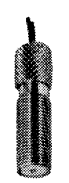
Model 3015-HTA Same as 3015-A except for —300° to +500° F. temperature range. Teflon sensing face and Teflon leads.

ELECTRO Dynamic Micrometer



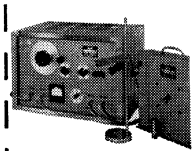
Model 3600-A accurately measures dynamic displacement, vibration or recurring movement of any metal body *without* contact. *Displacement:* Calibrated to .0001" for displacements up to .075". *Response:* 0 to over 200,000 rpm or vibrations/min. *Mounting:* ⅞-18 threaded hole.

ELECTRO Subminiature Magnetic Pickup



Model 3055 *Size:* 1" long x 9/32" dia. *Mounting thread:* ¼"-40. *Connector:* Has two 6" Teflon leads. *Impedance:* 100 ohms ±10% at 1000 cps. *Resonant frequency:* Over 300 KC. *Temperature range:* —300° to +500° F. *Weight:* 0.12 oz.

ELECTRO Portable Sonometer



Model 4100 accurately tests torsional and flexural strength of any solid material without damaging sample. Based on system of resonant frequency measurement. *Capacity:* Measures objects weighing up to 1500 lbs. *Driving power:* up to 18 watts. *Input:* 117/230 v. 50/60 cycles.

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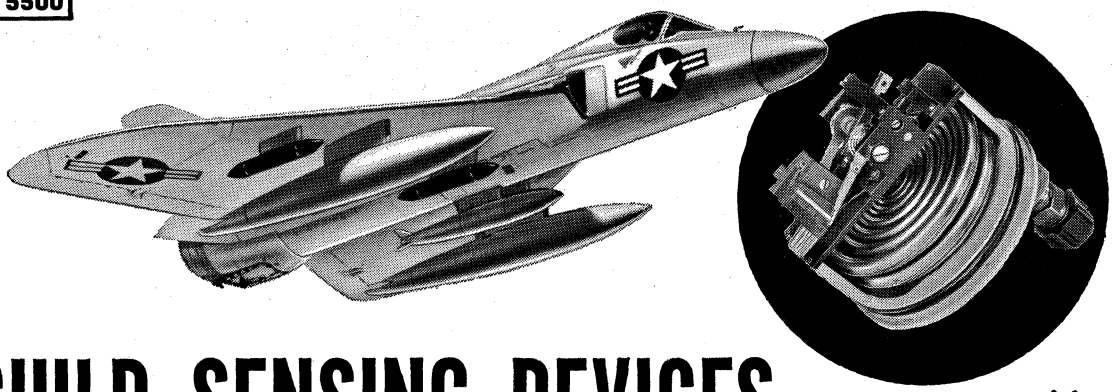


FAIRCHILD SENSING DEVICES..*proven in flight*

Fairchild Reliability is fast becoming an industry standard. Fairchild sensing devices are built with close dimensional and design control for reliability under shock and vibration. Fairchild quality control continuously samples production for compliance with engineering specified standards. In addition there is 100% incoming, line, and final inspection.

The Reliability, or in a phrase, *predicted excellence,* of Fairchild's sensors is documented and data can be furnished with each production lot covering the stringent test program detailed to the specs and beyond

FAIRCHILD TP-300 PRESSURE TRANSDUCER

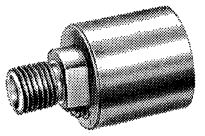
Senses altitude to compensate for the "tuck under effect*" during transonic flight of the F4D Skyray supersonic high altitude Navy and Marine Corps intercepter manufactured by the Douglas Aircraft Company, Inc.

*The "tuck under effect" is an aerodynamic phenomena which causes the plane to pitch down while passing through the sound barrier.

PRESSURE TRANSDUCERS

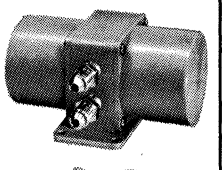
TP-100 NEW 1-INCH PRESSURE TRANSDUCER

Withstands 35 g 2,000 cps vibration, 75 g acceleration, 50 g shock. 0-5 to 0-350 psia, g or d, with resolution as low as .25%. Also available in 2″ and 3″ sizes with linearities as low as 0.5%. Other types for pressures up to 10,000 psi.



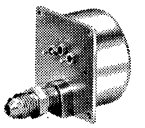
TPD-200 PRESSURE TRANSDUCER

2″ dia. dual pressure transducer. Measures 2 variable pressures—up to 4 outputs (2 on each). **For computing true airspeed or mach number.** Also available in 3″ size.



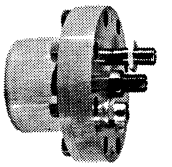
TPH-175 TWIN BOURDON TUBE PRESSURE TRANSDUCER

Measures absolute or gauge pressures in the range from 100 to 10,000 psi. Designed to give exceptionally high performance under severe environmental conditions. Has either linear or non-linear outputs. Accuracy (linearity, hysteresis and friction) ±2%.



TP-201 PRESSURE TRANSDUCER

2¼″ dia. by 2¼″ long. Measures low differential pressures in high pressure systems. Differential pressures ranging from 0-5 to 0-100 psi can be measured with line pressures up to 4000 psi. Offers exceptional performance under severe vibration.



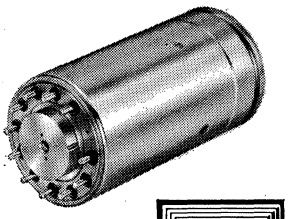
Summary Specifications of Typical Designs

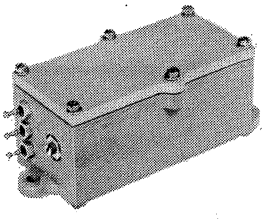
	Model TP-100	Model TPH-175	Model TP-300
Pressure Range (psi a or g)	0-5 to 0-500	0-100 to 0-10,000	0-5 to 0-100
Resistance Range (ohms)	500 to 15K	500 to 50K	500 to 50K
Resolution	.25%	.25%	.25%
Repeatability	less than .5%	less than .5%	.4%
Accuracy (including linearity, hysteresis & friction)	±1.5%	±2%	±1%
Temperature error (—54°C to +100°C)	less than 1%	1.5%	less than .5%

All designs withstand 2000 CPS 25G vibration and 50G shock

RG-100 SUB-MINIATURE RATE GYROS

15/16″ dia. by 2″ long. Has uniform constant damping within ±15% from —40° to +200°F. Takes 100 g's of shock, at low maximum rates.





TA-100 ACCELEROMETERS

Economical, pendulous accelerometer with torsion bar suspension and reliable pot pick-off. Accuracy values as low as ±½%. Acceleration range from ±¼ to ±50 G from 4-40 cps.

RELIABILITY INSIDE THE BLACK BOX

FOR INFORMATION WRITE DEPT. 29

FAIRCHILD CONTROLS CORPORATION
COMPONENTS DIVISION

GYROS
PRESSURE TRANSDUCERS
POTENTIOMETERS
ACCELEROMETERS

225 Park Ave., Hicksville, L. I., N. Y. • 6111 E. Washington Blvd., Los Angeles, Cal.
A Subsidiary of Fairchild Camera and Instrument Corporation

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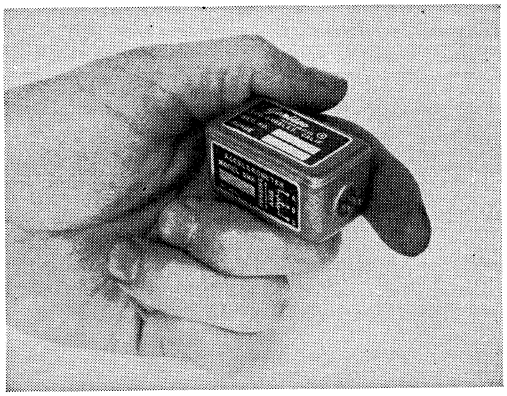
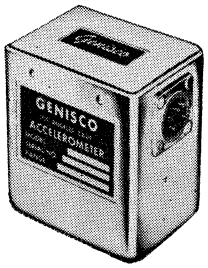
GENISCO ACCELEROMETERS

Genisco manufactures, in production quantities, three major types of accelerometers. The instruments described below are typical of these three types.



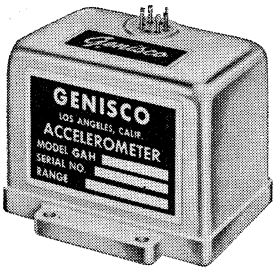
Model GMA—Measures only 1" x 1" x 1¾"; weighs just 3 ounces! A temperature compensated, viscous damped, potentiometer output instrument with low natural frequencies.

BRIEF SPECIFICATIONS:
Range: ±0.5 g's to ±80 g's.
Natural Frequency: 12 cps to 60 cps.
Linearity: ±1% of full scale for balanced range instruments.
Damping: Nominally 0.7 of critical at +75°F.
Temperature: Operates to specifications between −20°F. and +250°F.
Vibration: 10 g's at 10 to 2000 cps on any axis.
Shock: 50 g shock of 7 ms duration on any axis.
Pressure: Operates to specifications at any altitude.
Size: 1" x 1" x 1¾".
Weight: 3 ounces.



Model GOH—A temperature compensated, fluid damped, potentiometer output instrument with low natural frequencies for low ranges.

BRIEF SPECIFICATIONS:
Range: ±0.25 g to ±30 g's.
Natural Frequency: 5 cps to 32 cps.
Linearity: ±1% of full scale for balanced range instruments.
Damping: Nominally 0.7 of critical at +75°F., depending on application may incorporate heater.
Temperature: Operates to specifications between −65°F. and +185°F.
Vibration: Per MIL-E-5272A, Proc. I, Par. 4.2.7.2.
Shock: 40 g shock of 7 ms duration on any axis. 100% overload of 7 ms duration on sensitive axis.
Pressure: Operates to specifications at any altitude.
Size: 2¼" x 3" x 3¼".
Weight: 1.5 lbs.



Model GAH—A magnetically-damped AC instrument with medium-high natural frequency.

BRIEF SPECIFICATIONS:
Range: ±0.5 g to ±30 g's.
Natural Frequency: 10 cps to 48 cps.
Linearity: ±1% of full scale for balanced range instruments.
Damping: Nominally 0.7 of critical at +75°F, depending on range and natural frequency.
Temperature: Operates to specifications between −65°F. and +185°F.
Vibration: Meets MIL-E-5272A, Proc. I.
Shock: Meets MIL-E-5272A, Proc. I.
Pressure: Operates to specifications at any altitude.
Size: 2" x 2-3/5" x 3¼".
Weight: Approximately 2 lbs.

Genisco accelerometers can be modified to meet specific requirements. Your inquiry to determine possible variations is welcomed. Write to Sales Manager, Instrument Division,

Genisco INCORPORATED

2233 Federal Avenue
Los Angeles 64, California

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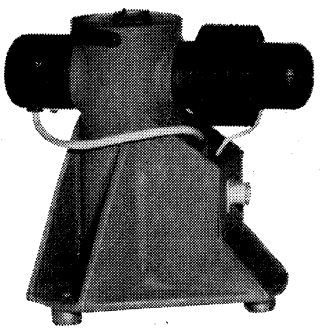
K+E

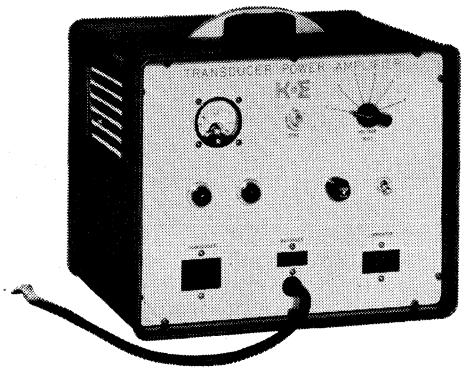
. . . the talent to create it—
the facilities to produce it

SPECIAL DEVICES*

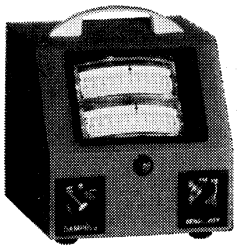
FOR INDUSTRY, SCIENCE AND THE MILITARY



Sensing Unit



Amplifier



Indicator

Electronic Tilt-Angle Transducer

The K&E Tilt-Angle Transducer consists of the three units illustrated. The signal from the sensing unit is transmitted through the amplifier to the remote indicating unit by cable. A chart recorder can be used in addition to the indicator to provide a permanent record of the tilt changes in the structure, or the signal from the amplifier can be fed directly into a servo mechanism to make the system self correcting.

This ability to monitor and control tilt from a distance, combined with the ultra sensitivity of the unit, makes it possible to achieve alignment tolerances in radar axles, stable platforms, missile ground support equipment, and similar devices to a degree of accuracy heretofore impossible.

SPECIFICATIONS

ELECTRONIC TILT-ANGLE TRANSDUCER Sensing Unit

1. **Weight** — 16 lbs.
2. **Size** — 9" high x 7" wide x 6" deep.
3. **Range** — Sensing Unit can be supplied with a range from plus or minus 2.5 seconds to plus or minus 20 minutes to suit requirements.
4. **Sensitivity** — Varies inversely with the range; with a maximum sensitivity of 1/20 second of arc.
5. **Directional Response** — Senses amount and direction of angular tilt against true horizon in one plane. Sense of direction is retained through tilting range of plus or minus 90 degrees.
6. **Response** — Instantaneous.
7. **Drift** — Less than 1% in 24 hours after an initial warm-up of 30 minutes. For a plus or minus 2.5 second range instrument the drift would not exceed .025 seconds in 24 hours.
8. **Environmental Stability** — Sensitivity and calibration are stable through a temperature range of minus 40°F. to plus 120°F. Sensing Unit is dust and moisture proof.
9. **Acceleration Effects** — Sensing Unit will not read true angular tilt when accelerated; however, the pendulum axis of symmetry is marked to allow use of instrument on the rotational axis of shafts.
10. **Damping Characteristics** — Magnetic; time constant 0.4 seconds.
11. **Feed-Back Speed** — Optimum feed-back speed for servo-mechanism application is 150 seconds of arc per minute.

ELECTRONIC TILT-ANGLE TRANSDUCER Power Amplifier—Indicator Units

1. **Required Power Input** — 115 volts plus or minus 15 volts, 60 cycles.
2. **Power Output** — Suitable for chart recorder or servo system feed. Output voltage is approximately plus or minus 15 volts for full scale range. It is a linear DC voltage.
3. **Output Impedance** — Approximately 600 ohms.
4. **Sensitivity Selection** — Three position switch with standard ratio 1:2.5:10. Other ratios available to special order.
5. **Damping** — Electronic with 0.1-2.0 seconds damping constants. Selected by two position switch.
6. **Scale** — Graduated to read directly in angular units.
7. **Connection to Sensing Unit** — Power amplifier is connected to sensing unit by 10 feet of electrical cable. Standard length of connection between amplifier and portable indicator is 50 feet. This length can be increased to 2500 feet on special order.

* • Electronic angle measuring and controlling instruments • Angular divisions on glass and metal accurate to better than one second of arc • Linear divisions on glass and metal accurate up to one part in 200,000 • Telescopic systems of all types • Special targets and reticules • Ultra-precise mechanical components.

1632

KEUFFEL & ESSER CO. Hoboken, New Jersey

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SERVONIC
INSTRUMENTS, INCORPORATED

Servonic Instruments, Inc. designs and manufactures a wide range of extremely precise potentiometers and transducers which withstand extreme shock, fungus, humidity, rain, salt spray, sand, dust and other requirements of MIL-E-5272A. You are invited to submit your inquiry for special work within our areas of activity and to request detailed technical bulletins.

HIGH, MEDIUM, LOW RANGE PRESSURE TRANSDUCERS and RECTILINEAR POTENTIOMETERS for those RUGGED SERVICE APPLICATIONS

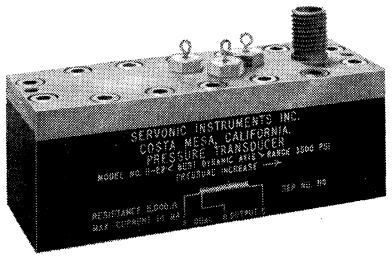
MODEL H SERIES HIGH PRESSURE TRANSDUCERS—Designed for highly accurate measurement of pressure in corrosive fluids while exposed to environmental extremes. Can withstand vibration to 25 g.

All Servonic Model H Transducers embody the same internal construction consisting of pressure activated, corrosion-resistant bourdon tubes operating one or two precision potentiometers. Sealed, oil-filled cases available in most models.

Series H Models with various case configurations are readily available for specialized applications.

A TYPICAL MODEL H CONFIGURATION — Type H-22 Gauge Pressure Model — Case designed for stacking and easy access to fittings. Case withstands 7,500 psi burst pressure.

For detailed information on Model H pressure transducers write for Technical Bulletin SI-581.



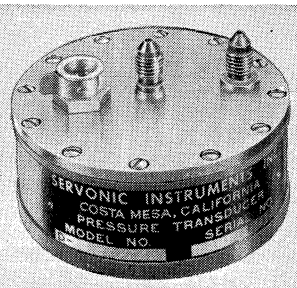
MODEL H-22

MODEL D SERIES MEDIUM PRESSURE TRANSDUCERS — Servonic Model D Series Transducers are potentiometer-type instruments designed to measure pressure in the range from 100 to 1,000 psi. Capable of measurements in corrosive fluids, the instruments can withstand severe environmental conditions.

Less than 1% error possible in vibration environments to 20 g from 55 to 2,000 cps.

A TYPICAL MODEL D CONFIGURATION — Type D-38: Differential Pressure Model — Small case with ready access to pressure and electrical fittings. Operable at vibration of 10 g and temperature to 300°F

For detailed information on Servonic Model D transducers write for Technical Bulletin SI-583

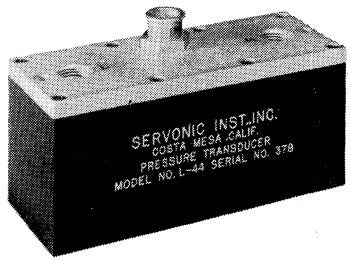


MODEL D-38

MODEL L SERIES LOW PRESSURE TRANSDUCERS — Servonic Model L Series Low Pressure Transducers bring outstanding performance into the realm of low pressure measurement even to vibration extremes of 20 g. Pressure actuated, corrosion resistant aneroid elements are utilized to operate a precision potentiometer, but switching function can be accomplished in lieu of potentiometer output. Working fluids are excluded from sealed oil-filled case.

A TYPICAL MODEL L CONFIGURATION — Type L-44: Differential Pressure Model — A rugged, high response instrument designed for stacking — with easy access to pressure and electrical fittings. Unique suspension system eliminates flexure links and other vibration and shock sensitivity. Response of 5 milliseconds to 63% of applied step function input is achieved in this ± 15 psid instrument.

For detailed information on Model L Transducers write for Technical Bulletin SI-584.



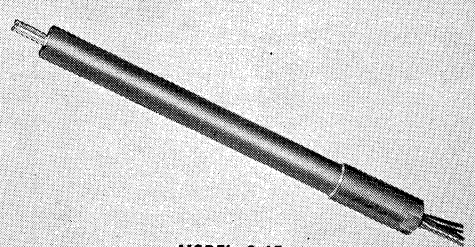
MODEL L-44

MODEL G SERIES RECTILINEAR POTENTIOMETERS—Servonic Model G Series Rectilinear Potentiometers are designed to provide accurate measurement of displacement under extreme environmental conditions. Available with either single or dual potentiometers they are constructed with various case and mounting configurations for ease of application to special installations.

Operational ability under 25 g vibration from 20 to 2,000 cps with less than 1% error.

Type G-45: Extruded aluminum case with threaded mounting provides adjustment. Adapts to variety of installations. Integral construction resists vibration and shock. Dual potentiometers for telemetering and control.

For detailed information on G series Potentiometers write for Technical Bulletin SI-582



MODEL G-45

In addition to the instrument series described here, Servonic Instruments, Inc., manufactures a complete line of Slip-Ring Assemblies, pressure switches and other precision electro-mechanical components.

Direct your inquiries to: Bulletin SI-585

SERVONIC
INSTRUMENTS, INCORPORATED
640 Terminal Way—Costa Mesa, California

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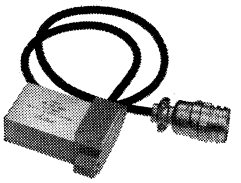
Statham *accelerometers / pressure transducers / load cells / amplifiers*

Supersonic aircraft and missile industries demand extremely accurate and reliable instruments for testing and guidance. Engineers faced with these requirements consistently turn to Statham for leadership in the advancing art of instrumentation. Statham products offer the instrumentation engineer the following benefits: Infinite resolution — Highly linear output — Minimum hysteresis — Excellent repeatability — Low response to extraneous vibration and acceleration — Unprecedented reliability and operating life — The convenience of electrical calibration and checkout.

MODEL A5
linear accelerometer

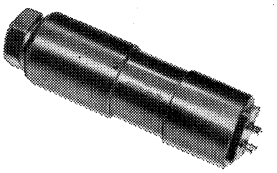


RANGE: ±2 to ±1,000 g
The model A5 accelerometer is versatile, easy to mount, and designed for applications in which high frequency response is important. Requiring an excitation of 9-12 volts, DC or AC, this model has an output of from ±35 to ±55 millivolts. This is a ruggedly constructed instrument. Weight: 4 oz., approx.

MODEL PA208
miniature absolute pressure transducer

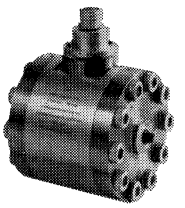
RANGE: 0-5 to 0-1,000 psia
This flush diaphragm unit can be converted into a chamber-type pressure transducer, if required, with the use of interchangeable adapters, offered in the Statham catalog. This unit is well suited for applications where high frequency response is required. Its combined non-linearity and hysteresis error is guaranteed to be less than 0.75% of full scale. Weight: ½ oz., approx.

MODEL PG10
gage pressure transducer



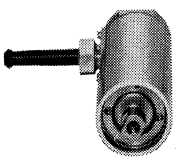
RANGE: 0-50 to 0-10,000 psig
Designed to offer a large selection of ranges with excellent over-range protection, this model pressure transducer may be used, for example, in the measurement of surge pressures in airborne hydraulic systems. This model is used for the measurement of gage pressures. Weight: 17 oz. approx.

MODEL PM80
bi-directional differential pressure transducer



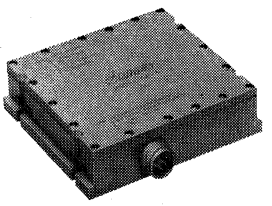
RANGE: 1.0 to 5,000 psid
The unique construction of this pressure transducer permits the introduction of corrosive liquids to both the reference and the positive pressure ports. This model is available in wide ranges, and maximum line pressures of 9,000 psig can be applied. Over-range protection in both directions is provided. Weight: 12 lbs., approx.

MODEL LB2
load cell



RANGE: ±10 to ±25 lbs. tension-compression
The overload limits of this high quality instrument are 2 times the range in compression and 1.1 times the range in tension. This model may be operated within ambient temperature limits of –65° to +250°F. Weight: 1 lb., approx.

MODEL CA3
strain gage signal amplifier



OUTPUT: 0-5 volts DC
The Statham strain gage signal amplifier provides amplification to voltage levels suitable for direct use in telemetery. The 0-5 volts DC output is proportional to the transducer output. This unit provides excitation for the transducer. Potentiometers are included to allow zero and sensitivity adjustment. Weight: 14.5 oz., approx.

For further information on these instruments, or other Statham products, please write to the sales engineer in your area, or Statham, Dept. EEM-624-1.

STATHAM INSTRUMENTS, INC.
12401 W. Olympic Boulevard, Los Angeles 64, California
GR 8-0361 — BR 2-0371 TWX: West Los Angeles Cal 6602

accuracy
integrity
reliability

Statham

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Quality TRANSFORMERS

ADC

CATALOG ITEMS

The following listings have been taken from the new ADC Catalog and are typical of current designs for stock power and audio transformers and inductors.

POWER TRANSFORMERS
Primary 105/115/125V., 50-60 CPS

Catalog No. Com'l. Case	Catalog No. Herm. Seal	AC VOLTS Plate Winding	DC Ma	Volts/Amps Filament Windings	MIL Case Size
522B	523B	300-0-300	60	5 -2 6.3 CT -2	HA
522C	523C	350-0-350	110	5 -2 6.3 CT -4	JA
522E	523E	385-0-385	200	5 -3 6.3 CT -5 6.3 CT -2	MA
522FD	523FD			5.0 CT -4	GB
522FG	523FG			6.3 CT 3.0	FA
522FJ	523FJ			6.3 CT 10	JB

POWER TRANSFORMERS
Primary 115V., 380-1500 CPS

512B	513B	250-0-250	40	6.3 CT 2.5	EA
512C	513C	300-0-300	80	6.3 CT 5 6.3/5V 2	GA
512E	513E	450-0-450	200	6.3 CT 8 6.3/5V 3	JA
512FB	513FB			6.3 CT 3	AJ
512FD	513FD			6.3 CT 10	FA
512FG	513FG			26 CT 3	FA

INDUCTORS

Com'l. Case	Herm. Seal	Inductance henries	DC Current	DC Resistance	Insulation Volts RMS	MIL Case
422C	423C	15	60	230	2500	FA
422E	423E	10	110	175	2500	GA
422G	423G	8	200	85	2500	JA
422X	423X	.2	80	250	2500	AJ
422Z	423Z	2	200	100	2500	EA

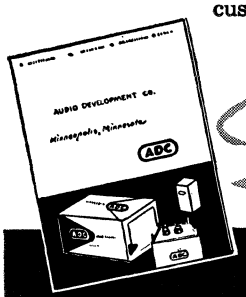
AUDIO TRANSFORMERS

		Application	Primary	Secondary	Level	Case
222A	223A	Line to Single or P. P. Grids.	600 (150)	60,000 Split	+10 dbm	AJ*
222C	223C	Line & Bridging to Single or P. P. Grids.	150/600/15,000	60,000 Split	+10 dbm	AJ*
222E	223E	P.P. Plates to P. P. Grids.	20,000 CT Split	90,000 CT Split	+24 dbm	EA*
122A	123A	Line to Line.	600/250 (150/62.5)	600/250 (150/62.5)	+15 dbm	AJ*
322A	323A	Plate to Line.	15,000 (10 MA DC)	600/250 (150/62.5)	+20 dbm (.1 W)	EB
322D	323D	P. P. Plates to Line and Voice Coil.	10,000 CT	600 (150) 16/8/4	+40 dbm (10 w)	GB
322F	323F	P. P. Plates to Voice Coil.	10,000 Split	16/8/4	+43 dbm (20 W)	JA
322J	323J	P. P. Plates to Voice Coil.	6600/1650 Split	16/8/4	+45 dbm (30 W)	KA
322N	323N	Class A Transistor to Voice Coil.	10 (1.25 ADC)	16/8/4	+38 dbm (7 W)	JB

Magnetically Shielded

CUSTOM DESIGNS

In addition to the many stock items listed in the catalog, ADC manufactures transformers, filters, and reactors to your specifications. Over 14,000 custom transformer designs have been produced. ADC's complete laboratory test report attached to the engineering prototype typifies the thoroughness with which ADC fulfills your custom transformer requirements from start to finish.



WRITE FOR THE ADC CATALOG

ADC

AUDIO DEVELOPMENT COMPANY
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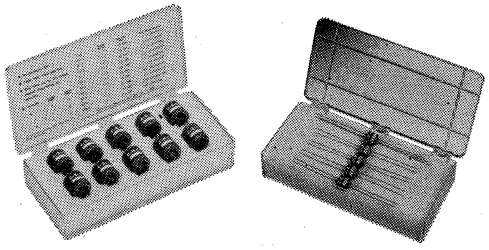
C B C PULSE CIRCUIT COMPONENTS

PULSE TRANSFORMERS • ENGINEERING KITS • PLUG-IN CIRCUITS

FOR OPTIMUM RESULTS . . . WE WILL DESIGN YOUR CIRCUITS FOR YOU . . . FREE OF CHARGE



PULSE TRANSFORMER ENGINEERING KITS

Kit KA-1 Type "A" resin impregnated blocking oscillator transformers and one impedance matching transformers. Kit KA-3 similar to KA-1 but hermetically sealed. Kits cover pulse widths from .1 to 20 microseconds.

Subminiature Kit KA-4 contains 5 hermetically sealed Type "C" transformers

Kit KA-1 ..... **$55.00** net
Kit KA-3 ..... **$60.00** net
Kit KA-4 ..... **$20.00** net

Miniature and Subminiature PULSE TRANSFORMERS

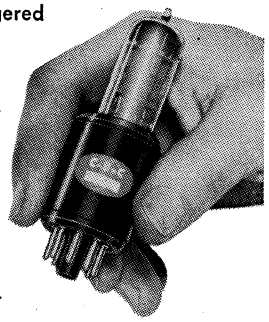
TYPE A Mounts in standard miniature tube socket.

TYPE C Pigtail mounting.

Precision engineered pulse transformers. Dielectric strength and insulation exceeds MIL-T-27A, Grade 1, Class R Requirements.

Miniature Type A measures ¾ in. diameter by 25/32 in. long excluding pins. Subminiature Type C measures ½ in. diameter by ⅜ in. long excluding 2 in. pigtails. Other models available. Models designed to your specifications. Request Bulletin BO.

Plug-in Type Triggered BLOCKING OSCILLATOR CIRCUITS



Complete, ready-to-operate blocking oscillator circuits for research and prototype design.

Available pulse widths 0.1, 0.2, 0.45, 0.7, 1.5 and 4.0 microseconds. Uses a 12AU7 tube (not furnished). Standard octal base. Other pulse widths available on special order.

$8.75 Net each

FAST DELIVERY ON SAMPLE QUANTITIES!

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*If it isn't, our 48-man engineering department can design and produce "specials." Ask us to quote.

CHICAGO STANDARD TRANSFORMER CORPORATION 3501 ADDISON STREET • CHICAGO 18, ILLINOIS

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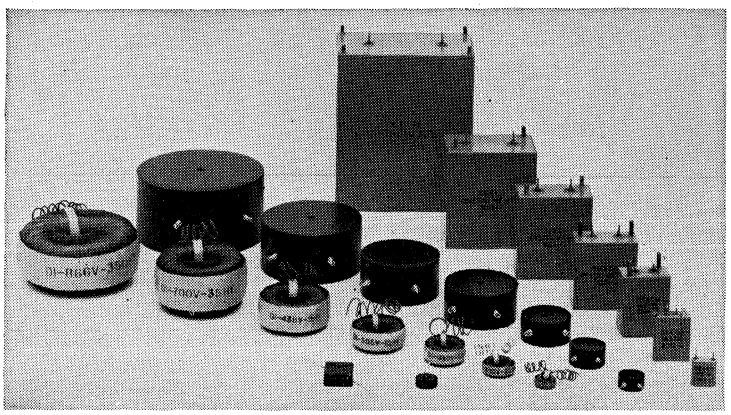
SPECIALISTS IN TOROIDAL COMPONENTS
COILS • FILTERS • DISCRIMINATORS
TRANSFORMERS • MAGNETIC AMPLIFIERS

TOROIDS

Subminiature, miniature, and standard toroids wound and treated to obtain the maximum Q and stability—uncased, cased, or encapsulated are available with one week delivery on small quantities of popular types in most inductances. Special coils with special characteristics can be made to your specifications. Ask for Bulletin C for complete data, Q curves and descriptions or order by the standard W.E. core numbers. Specify inductance and finish.



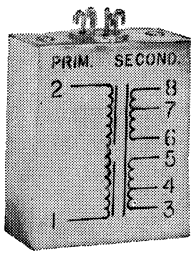
MAGNETIC AMPLIFIER

Keeping astride with the advances in new materials and techniques Deeco manufactures a wide range of toroidal magnetic amplifiers.

We design to your specifications thereby giving you the optimum performance. Three phase or single phase 400 cycle line regulators for high temperature applications are immediately available.

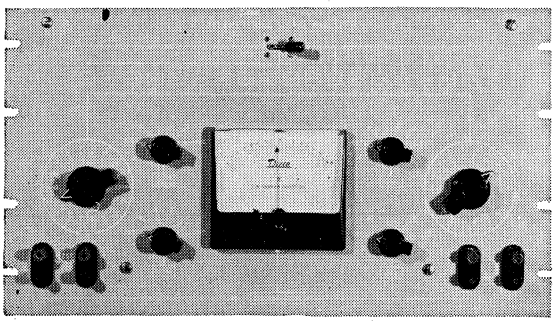
D.C. TO D.C. CONVERTERS

D.C. to D.C. converters or D.C. to A.C. converters are immediately available in a wide range of voltages and power ratings. 6 volt, 12 volt, 24 volt, or 28 volt inputs with 100 volts plus or minus, 150 volts, 200 volts, 250 volts, 300 volts, and 350 volts D.C. outputs with or without filament windings. VA ratings up to 1 KVA can be furnished. 115 volt 400 c.p.s. single phase or 208 volt 3 phase power supplies with .1% frequency control are available. We have so many designs in file on these we can't possibly describe them all.



TRANSFORMERS

Toroidal construction offers distinct advantages for many transformer applications. Precision ratio transformers are more accurate and economical on a toroidal core. Impedance matching transformers with exceptional characteristics as well as power transformers are often better and more economical. We have in our design files practically every conceivable combination. Order what you want and we'll supply it.



BAND SWITCH DISCRIMINATOR

The Deeco Instruments telemetering signal analyzer was designed for test and checkout of a complete telemetering system from transducer to R.F. transmitter. The analyzer contains a complete set (Bands 1 thru 18) of band pass filters and discriminators with switching facilities for determining subcarrier deviation, R.F. Carrier deviation, and system calibrations.

Deeco INSTRUMENTS, INC. • 14737 Arminta St., Van Nuys, Calif. • STanley 33911

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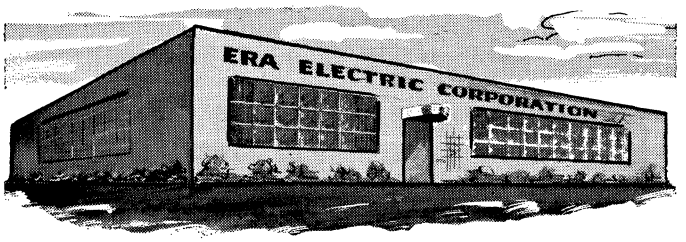
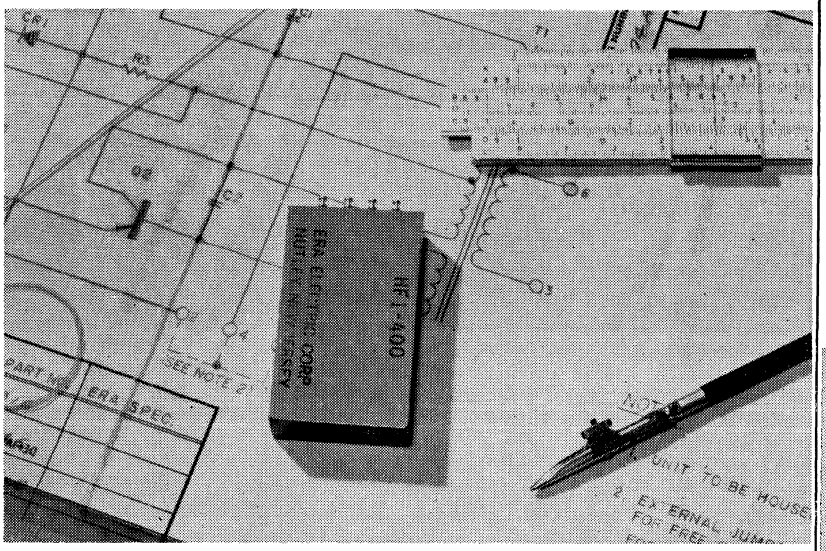
Customed Designed

TRANSFORMERS & RELATED MAGNETIC COMPONENTS



Today, there is an ever increasing demand for transformers and related magnetic components designed to fit the specific needs of high quality equipment. To meet this demand, ERA ELECTRIC specializes in prototype designs that are precision engineered . . . achieved only through ERA's sound research, advanced engineering, quality control and modern production techniques.

SLIM-TRAN TRANSIENT FILTERS



For All Types Of Transistor Inverters, Converters, Frequency Changers and Semi-Conductor Switching Circuits . . .

Slim-Tran Transient Filters are intended for all types of transistor switching applications. These Slim-Tran components are connected to the D.C. input and eliminate hash and noise transmission to the external circuitry and also protect the switching transistors against line conducted transients.

These units incorporate special filtering circuitry utilizing low loss inductive elements and high Q capacitors. Special core materials and miniaturizing techniques are used so as to achieve a maximum Attenuation/Volume Factor.

Stock units are available for center keying frequencies of 60, 400, 2,000 and 5,000 cycles. Other frequencies and current ratings are available on order. Also special designs for commercial designs can be supplied.

UNITS AVAILABLE BUILT TO MILITARY SPECIFICATIONS

Write For Complete Technical Bulletin

Model No.	Center Freq. cps	I dc Max.	DC Res. Ohms	Atten. db Approx.	Size Inches	Wt. Oz.	Price*
HF6-2	60	2	0.3	30	1⅝ x 1½ x 2½	6	$10.50
HF6-5	60	5	0.4	24	1¾ x 1½ x 2⅝	8	11.00
HF40-2	400	2	0.3	30	1¼ x 1½ x 2	5	9.00
HF40-5	400	5	0.2	28	1½ x 1¾ x 2	8	10.00
HF200-2	2,000	2	0.3	42	1¼ x 1½ x 2	4	9.50
HF200-5	2,000	5	0.2	40	1½ x 1¾ x 2	6	10.50
HF500-1	5,000	1	0.3	50	1¼ x 1¼ x 1¾	4	8.75

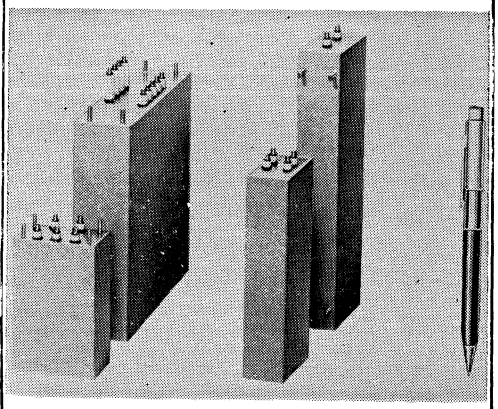
*FOB Nutley — Write for Quantity Discounts Prices subject to change without notice.

SEND US YOUR REQUIREMENTS . . . ERA ELECTRIC is always available for consultation and technical assistance in your specific requirements. Custom engineered units are designed to customer specifications, and supplied in either prototype lots or production quantities. Quotations and comments covering your requirements gladly supplied without obligation.

SLIM-TRAN *Space Saving* TRANSFORMERS

FEATURES:

- Minimizes Dimensions In 1 & 2 Planes
- Significant Volume Reduction
- Reduction In Weight
- Customed Designed to Specifications
- Built to Mil-T-27A
- Moderately Priced
- Available In All Types



Slim-Tran, a new concept in design and construction of electronic transformers, eliminates the bulkiness of conventional transformers. Constructed of L-shaped laminations in various physical configurations and employing solenoid-type coils, Slim-Tran significantly reduces over-all volume, decreases weight, reduces dimensions in 1 and 2 planes while still maintaining a high order of efficiency.

These units are ideally suited for guided missile applications, portable and mobile equipment, miniaturized apparatus and all types of applications where space and weight reduction is a requirement.

Slim-Tran can be designed for most transformer applications, (power, audio, filament, chokes, etc.) and are available up to 500 VA ratings. Slim-Tran can be obtained in open type construction or in potted, encapsulated and hermetically sealed types. Units can be designed for commercial applications or to meet military requirements.

WRITE FOR ERA'S COMPLETE TECHNICAL BULLETIN

Reg. U.S. Pat. Off.

ERA ELECTRIC CORPORATION

67 E. Centre Street • Nutley, New Jersey NUtley 2-5811

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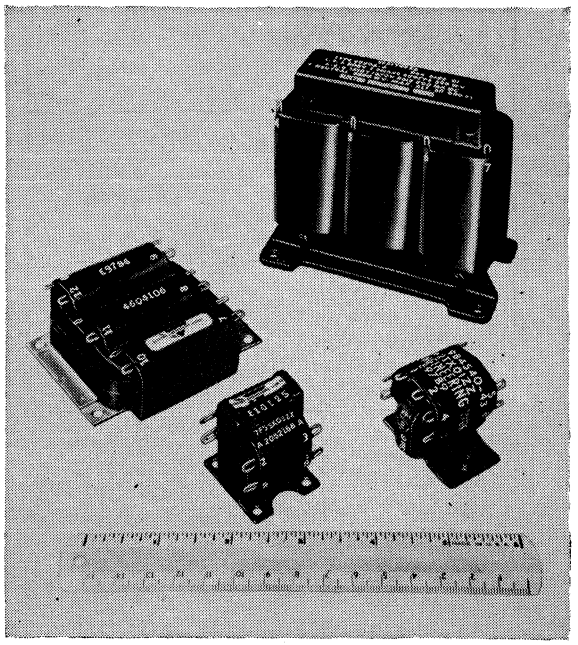
ELECTRO

high reliability transformers

HR-EPSEAL / PATENTED* ULTRACAPSULATION FOR HIGH RELIABILITY IN SEVERE ENVIRONMENTS!



*Patent Pending

Less weight . . . less bulk . . . higher ambient operation! HR/Epseal construction cuts temperature rise 50%, compared with conventional units, to provide extreme miniaturization plus 125°C or higher ambient operation. Proven reliability for missile and airborne applications!

CLASS T OPERATION . . . Qualifies under Mil-T-27A to Grades 2 and 5, Class T, Life X specifications.

ULTRACAPSULATED . . . With exclusive moisture barrier that eliminates heavy outer coating of encapsulant. Core, coil and terminals are bonded into a solid, rugged unit that is impervious to environmental conditions.

HIGH EFFICIENCY . . . HR/Epseal construction provides an exceptionally high conductor space factor . . . assuring high efficiency and good regulation.

MINIATURE TO 250 KVA . . . HR/Epseal meets missile and airborne requirements for extreme miniaturization with reliability. Also, this unique construction now can be furnished in high power units for military ground equipment . . . or wherever high reliability is paramount.

ENGINEERED TO YOUR SPECIFICATIONS

COMPARE THE CHARACTERISTICS OF THESE TYPICAL EPSEAL UNITS:

Part Number	Cycles	Description	Average VA	Ambient °C	Rise °C	Regulation %	Dimensions H	W	D	Wt. (in lbs.)
E11106	400	200V 3PH Delta to 1510 WYE/870V 0.420A RMS	1100	100	75	3.0	4.00	4.50	2.56	5
E11107	380	115V to 160V 0.055A RMS; 6.3V 9.5A RMS; 31V 1.5A RMS	115	130	42	3.2	2.00	2.44	1.64	1.0
E11108	380	115V to 455-460-465V 0.125A RMS	58	130	51	5.0	1.44	1.72	1.50	0.25
E11109	380	115V to 30V 0.300A RMS	9	150	13	4.0	1.40	1.67	1.20	0.25
E11110	60	108-117-125V to 6.3V 2A RMS; 5.0V 2A RMS; 400VCT 0.100A RMS	56	120	56	17.5	1.89	2.25	2.83	1.69
E11111	60	108-117-125V to 3000VCT 0.175A RMS	435	100	75	2.8	3.97	4.12	3.45	9.0

ELECTRO

ELECTRO ENGINEERING WORKS, inc. / 401 Preda St., San Leandro, Calif. LOckhaven 9-3326

Engineers and manufacturers of high reliability transformers for all airborne, instrument and broadcast applications . . . from microwatt to megawatt. We invite your inquiry.

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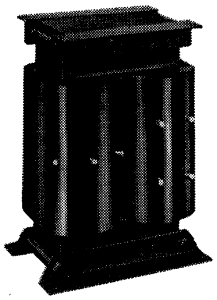
high reliability transformers

ELECTROSEAL / ENCAPSULATED CONSTRUCTION FOR HEAVY DUTY INDUSTRIAL APPLICATIONS



Engineered to your specifications

AVAILABLE FROM 1 TO 250 KVA . . . Electroseal construction was developed especially for *heavy duty* service in high power electronic equipment such as radio broadcast transmitters where *reliability* is essential.

RUGGED CONSTRUCTION . . . Coils are impregnated 100% solid and sealed with epoxy resin to render them resistant to moisture, dirt and physical damage. Tough coil covering gives extra protection and neat appearance.

MAXIMUM COOLING EFFICIENCY . . . Exclusive thin solid coil construction promotes rapid heat dissipation, *cuts temperature rise,* and provides *high overload capacity* for *built-in reliability.*

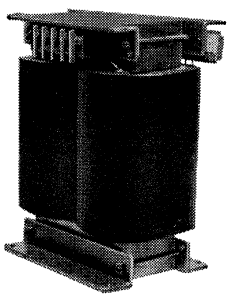
GREATLY REDUCED SIZE, WEIGHT . . . Open construction eliminates bulky cases. Maximum cooling efficiency of coils permits further reductions. Over-all weight reductions often exceed 50%.

HIGH TEMPERATURE RATINGS . . . Electroseal transformers can be furnished in Class B (130°C) and higher (170°C) temperature ratings as well as Class A, thus offering further size reductions or extra protection from extreme ambient temperatures.

typical applications

POWER TRANSFORMERS — HIGH VOLTAGE PLATE TRANSFORMERS
MODULATION TRANSFORMERS AND REACTORS
FILTER REACTORS — SATURABLE REACTORS

STANDARD PLATE SUPPLY TRANSFORMERS AND FILTER CHOKES



Immediate delivery from stock — Powerful . . . compact . . . reliable — Electroseal construction — Popular units for commercial, industrial, and amateur applications

	UNIVERSAL PLATE SUPPLY TRANSFORMERS (Professional Series)			STANDARD PLATE SUPPLY TRANSFORMERS (Center-Tap Near Ground)	
Type Number	E5105	E5017	E4881	E5706	E5707
DC output volts	*2000-1750 1500	*2000-1500-1250-1000-750	*3000-2500-2250-2000-1500	2500	3000
DC Milliamperes (CCS)—(ICAS)	350-500	430-650	500-700	350-500	430-650
Approximate dimensions—inches	7¼x4¾x7¾ high	7¼x5¼x9¼ high	7¾x5¾x9¾ high	7x5¼x8½ high	7x5¾x10 high
Approximate weight—pounds	30	38	48	33	45

*Figures assume adequate choke input filter. Double these voltages are available using a bridge rectifier.
All units have a dual primary for 115 or 230 volt service, 50 or 60 cycles.
A data sheet on the Universal Plate Supply Transformers is available upon request.

	SMOOTHING CHOKES		SWINGING CHOKE
Type Number	E6422	E5933	E6543
Henries	8	10	5-18
MA DC (CCS)	600	800	600-100
Ohms D. C. Res.	55	40	55
Working Volts	4000 DC	6000 DC	4000 DC
Approximate Dimensions—inches	5x4¾x6¼ high	6¾x5x7 high	5x4¾x6¼ high
Approximate Weight—pounds	18	33	18

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Look to Electro for high reliability transformers of all kinds . . . including high voltage oil-insulated units, magnet coils, klystron focusing coils, charging reactors and high voltage filament transformers. Engineered to your specifications.

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high reliability transformers

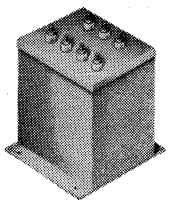
MODULATION TRANSFORMERS / PATENTED DESIGN OFFERS SUPERIOR PERFORMANCE

Based upon a revolutionary new design concept, these units represent the most advanced approach in quality broadcast modulation transformers. For the first time the "guess work" has been removed from the design and selection of modulation components, and the problem is approached from a sound engineering basis. The following diagram and table indicate the circuit in which these units are used and the critical component values.

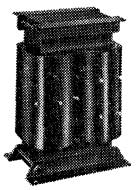
★ **RESPONSE ±1.0 DB 40 CPS — 10 KC AND LESS THAN 2½% DISTORTION — WITHOUT FEEDBACK!**

★ **SIZE AND WEIGHT SLASHED! THIS IS A NATURAL BY-PRODUCT OF THE PATENTED DESIGN. PERMITS SUBSTANTIAL ECONOMIES IN INSTALLATION.**

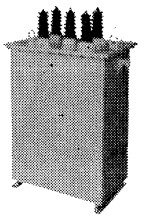
★ **HIGHEST RELIABILITY. RUGGED, CONSERVATIVE CONSTRUCTION. BUILT FOR MANY YEARS OF TROUBLE-FREE OPERATION.**



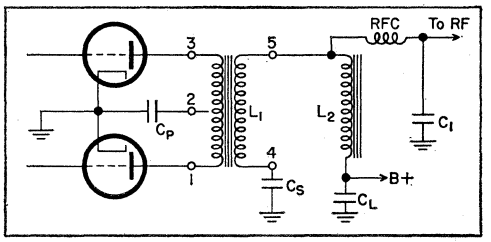
No. 1 SILICOL STYLE



No. 2 ELECTROSEAL STYLE



No. 3 OIL-INSULATED STYLE



	TRANSMITTER RATING	250W	500W	1KW	5KW	10KW	50KW
TRANSFORMER	Design Number	E10561	E10563	E10565	E10567	E10569	E10571
	Audio KVA	0.225	0.450	0.850	4.0	8.0	40
	Modulator DC Volts Min.	1500	1750	2500	4750	5000	8500
	Modulator DC Volts Max.	1750	2000	2900	5250	5500	9500
	PP PRI Volts RMS	1450	1600	2800	4800	6000	11,000
	SEC Volts RMS	1250	1500	2050	3900	3900	6700
	SEC Taps % Volts	−5, −10	−5, −10	−5, −10	−5, −10	−3, −6	−3, −6
	SEC Henries (L_1)	65	50	60	33	20	10
	Style Fig. No.	1	1	1	2	2	3
	W. D. H. (Inches)	6x6x7	7x6x9	9x8x11	12x9x14	15x10x19	28x18x42
	Weight (Lbs.)	20	30	65	140	275	1500
REACTOR	Design Number	E10562	E10564	E10566	E10568	E10570	E10572
	Henries (L_2)	75	50	45	30	20	10
	Amperes DC	0.250	0.425	0.600	1.5	3.0	9 Max.
	Max Wk V DC	2500	2500	3300	6000	6000	10,000
	Style Fig. No.	2	2	2	2	2	3
	W.D.H. (Inches)	7x6x8	8x7x9	8x7x10	12x9x15	16x10x23	28x18x42
	Weight (Lbs.)	30	45	65	165	425	1500
CAPACITANCE	C_P DC Filter Cap.	4 MFD	4 MFD	8 MFD	6 MFD	6 MFD	8 MFD
	C_L DC Filter Cap.	4 MFD	4 MFD	8 MFD	6 MFD	6 MFD	8 MFD
	Cs Coupling Cap.	1.5 MFD	2 MFD	1.5 MFD	2 MFD	5 MFD	5 MFD
	C_I Total RF Cap.	750 MMFD	1100 MMFD	1100 MMFD	1500 MMFD	2000 MMFD	4000 MMFD

NOTE:

C_P & C_L are same if one supply is used. For optimum performance, available audio UPO should be at least 60% of DC input to RF stage.

U.S. Pat. No. 2798202

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Engineers and manufacturers of high reliability transformers for all airborne, instrument and broadcast applications . . . from microwatt to megawatt. We invite your inquiry.

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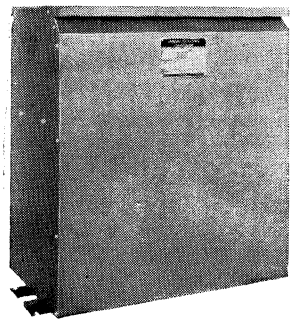
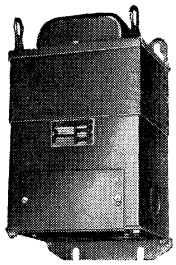
GENERAL ELECTRIC DRY-TYPE TRANSFORMERS

A Complete Line For Commercial Electronic Applications

Reliable and efficient operation of electronic equipment depends upon the availability of uniform, high-quality electric power. To help solve the associated voltage problems, General Electric offers a complete line of dry-type transformers.

For Large Power Requirements





General-Purpose and Distribution Transformers in standard ratings of 500 kva and below to step down the voltage of 480- through 15,000-vole distribution systems to utilization voltages right at the load.

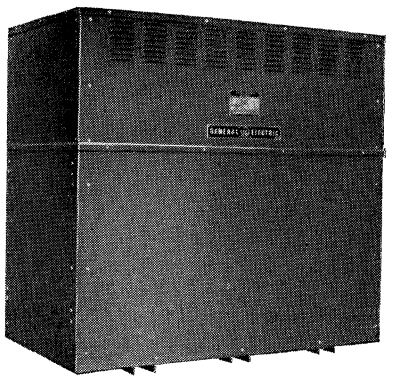
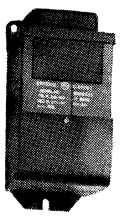


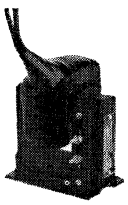
Plate power transformer

Plate Power Transformers and Reactors for radio and television transmitting applications.

For Small Power and Control Requirements



Control transformer

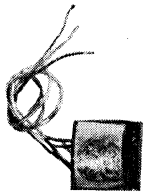


Filament transformer

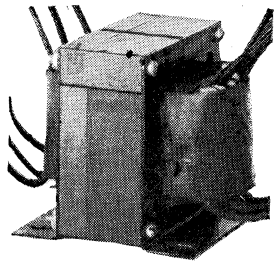
Control Transformers, open and enclosed construction, in standard ratings of 3 kva and below to step down distribution voltages at load for supplying voltage to relays, solenoids, signal lights, etc.

High-voltage Filament Transformers in a "corona-free" construction to isolate high operating voltages from ground.

For Audio, Pulse, Oscillator, Power, and Other Requirements



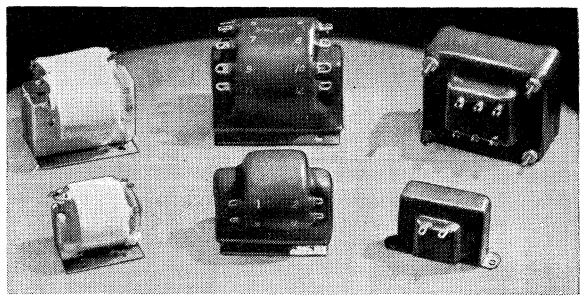
Subminiature (actual size)



Open construction

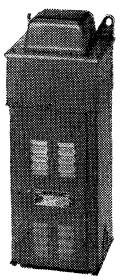
Subminiature available in several sizes and five construction types for miniature applications.

Open Construction with terminal boards or leads for application where moisture resistance is not a factor.

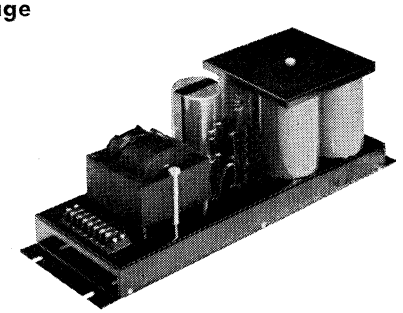


Encapsulated designs of three types which permit electronic engineers to choose the best and least-expensive construction for their applications.

For Stabilizing Voltage



Voltage stabilizer



Stabilized d-c power supply

Voltage-stabilizing Transformers available from General Electric include both standard and harmonic-filtered units. Standard units available in standard ratings up through 10 kva, will hold line-voltage variations of 30% to within ±1% to help assure positive response of relays, electron tubes, etc. Harmonic-filtered units feature a maximum distortion of 3% from true sine wave at full load and are available in a standard line of models from ¼ through 10 kva.

Stabilized D-c Power Supplies, combining the functions of stabilization and rectification, to provide a stabilized d-c voltage.

For further information contact your nearest General Electric Apparatus Sales Office, or address Section 640-496, Schenectady 5, N.Y. Inquiries for specific information, models, prices, etc., should give details of your application requirements.

See YELLOW SECTION for Local Offices, Telephone, etc.

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TRANSFORMERS

This group of transformers and filter reactors are designed to meet the full requirements of MIL-T-27A specifications, and are hermetically sealed in standard MIL-T-27A case sizes. They provide the highest standard of quality necessary for military and professional requirements.

The range includes the specific types standardized by the Armed Services Standards Agency as well as a group of standard types for 400 cycle power supplies.

Transformers and reactors meeting MIL-T-27A specifications Grade 1 through 6, Class Q, S, T, or U can be supplied on special order.

A wide range of transformers and reactors of all varieties are regularly manufactured, including the more economical types for commercial use.

If the ratings you require are not listed, we can offer prompt competitive quotations on designs to your specifications.

MILITARY STANDARD FILAMENT TRANSFORMERS Input 105/115/125 Volts 60 Cycles ± 10%

Cat. No.	MIL Types	Military Standards No.	Sec. Volts	Sec. Amps	Test Volts	Case	Wt. Lbs.	List Price
FMF 20	TF1RX01EB002 or TF4RX01EB002	MS90016-1 or 2	2.5	3	2500	EB	1	$14.40
FMF 21	TF1RX01GB003 or TF4RX01GB003	MS90017-1 or 2	2.5	10	2500	GB	2.125	21.60
FMF 22	TF1RX01FB004 or TF4RX01FB004	MS90018-1 or 2	5.0	3	2500	FB	1.5	15.90
FMF 23	TF1RX01HB005 or TF4RX01HB005	MS90019-1 or 2	5.0	10	2500	HB	3.125	24.60
FMF 24	TF1RX01FB006 or TF4RX01FB006	MS90020-1 or 2	6.3	2	2500	FB	1.25	15.60
FMF 25	TF1RX01GB007 or TF4RX01GB007	MS90021-1 or 2	6.3	5	2500	GB	2.125	19.80
FMF 26	TF1RX01JB008 or TF4RX01JB008	MS90022-1 or 2	6.3	10	2500	JB	5	27.00
FMF 27	TF1RX01KB009 or TF4RX01KB009	MS90023-1 or 2	6.3	20	2500	KB	7.75	33.00
FMF 28	TF1RX01JB012 or TF4RX01JB012	MS90024-1 or 2	2.5	10	10,000	JB	4.25	25.80
FMF 29	TF1RX01KB013 or TF4RX01KB013	MS90025-1 or 2	5.0	10	10,000	KB	6	31.80

MILITARY STANDARD PLATE AND FILAMENT TRANSFORMERS Input 105/115/125 Volts 60 Cycles ± 10%. Choke Input Filter

Cat. No.	MIL Types	Military Standards No.	FIL 1	FIL 2	Plate (RMS)	Current	Case	Wt. Lbs.	List Price
FMP 30	TF1RX03HA001 or TF4RX03HA001	MS90026-1 or 2	6.3/5v 2a	6.3v 3a	200-100-0-100-200	.07A.DC	HA	3.75	$27.00
FMP 31	TF1RX03JB002 or TF4RX03JB002	MS90027-1 or 2	6.3/5v 2a	6.3v 4a	325-0-325	.07A.DC	JB	5.125	27.90
FMP 32	TF1RX03KB006 or TF4RX03KB006	MS90028-1 or 2	5v 3a	6.3v 5a	325-0-325	.150A.DC	KB	7.25	36.00
FMP 33	TF1RX03LB003 or TF4RX03LB003	MS90029-1 or 2	5v 3a	6.3v 8a	400-0-400	.175A.DC	LB	9.5	43.20
FMP 34	TF1RX03MB004 or TF4RX03MB004	MS90030-1 or 2	5v 3a	6.3v 8a	450-0-450	.250A.DC	MB	12.125	51.00
FMP 35	TF1RX02KB001 or TF4RX02KB001	MS90031-1 or 2			350-0-350	.250A.DC	KB	7.125	33.60
FMP 36	TF1RX02LB002 or TF4RX02LB002	MS90032-1 or 2			550-0-550	.250A.DC	LB	9.5	39.00
FMP 37	TF1RX02NB003 or TF4RX02NB003	MS90036-1 or 2			800-0-800	.250A.DC	NB	14.75	54.00

400 Cycle Transformers

FILAMENT TRANSFORMERS

Input 115 Volts 380-1200 Cycles

Cat. No.	Sec. Volts	Sec. Amps	Test Volts	Case	Wt. Lbs.	List Price
FF 440	6.3 ct	2	1500	AJ	.625	$16.20
FF 41	6.3 ct	5	1500	EA	1	21.60
FF 42	6.3 ct	5	2500	FA	2	24.00
	6.3	5	2500			
FF 43	5/6.3	3	2500	EB	.95	21.00
FF 44	5 ct	6	2500	EA	1	21.60
FF 45	2.5 ct	10	5000	HB	2.75	27.60

PLATE AND FILAMENT TRANSFORMERS

Input 115 Volts 380-1200 Cycles. Choke Input Filter

Cat. No.	Plate RMS	DC Amps	Filaments	Case	Wt. Lbs.	List Price
FP 40	250-0-250	.070	5/6.3V 2A 6.3Vct 3A	GB	1.875	$29.40
FP 41	325-0-325	.120	5V 3A 6.3 ct 5A	JB	4.625	37.20
FP 42	400-0-400	.200	5V 3A 6.3Vct 6A	KB	6.625	45.00
FP 43	350-0-350	.250	——	JB	4.625	33.60
FP 44	500-0-500	.250	——	KB	6.25	39.60

FERRANTI ELECTRIC, INC.

TRANSFORMER DIVISION

30 MAIN STREET BROOKLYN 1, N. Y.

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TRANSFORMERS

MILITARY STANDARD AUDIO TRANSFORMERS

Frequency Response 300-10,000 c.p.s. ± 2DB

All units are hermetically sealed in MIL-T-27A case size AJ and are designed to meet the full requirements of the MIL-T-27A specification.

Cat. No.	Function	Type Designation	IMPEDANCE LEVEL (in ohms) Primary	Secondary	Ratio	Max. Power Level DBM	Pri. D.C. Per Side in MA	Max. D.C. Unbal-ance	Wt. Lbs.	List Price
FMA 550	Interstage, Single or P.P. plates to single or P.P. grids	TF1RX15AJ001	10,000 CT	90,000 split and CT	1:3 overall	+15	10	10	.625	$25.80
FMA 551	Matching, 600 ohm line to voice coil	TF1RX16AJ002	600 split	4, 8, 16	6.12:1 overall	+33	0	0	.625	25.80
FMA 552	Input, 600 ohm line to single or P.P. grids	TF1RX10AJ001	600 split	135,000 CT	1:15	+15	0	0	.625	25.80
FMA 553	Matching, 600 ohm line to 600 ohm line	TF1RX16AJ001	600 split	600 split	1:1	+15	0	0	.625	25.80
FMA 554	Output, single plate 7600 ohm or 4800 ohm to 600 ohm line	TF1RX13AJ001	7600 tap @ 4800	600 split	3.56:1	+33	40	40	.625	25.80
FMA 555	Output, single plate 7600 ohm or 4800 ohm to voice coil	TF1RX13AJ002	7600 tap @ 4800	4, 8, 16	21.8:1	+33	40	40	.625	25.80
FMA 556	Output, single or P.P. plates to 600 ohm line	TF1RX13AJ003	15,000 CT	600 split	5:1	+33	10	10	.625	25.80
FMA 557	Output, P.P. plates to 600 ohm line	TF1RX13AJ004	24,000 CT	600 split	6.32:1	+30	10	1	.625	25.80
FMA 558	Output, P.P. plates to 600 ohm line	TF1RX13AJ005	60,000 CT	600 split	10:1	+27	10	1	.625	25.80

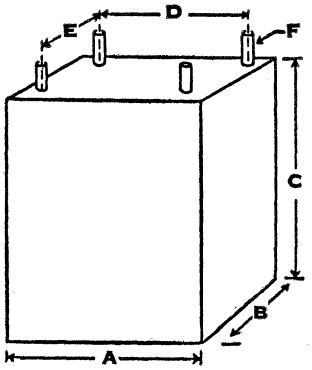
FILTER REACTORS

FOR 60 CYCLE POWER SUPPLIES

Cat. No.	DC Amps	Induct. Henries	Resist. Ohms	Test Volts	Case	Wt. Lbs.	List Price
FC 410	.020	30	930	1500	AJ	.625	$13.80
FC 11	.070	15	260	2500	GB	2.25	15.60
FC 12	.150	10	110	2500	JB	4.75	19.20
FC 13	.200	8	90	2500	KB	6.25	23.40
FC 14	.300	10	95	2500	LB	9.625	27.90

FOR 400 CYCLE POWER SUPPLIES

Cat. No.	DC Amps	Induct. Henries	Resist. Ohms	Test Volts	Case	Wt. Lbs.	List Price
FC 440	.070	3	225	1500	AJ	.625	$13.20
FC 41	.120	3	145	2000	EB	1	14.40
FC 42	.200	3	115	2000	FB	1.5	17.40
FC 43	.250	3	65	2000	GB	2.25	18.60



MIL-T-27A CASE AND MOUNTING DIMENSIONS

Case	A	B	C	D	E	F
AJ	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	6-32
EA	1 15/16	1 13/16	2 3/8	1 3/8	1 1/4	6-32
EB	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32
FA	2 5/16	2 1/16	3 1/8	1 11/16	1 7/16	6-32
FB	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	**6-32**
GB	2 3/4	2 3/8	2 13/16	2 1/8	1 3/4	6-32
HA	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	8-32
HB	3 1/16	2 5/8	3 3/16	2 19/64	1 55/64	8-32
JB	3 5/16	3 1/16	3 7/8	2 5/8	2 1/8	8-32
KB	3 15/16	3 3/8	4 5/16	3	2 7/16	10-32
LB	4 5/16	3 11/16	4 1/2	3 5/16	2 11/16	10-32
MB	4 11/16	4	4 15/16	3 11/16	3	1/4-20
NB	5 1/16	4 5/16	5 1/2	4 1/16	3 5/16	1/4-20

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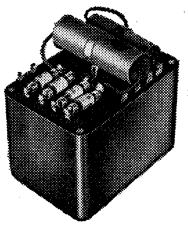
POWER TRANSFORMERS — 60 CPS



Particularly for measuring instruments and other critical applica tions where space is at a premium, or operating temperatures are high. Each unit generally contains one power transfo rmer and two filter chokes vacuum potted in a molded case with high-temperature resin. The power transformer normally has two 6.3 V., 2 Amp. heater windings, and a high voltage C.T. winding intended for bridge rectifier systems composed of sili con diodes. Two output voltages, full- and half-, can thus be obtained. Full output voltage up to 600 v.d.c. are available at the listed price. Volt ages up to 2,000 available upon request. *Specify in terms of full output voltage,* for an input filter condenser of 20 μf. A total of 75 watts is available from the power transformer and it is usually divided on the basis of 25 watts for heaters and 50 watts for plates, etc. Filter chokes have from 5 to 50 henrys depending upon the current and voltage chosen. Ter minals are arranged for direct soldering of rectifiers and filter condenser connections so that time, effort and cost in providing hard ware is avoided. Units are provided for chassis mounting or for use on the laboratory bench. Chassis units req uire two rectangular openings for terminals and four mounting holes. The two rectangular openings permit a sheet of metal under the rectifiers to pro vide a heat sink. Bench units are provided with two studs for mounting cartridge-type filter condensers.

Nomenclature: + Write A-C Input, # D-C Output Voltages

PART NUMBER	FUNCTION	CASE DIMENSIONS	PRICE EACH
+ B234 #	Power Supply, Two-Choke Combination For Chassis Mounting. First Choke Filters Full Output Voltage. Second Choke Filters The Half-Voltage Output	4 9/16 x 3 1/4 x 3 7/16	$35.00
B235	Power Supply, Two-Choke Combination For Chassis Mounting. Both Chokes Filter Full Voltage	As Above	35.00
B244	Same As B234 Except For Bench Use	As Above	35.00
B245	Same As B235 Except For Bench Use	As Above	35.00
B250	Power Supply Transformer Alone. Flat Mounting By Means Of 12-24 Tapped Central Insert	3 3/16 Diameter x 1 7/8 High	22.00
B260	Power Supply Transformer Alone. Vertical Mounting By Means of four 8-32 Tapped Inserts	3 1/4 x 1 7/8 x 3 5/8	22.00

TRANSISTORIZED POWER SUPPLY TRANSFORMERS

For both common emitter and common collector circuits. Toroidal windings on ring cores. Wattages ranging from 5 to 150. Primary volts, 6 to 50 v.d.c.; Secondary voltages up to 600 v.d.c. Primary and feedback windings are bifilarly wound for best coupling conditions. Secondary well insulated, center-tapped and uniformly wound around the core. With proper circuitry, efficiencies of 75 to 80% may be obtained.

Nomenclature: + Write D-C Input, # D-C Output Voltages

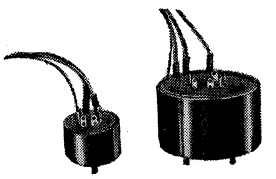
Part Number	Circuit Type	Core Type	Nominal Wattage	Approximate Frequency	Case Dimensions	Price Each
+ B96 #	Common Emitter	Ferrite	20	4 Kc.	1 1/2 Diam. x 7/8	$ 8.50
B106	Common Emitter	Ferrite	50	3.5 Kc.	1 7/8 Diam. x 1 1/16	9.50
B98	Common Emitter	Tape	25	1.2 Kc.	1 1/2 Diam. x 7/8	10.00
B108	Common Emitter	Tape	50	1.0 Kc.	2 1/4 Diam. x 1 1/4	12.00
B118	Common Emitter	Tape	100	.8 Kc.	2 1/2 Diam. x 1 3/8	14.00
B271	Common Collector	Tape	50	1.0 Kc.	2 1/4 Diam. x 1 1/4	13.00
B281	Common Collector	Tape	100	.8 Kc.	2 1/2 Diam. x 1 3/8	15.00
B291	Common Collector	Tape	150	.7 Kc.	2 3/4 Diam. x 1 1/2	17.00

LOW AND MEDIUM FREQUENCY TOROIDAL TRANSFORMERS

For experimental use and small production runs. Audio frequencies to 500 Kc. Mo-permalloy powder ring cores. Each transformer has three center-tapped windings. Can be hooked up to fit most any circuit position; Input, Output, Interstage, Oscillator, Filter Reactor, Etc.; single-ended or push-pull; step up or stepdown; tubes or transistors. Operates tuned or untuned. Having one or more sets available saves precious development time. If you use these transformers in your development work, we will furnish a production model, cut-down or built-up to fit your exact requirements, at cost. No additional design charges.

PART NUMBER	AWG WIRE SIZE	APPROX. TERTIARY INDUCTANCE	APPROX. TERTIARY RESISTANCE	TEST FREQ. Kc.	APPROX. Q AT TEST FREQ.	MAX UNBALANCED D.C. IN TERTIARY MILLIAMPERES	SUGGESTED FREQUENCY RANGE—Kc.	CASE DIMENSIONS	PRICE EACH
41A76	40	7 h.	1150 Ω	1.8	58	38	0.1 to 10	1 1/2 Diam. x 7/8	$15.95
41A26	38	2 h.	370 Ω	1.8	53	70	0.3 to 30	1 1/2 Diam. x 7/8	10.90
42A75	38	0.7 h.	314 Ω	8.0	129	131	0.5 to 70	1 1/2 Diam. x 7/8	9.80
42A25	36	0.2 h.	105 Ω	8.0	117	245	1 to 100	1 1/2 Diam. x 7/8	8.50
43A74	35	.07 h.	77 Ω	75.0	360	507	5 to 200	1 1/2 Diam. x 7/8	8.60
43A24	33	.02 h.	25 Ω	75.0	340	950	10 to 300	1 1/2 Diam. x 7/8	7.90
44A73	31	.007 h.	9 Ω	75.0	144	1600	20 to 500	1 1/2 Diam. x 7/8	8.20
4A7	A SET OF THE ABOVE 7 TRANSFORMERS								55.00

HIGH VOLTAGE TRANSFORMERS FOR RADIATION COUNTERS



These transformers are designed to produce the voltages needed to operate scintillation counter-photo-multiplier combinations, Geiger counters, BF_3 counters, Etc. They are constructed and processed to withstand continuous operation at temperatures up to 180°C (356°F). The output voltages are sufficiently high to permit the use of good regulating circuits. Voltage regulation of 1%, or better, may thus be readily obtained. Heater voltages for rectifier tubes, such as 1B3-GT, 1V2, Etc., are supplied in all four types, and the heater windings are insulated to withstand the full output voltage with plenty of reserve. The two larger transformers also provide a heater voltage for a series regulator tube such as a 2C53 or 6842. The suggested circuitry, which is very simple, will be furnished upon receipt of an order for one or more transformers.

Nomenclature: + D.C. Input Voltage, 100 volts or more. #A.C. Output Voltage.

PART NUMBER	CIRCUIT TYPE	TUBES USED	OUTPUT VOLTAGES			CASE DIMENSIONS	PRICE EACH
			HEATERS FOR RECTIFIERS	HEATERS FOR REGULATOR	HIGH VOLTAGE		
+ B77 #	Radio Frequency	1, 12AU7	1.25 V.A.C. at 0.2 Amps	6.3 V.A.C. at 0.3 Amps	Up to 3000 at 250 μAmps	2 1/4 Diam. x 1 1/4	$25.00
B78	Radio Frequency	2, 12AU7	1.25 V.A.C. at 0.2 Amps	6.3 V.A.C. at 0.3 Amps	Up to 5000 at 500 μAmps	2 1/2 Diam. x 1 3/8	28.00
B174	Radio Frequency	1, 12AU7	1.5 V.A.C. at .050 Amps	None	Up to 2000 at 100 μAmps	1 1/4 Diam. x 3/4	19.00
B237	Blocking Osc.	Triode	1.5 V.A.C. at .050 Amps	None	Up to 2000 at 100 μAmps	1 Diam. x 1 3/4	21.00

Magnalectric
CORPORATION

Custom designs to your specifications. The above are but a few examples of the transformers we manufacture.

2635 N. IROQUOIS P.O. BOX 6008 TULSA, OKLAHOMA
Telephone FIlmore 5-7278

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PLUG-IN INPUT

Matches commercial recorder and amplifiers.

Magnetic Shielding 65db. Frequency response 20-20,000±2db Octal Type Plug.

Available on special order with alternate plug-in headers or hermetically sealed.

Part Number	Primary Impedance	Secondary Impedance
M8030*	250/50 C.T.	50,000
M8031	600 C.T./150	50,000
M8032†	250 C.T.	50,000
M8033†	50 C.T.	50,000

*M8030 designed as replacement for Ampex No. 1733-1
†M8032 and M8033 mates with sockets on many RCA amplifiers.

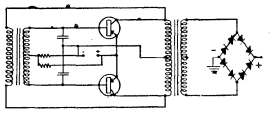
MINIATURE TRANSISTOR TRANSFORMERS from stock!

MICROTRAN transistorized transformers are ruggedized, military-type components developed to meet the growing demand for miniaturization. Design and performance meets or exceeds all applicable commercial and government specifications including MIL-T-27A, MIL-T-9219, AN-E-19, CAA-R-9786, MIL-E-5400, MIL-E-16400, MIL-E-4158, MIL-E-8189A, MCREE-553, MIL-T-945A. Available for immediate delivery from Franchise Stocking Distributors.

DC-DC CONVERTER

All Items Designed for 13.6V. Except 8034 which is for 28V Input.

TYPICAL DC-DC CONVERTER CIRCUIT



Part Number	Total V.A. Output	D.C. Output F. W. Bridge Volts	F. W. Bridge Ma.	C.T. Full Wave Volts	C.T. Full Wave Ma.
M8034	125	500	250	250	420
M8035	125	500	250	250	420
M8036	40	450	90	225	155
M8037	22.5	250	90	125	155

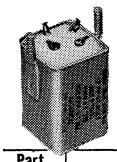
SILICON RECTIFIER
Power Supply

Circuitry Primary 105/115/125 Volts**. Hermetic sealed to MIL-T-27A
See Catalog for additional information.

Part Number	Secondary A.C. Volts	Rectifier Circuit R.M.S. Amperes	C.T.** Full Wave	F.W.** Bridge
M8018*	18.5 C.T.	1	7V.	14V.
M8019*	18.5 C.T.	3	7	14
M8020*	35 C.T.	3	14.5	29
M8021*	70 C.T.	1	30	60
M8022†	18.5 C.T.	3	7	14
M8023†	35 C.T.	3	14.5	29
M8024†	70 C.T.	1	30	60

*380-1600 Cy. †50-60 Cy.
**DC output volts stated are for resistive or inductive loads. Capacitor imput may be used if RMS AMPS is not exceeded.

TRANSISTOR OUTPUT



Frequency Response 200-15,000 ~
See catalog for case size

Part Number	Application	Pri. Imp.	Sec. Imp.	Level Watts
M8008	P.P. Output to Spkr.	25	3-4	3
M8007*	P.P. Auto Transf.	30 C.T.	4	2
M8009	P.P. Output to Spkr.	48 C.T.	3.2/8	5
M8010	P.P. Coll. to Servo	120 C.T.	1,000	6
M8011	P.P. Output to Spkr.	125 C.T.	3-4	1.5
M8012*	P.P. Coll. to Servo	140 C.T.	500	6
M8013*	P.P. Output to Spkr.	250 C.T.	3-4	.4
M8014	P.P. Output to Spkr.	400 C.T.	11	.25
M8015	P.O. Coll. to Servo	1,600 C.T.	800	2.5
M8016	P.O. Output to Spkr.	2,550 C.T.	12	.10

*Bi-Filar wound to minimize switching transients.

TRANSISTOR DRIVER

Designed specifically for transistor, servo and audio

Frequency response 70-20K

Size AF mill through AH Hermetically sealed to MIL-T-27A.

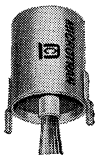
EPOXY MOLDED See catalog for exact sizes and weights.

ON SPECIAL ORDER ONLY

Part Number	Application	Pri. Imp.	Sec. Imp.	Pri. D.C. Unbal Ma.	Level Watts
M8002*	Coll. to P.P. Emit.	560	400 C.T.	18	.15
M8003*	Coll. to P.P. Emit.	625	100 C.T.	20	1.5
M8004	Coll. to P.P. Emit.	5,400	600 C.T.	15	.075
M8005	Coll. to P.P. Emit.	7,000	320 C.T.	7	.040
M8006	Coll. to P.P. Emit.	10,000	6,500 C.T.	.75	.005

*Bi-Filar wound to minimize switching transients.

LOW LEVEL CHOPPER



Efficiently transfers 30 to 500 cps. Transducer or Thermocouple signals to instrument amplifiers. Signal level range from .5μV. to .5 volts. Resin impregnated to minimize mechanical vibration noise signal. Low hum pick up assured by 3 mu-metal and 2 copper shields.

Part Number	Turns Ratio Full Pri. To Full Sec.	½ Pri. To Full Sec.	Ind. of Full Pri. @ .5V 60 Cycles	Imped. of Full Pri. @ .5V 60 Cycles
M8025	1:7.7	1:15.4	17.5	6,600
M8026	1:3.2	1: 6.4	60 Hy	22,500

Part Number	D.C. Resistance Full Pri.	Sec.	Mag. Shield.	Hght.	Dia.	Wt. Oz.
M8025	365	4140	90 DB	$1\frac{25}{32}$	$1\frac{3}{8}$D	4.5
M8026	455	3500	90 DB	$1\frac{25}{32}$	$1\frac{3}{8}$D	4.5

MINIATURE TRANSISTOR

Available in 8 case types.
Hermetic(-H) $\frac{15}{16}$"x$1\frac{3}{8}$", Wt. $1\frac{3}{4}$ oz.
Molded (-M) $\frac{7}{8}$" x $\frac{7}{8}$" x $1\frac{15}{32}$", Wt. $1\frac{3}{4}$ oz.
Open Frame(-F) $\frac{3}{4}$" x 1" x $\frac{13}{16}$", Wt. 1 oz.

Part Number	Application	Pri. Imp.	Sec. Imp.
MT1*	Line to Emit.	600	600
MT7*	Coll. to P.P. Emit.	25,000	1,200 C.T.
MT8*	P.P. Coll. to P.P. Emit.	25,000	1,200 C.T.
MT9*	Line to P.P. Emit.	600 C.T.	1,200 C.T.
MT11*	P.P. Coll. to P.P. Emit.	4,000 C.T.	600 C.T.
MT13*	P.P. Coll. to Speaker	4,000 C.T.	3.4
MT14*	Coll. to Speaker 2N179	400	10
MT15*	P.P. Servo Output 2N57	500 C.T.	210
MT18*	P.P. Coll. to P.P. Emit.	25,000 C.T.	1,200 C.T.
MT23*	P.P. Coll. to Servo	250 C.T.	1,000

Add either -AG, -H, -M, -FB, -FPB, -A, or -P to Part Number to designate construction. See catalog for detailed information.

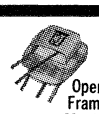
MICRO MINIATURE TRANSISTOR

Available in 4 case types
Hermetic (-H) $\frac{15}{16}$"x $\frac{11}{16}$", wt. ¾ oz.
Open Frame (-F) $\frac{7}{16}$" x $\frac{19}{32}$" x ¾", wgt. .4 oz.

Part Number	Application	Pri. Imp.	Sec. Imp.
MMT 5*	Coll. to Speaker	50,000	6
MMT 7*	Coll. to P.P. Emit.	25,000	1,200 C.T.
MMT 9*	Line to P.P. Emit.	600 C.T.	1,200 C.T.
MMT 10*	Coll. to Emit.	25,000	600
MMT 11*	P.P. Coll. to Emit or Line	4,000 C.T.	600 C.T.
MMT 12*	Coll. to Speaker	2,000	3.4
MMT 16*	Coll. to P.P. Emit.	10,000	1,500 C.T.
MMT 17*	P.P. Coll. to P.P. Emit.	10,000 C.T.	200 C.T.
MMT 18*	P.P. Coll. to P.P. Emit.	25,000 C.T.	1,200 C.T.
MMT 19*	Coll. to P.P. Emit.	2,500	2,500 C.T.

*Add either -M or -H to part number to designate construction. See catalog for detailed information.

VERI-MINIATURE TRANSISTOR



Open Frame (-F)* Wt. .16 oz. size $\frac{7}{16}$" x $\frac{7}{16}$" x ½"
(-FB)* Wt. .2 oz. $\frac{15}{32}$" x $\frac{7}{16}$" x $\frac{17}{32}$"
Molded (-M)* Wt. ¼ oz. $\frac{9}{16}$" x $\frac{9}{16}$" x ½" high
4" color coded leads, resin impregnated.

Part Number	Application	Primary Impedance (DC)	Secondary Impedance (DC)
VM 3*	Interstage	25,000	600 (1 ma)
VM 4*	Input or Interstage	200,000	1200 (.72 ma)
VM 5*	Interstage	50,000	600 (1.0 ma)
VM 6*	Interstage	100,000	1200 C.T. (.72 ma)
VM 7*	Output	500 (3.5 ma)	3.4
VM 9*	Output	1250 (2.0 ma)	50
VM 10*	Interstage	2,500 (1.5 ma)	2500 C.T.
VM 11*	Choke	20 Hy. (0 ma)	12 Hy. (.5 ma)
VM 12*	Interstage	20,000 (.75 ma)	1000
VM 13*	Interstage	20,000 .72 ma)	1000 C.T.

*Add either -F, or -M, or -FPB to part number to designate construction. See catalog.

ULTRA MINIATURE TRANSISTOR

Wt. .08 oz. size ⅜" x ⅜" x $\frac{11}{32}$"
Nylon Bobbin, Nickel-Alloy Core. 4" color coded leads, resin impregnated.
Encapsulated on special order

Part Number	Application	Primary Impedance (D. C.)	Secondary Impedance
UM 21-F	Input	100,000	1,000
UM 22-F	Driver	20,000	1,000
UM 23-F	Driver	20,000	1,200 C.T.
UM 24-F	Output	1,000	50
UM 25-F	Output	400	50
UM 26-F	Output	400	11
UM 27-F	Output	400 C.T.	11
UM 28-F	Choke	10 Hy. (0 dc)	8 Hy (.5 ma) 650

MICROTRAN company, inc.
145 E. MINEOLA AVE., VALLEY STREAM, N. Y.

Write TODAY for catalog and price list of the complete MICROTRAN line.

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MICROTRAN COMPANY INC., Valley Stream, N. Y.

RAPID DELIVERY OF CUSTOM BUILT TRANSFORMERS.

Separate Sampling Department for quick delivery. Immediate service assured by large stocks of high temperature insulation and other specialized materials.

IN-PLANT TESTING assures full compliance with military requirements and often saves weeks on contract completion. Units can be supplied to meet MIL-T-27A, MIL-T-9219, AN-E-19, CAA-R-9786, MIL-E-5400, MIL-E-16400, MIL-E-4158, MIL-E-8189A, MCREE-553, MIL-T-9454.

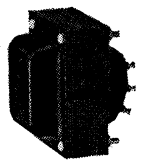

Figure C
Half-Shell

Figure E
Encapsulated
Channel Mtd.

Figure F
Open Frame

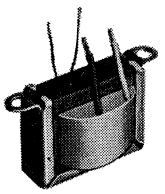

Figure FPB—Open Frame, Plug-in channel

Figure FB—Open Frame Channel Mtd.

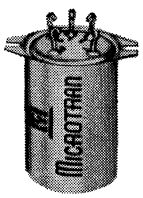

Figure H
Miniature Hermetic

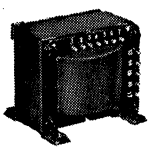

Figure I—Encapsulated with terminal board and Bracket

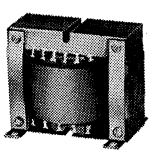

Figure J
Open Frame with Lugs

Figure K
Open Frame with Leads

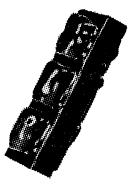

Figure L
3 ϕ Encapsulated

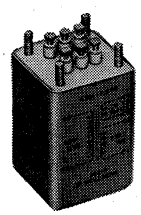

Figure MIL—Hermetic
MIL-T27A Case

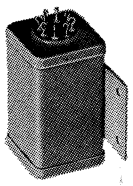

Figure N—Hermetic with flat bracket

400 CYCLE POWER SUPPLY TRANSFORMER — PRIMARY 115 VOLTS

Part No.	Secondary A.C. Volts	Secondary R.M.S Ma.	Test Volts R.M.S.	Dimensions L	W	H	Mounting Centers	Figure
M2954	24.2	10	1500	3 15/16	3 3/8	5 1/4	3 x 7/16	MIL-KA
M2821	30	500	500	2 5/16	2 1/16	2 1/2	1 11/16 x 1 7/16	MIL-FB
M2478	40 C.T.	200	500	2 3/8	1 1/4	1 3/8	2	FB
M2845	60 C.T.	166	500	1 5/16	1 5/16	1 3/4	1 1/4	MIL-AH

400 CYCLE POWER TRANSFORMER — PRIMARY 115 VOLTS

Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Filament Volts	Amps.	Dimensions L	W	H	Mounting Centers	Figure
M2751	115	5	6.3	0.35	1 5/16	1 5/16	1 3/4	1 1/4	MIL
M2193	115	20	6.3 C.T.	1.3	1 15/16	1 13/16	2 3/4	1 3/8 x 1 1/4	MIL-EA
M1092-2	800 C.T.	60	12.6 C.T.	1.0	2 3/8	1 15/16	2 1/4	1 11/16 x 1 13/16	R
M2301	500 C.T.	120	6.3 C.T.	3.0	2 1/2	2 1/2	2 17/32	2 1/16 x 2	K
M1144	40	180	26.0	1.2	2 5/16	2 1/16	3 1/8	1 11/16 x 1 7/16	MIL-FA

400 CYCLE FILAMENT TRANSFORMER — PRIMARY 115 VOLTS

Part No.	Filament Volts	Amps	Test Volts R.M.S.	Dimensions L	W	H	Mounting Centers	Figure
M2027	6.3	0.6	500	2 1/2	2	1 3/8	1	N
	6.3 C.T.	1.2						
M2810	6.3 C.T.	2.0	1000	1 15/16	1 13/16	2 3/4	1 3/8 x 1 1/4	MIL-EA
	6.3 C.T.	2.0						
M2096	6.3 C.T.	5.0	1000	2 1/4	1 3/4	2	1 7/16 x 1 9/32	R
M2724	12.6 C.T.	3.0	1000	2 1/2	2 5/16	3 5/8	1 3/4 x 1 9/16	MIL
	6.3	1.2						
M2830	12.6 C.T.	5.0	500	3 9/16	3 1/16	4 7/8	2 5/8 x 2 1/8	MIL-JA
	12.6 C.T.	5.0						
M2812	26.0	1.0	1000	1 15/16	1 13/16	2 3/4	1 3/8 x 1 1/4	MIL-EA

3 ϕ POWER TRANSFORMER — 400 AND 60 CYCLE

Part No.	Freq.	V.A. Capacity	Input Volts Line to Line	Output Volts Line to Line	Dimensions L	W	H	Mounting Centers	Figure
M2445	400	70	208	115	2 5/16	1 7/8	2 3/4	1 3/8 x 1 1/4	MIL
M2476	60	75	208	5	2 5/8	2 1/2	5 7/8	1 7/8 x 1 13/16	W
M2300	400	100	208	115	4 7/8	1 3/4	2 1/4		F
M1359	400	400	199	115	4 9/16	2 3/4	4 5/16	2 1/2 x 2 1/8	L
M2475	60	1650	208	22	11 7/8	6 3/4	6 3/4	6 7/8 x 3 3/4	W

400 CYCLE ISOLATION TRANSFORMER

Part No.	Input Voltage	Output Voltage	V.A. Rating	Dimensions L	W	H	Mounting Centers	Figure
M2744	115	115	0.51	15/16 D		1 7/16	1 1/8	H
M2805	115	115	2.1	1	1	1 3/8	1 1/8	MIL-YY
M2677	115	115/115/115	4.6/4.6/4.6	1	1	1 3/8	1 1/8	MIL-YY
M2485	114/117/120/123	115	500	3 15/16	3 1/8	5 1/4	3 x 2 7/16	MIL-KA

400 CYCLE SERVO DRIVER AND OUTPUT TRANSFORMERS

Part No.	Primary Impedance	Pri. Unbal. D.C. Ma.	Secondary Impedance	Power Level	Dimensions L	W	H	Mounting Centers	Figure
M2858	100 C.T.	2	100 C.T.	100 Mw.	1 5/32				M-M
M2956	1000 C.T.	0	1000 C.T.	150 Mw.	51/64	7/8	11/16	25/64	FPB
M2601	288 C.T.	12	125	1 Watt	15/16	3/4	19/32	29/32	FPB
M2955	1400 C.T.	15	1200	1 Watt	1 11/16	13/16	27/32	1 3/8	FB
M1378	6000	38	180	1.3 Watts	15/16 D				H
M2472	2500 C.T.	2	300	1.5 Watts	1 3/8	1 3/8	1 5/8	1 1/8 x 1 1/8	H
M2254	200 C.T.	20	1000	3.0 Watts	1	13/16	3/4		F
M2848	200 C.T.	20	1640 C.T.	5.6 Watts	1 5/8				MIL-AJ
M2795	48 C.T.	30	176	9 Watts	2 13/16	1 1/2	1 5/8	2 3/8	FB
M2849	62 C.T.	75	510 C.T.	16 Watts	2 5/16	2 1/16	2 1/2	1 11/16 x 1 7/16	MIL-FB

400 CYCLE DEMODULATOR SUPPLY TRANSFORMER — PRIMARY 115 VOLTS

Part No.	Secondary A.C. Volts	Secondary R.M.S. Ma	Dimensions L	W	H	Mounting Centers	Figure
M2870	2.85/2.85	45/45	15/16 D		1 1/16	1 1/8	H
M2201	10/10	.01	7/8	3/4	9/16		F
M1454	60.0 C.T.	2.5	15/16 D		1 7/16	1 1/8	H
M1121	40/40	0.5/0.5	15/16 D		1 7/16	1 1/8	H
M1398	100 C.T.	1.0	1 3/16	19/32	15/32	63/64	FB

60 CYCLE POWER TRANSFORMERS — PRIMARY 115 VOLTS

Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Filament Volts	Amps	Filament No. 2 Volts	Amps	Dimensions L	W	H	Mounting Centers	Figure
M2257	115	10	12.6 C.T.	1.2			3 1/4	1 5/8	1 15/16	2 13/16	FB
M1079	470 C.T.	25	6.3	2.5			3 7/32	2	2 23/32	2 13/16	FB
M2467	600 C.T.	35	5.0	2.0	6.3	1.35	4	3 3/16	3 7/8	3 1/2 x 2 1/4	V
M2558	386 C.T.	70	6.3	2.5			3 1/16	2 5/8	4 1/4	2 19/16 x 1 55/64	MIL-HA
M2335	690 C.T.	95	6.3 C.T.	2.5	6.3	1.5	4 7/16	3 5/8	4 11/32	3 7/8 x 2 3/4	V
					5.0	2.0					
M2192	800 C.T.	250	6.3	5.0	5.0	3.0	5	4 1/8	5	3 3/4 x 3	MIL
M2442	330	300 FWB	6.3 C.T.	10.0	6.3	3.0	4 11/16	4	4 15/16	3 11/16 x 3	MIL-MB

Order from Local Electronic Parts Distributors or Write for Catalog.

See Radio Masters for Stock Items.

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60 CYCLE POWER SUPPLY TRANSFORMER — PRIMARY 115 VOLTS

Part No.	Secondary A.C. Volts	R.M.S. Ma.	Test Volts R.M.S.	Dimensions L	W	H	Mounting Centers	Figure
M1606	2.5	10	500	15/16 D		1 7/16	1 1/8	H
M2552	26.5 C.T.	600	3000	2 3/4	2 3/8	3 13/16	2 1/8 x 1 3/4	MIL-GA
M2277	32.0	1.55A	500	3 3/8	3	2 13/16	2 1/2 x 2 1/8	I
M2808	34.0	15A	500	7 1/2	6 1/2	5	6 3/4 x 4 5/8	MIL
M2154	260 C.T.	750	1500	4 7/16	3 27/32	4 19/32	3 5/16 x 3	D
M2244	600	300	1500	4 11/16	4	6	3 11/16 x 3	MIL-MA
M2170	980 C.T.	225	2500	4 11/16	4	6	3 11/16 x 3	MIL-MA

60 CYCLE ISOLATION TRANSFORMER

Part No.	Input Voltage	Output Voltage	V.A. Rating	Dimensions L	W	H	Mounting Centers	Figure
M2787	110	110	0.8	2 1/8	1 1/8	1 3/16	1 3/4	FB
M2901	115	115	6.0	2 11/16	2 1/32	2 11/16	2 3/8 x 1 1/2	V
M2294	105/115/125	118 C.T.	90.	3 7/8	3 7/8	5 15/32	2 3/4 x 2 3/4	MIL
M2595	117	117	250.	4 1/2	3 3/4	3 3/4	3 3/4 x 3	K

60 CYCLE FILAMENT TRANSFORMER — PRIMARY 117 VOLTS

Part No.	Filament Volts	Amps	Test Insulation Volts	Case Dimensions L	W	H	Mounting Centers	Figure
M1070	5.0 C.T.	4.0	1500	2 5/16	2 1/16	3 1/8	1 11/16 x 1 7/16	MIL-FA
M2934	6.3	0.6	1500	2 3/8	1 3/8	1 1/2	2	FB
M2258	6.3	1.2	1000	3 3/4	3 3/8	4 1/2	3 x 2 3/8	K
M2229	6.3 C.T.	0.6	1000	3 1/4	1 13/16	1 15/16	2 13/16	FB
	6.3 C.T.	0.6						
M2885	6.3 C.T.	5.0	1000	3 1/2	2 13/16	3 1/2	3 1/2 x 2	V
	5.0 C.T.	4.0						
M2309	6.3 C.T.	20.0	2500	3 3/4	3 3/8	4 1/2	3 x 2 3/8	K
M2228	12.6	65.0	1500	7 1/2	7	7	5 x 4	Q
M1395	24.0	1.0	1500	2 3/4	2 3/8	3 13/16	2 1/8 x 1 3/4	MIL-GA

VIBRATOR TRANSFORMERS

Part No.	Primary Volts	Secondary A.C. Volts	D.C. Ma.	Dimensions L	W	H	Mounting Centers	Figure
M2176	117-60~	600 C.T.	300	4 1/2	3 3/4	4 5/8	3 3/4 x 3	C
	12 DC							
	6 DC							
M2346	12 DC	75/165	225	3	2 5/8	2 1/2	2 1/2 x 2 1/8	K
M1432	2 DC	300 C.T.	70	2 1/4	2 3/8	1 7/8		F
M2499	6 or 12 DC	220	100 1/2 Wave	3 3/4	3 1/2	4 1/2	2 1/2 x 2 1/8	K

FILTER REACTORS

Part No.	Current D.C. Ma.	Inductance Henries	DCR Ohms	Test Volts	Dimensions L	W	H	Mounting Centers	Figure
M2978	12	2	850	500	17/32	1 7/16	15/32	17/32	FPB
FR-1	25	10	600	2000	1 5/16	1 5/16	1 3/4	1/4	MIL-AH
FR-2	60	10	230	2000	2 5/16	2 1/16	3 1/8	1 11/16 x 1 7/16	MIL-FA
M2490	85	15	300	2500	2 7/16	2 5/16	3 1/32	1 13/16 x 1 11/16	V
FR-3	120	8	150	2000	3 1/16	2 5/8	4 1/4	2 19/64 x 1 55/64	MIL-HA
FR-4	155	8	90	2000	3 9/16	3 1/16	4 7/8	2 5/8 x 2 1/8	MIL-JA
M2338	200	6	150	1500	2 3/4	2 19/32	3 3/32	1 3/4 x 2	D
M2174	320/20	4/20	85	2000	4 5/16	3 11/16	5 9/16	3 5/16 x 2 11/16	MIL-LA
M2243	500	2	30	1500	3 15/16	3 3/8	5 1/4	3 x 2 7/16	MIL-KA
M2278	1A	0.05	2	500	2 5/16	2 1/16	3 1/8	1 11/16 x 1 7/16	MIL-FA
M2474	5A	0.005	0.03	500	3 3/4	3 1/2	4 15/32	2 3/4 x 2 1/2	MIL
M2473	25A	0.005	0.032	500	5 7/8	4 3/4	6 5/8	4 1/8 x 3 7/16	MIL

AUDIO REACTOR

Part No.	Inductance Henries	Current D.C. Ma.	D.C. R Ohms	Dimensions L	W	H	Mounting Centers	Figure
M2495	1.0	0	50	1/2	7/16	7/16		F
M1812	2.0	3.0	780	1/2	7/16	7/16		F
M2082	6.0	0	1400	1/2	7/16	7/16		F
M2501	10.0	0	318	13/16	19/32	15/32	25/32	FPB
M2402	100.0	0	1700	1 3/16	19/32	15/32	63/64	FB

OUTPUT TRANSFORMERS

Part No.	Application	Prim. Imp.	Sec. Imp.	Pri. Unbal. D.C. Ma.	Power Level	Freq. Response	Dimensions L	W	H	Mounting Centers	Figure
M2393	Line to Speaker	600	8	0	150 Mw.	200-15,000	3/4	19/32	7/16		F
M1282	6V6 to Speaker	5,500	45	50	500 Mw.	100- 8,000	1 39/64	1 39/64	2 3/4	1 1/8 x 1 1/8	MIL
M1560	P.P. Plts. Speaker or Line	40,000 C.T.	600/8	2	1 Watt	250- 4,000	1 7/16	1 7/16	2	1 x 1	MIL
M1081	6V6's to Speaker	10,000 C.T.	8/3.2	10	5 Watts	80-10,000	2 13/16	1 1/2	1 5/8	2 3/8	FB
M2990	P. P. Coll. to Spkr.	64 C.T.	4	6	12 Watts	60- 8,000	4	2 1/8	2 5/16	3 5/16	FB
M2628	Auto Transformer P. P. Coll.	50	16	420	20 Watts	200-10,000	2 13/16	1 1/2	1 5/8	2 3/8	FB
M1420	6L6's to Speaker	6,600 C.T.	8	20	30 Watts	60-15,000	3 1/8	2 5/8	3 1/8	2 3/16 x 2	D
M2439	Class B Modulation	5,000 C.T.	3,000	300	100 Watts	300- 3,000	3 25/32	3 7/16	4 13/64	3 1/16 x 2 3/4	D
M2554	Class B Modulation	21,000 C.T.	8,000 @ 250 Ma		250 Watts	150- 3,000	5 25/32	5 25/32	7	4 7/8 x 4 7/8	MIL

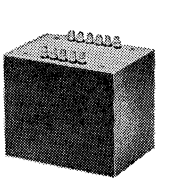

Figure Q
Hermetic with inserts

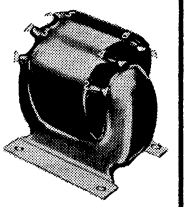

Figure R
Encapsulated Hipersil

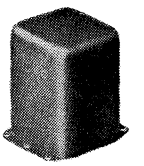

Figure V
Rectangular Case with rectangular flange

Figure W
Hermetic with Studs opposite terminals

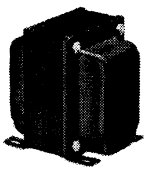

Figure D
Vertical End Bells

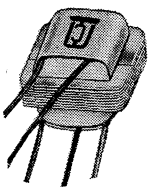

Figure F
Open Frame

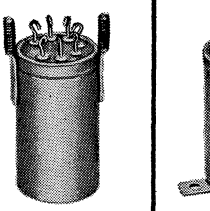

Figure G–Cylindrical with Spade lugs

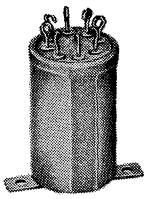

Figure O
Miniature Hermetic with flat bracket

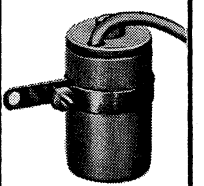

Figure S–Cased with Plug-in Cord

Figure T
Hermetic with Plug-in Header

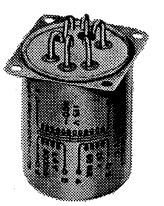

Figure U
Cylindrical with rectangular flange

Figure X
Hipersil with terminal board

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See Radio Masters for Stock Items.

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NYT *small encapsulated* R. F. chokes...

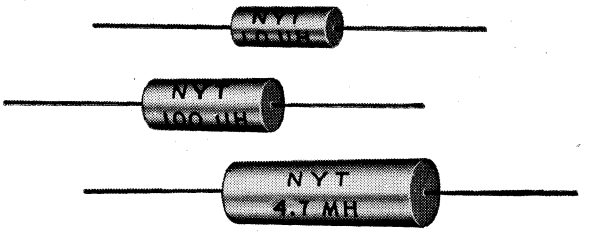
100,000 to 1 inductance range. Here is the widest range available – 0.1 μH to 10 MH!

Miniature to subminiature sizes. For example, a unit with an inductance of 100 μH measures only .0122 cubic inches.

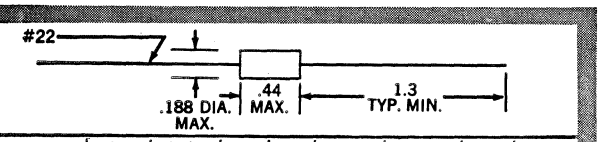
125°C – the operating temperature range of these units is −55°C to +125°C.

Excellent environment features – NYT chokes are epoxy encapsulated for resistance to moisture and immersion. All units are designed to meet MIL-C-15305A, Grade 1, Class B.

Do your application engineering with a minimum of experimental work. New technical and performance data including description of electrical parameters in Bulletin 125.

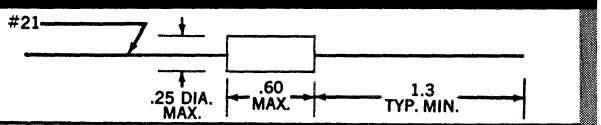


These R.F. Chokes are designed to meet MIL-C-15305A, Grade 1 (Resistant to immersion and moisture resistance tests), Class B (−55° to +125° C). Marking: Black printing on yellow body.



NYT PART NO.	L μH	Q min.	MC	Fo MC	Cd μμF	min. Rp KΩ	MC	min. Rp KΩ	MC	max. RES. Ω	I max. mA
RFC-S- 0.10	0.10	85	50	>500	0.4	2.7	50	15	200	.02	4000
RFC-S- 0.15	0.15	85	50	>500	0.4	4.1	50	25	200	.03	3000
RFC-S- 0.22	0.22	75	50	500	0.4	5.2	50	30	200	.03	3000
RFC-S- 0.33	0.33	70	40	440	0.4	6.0	40	50	200	.05	2500
RFC-S- 0.47	0.47	60	25	360	0.4	4.5	25	60	200	.08	2000
RFC-S- 0.68	0.68	55	25	300	0.4	6.0	25	120	200	.12	1500
RFC-S- 1.0	1.0	50	20	250	0.4	6.5	20	120	200	.24	1100
RFC-S- 1.5	1.5	45	15	200	0.4	6.5	15	120	200	.43	850
RFC-S- 2.2	2.2	45	15	165	0.4	9.5	15	120	165	.80	610
RFC-S- 3.3	3.3	55	10	100	0.7	11	10	25	100	.15	1400
RFC-S- 4.7	4.7	70	7.9	90	0.7	17	8	30	90	.30	1000
RFC-S- 6.8	6.8	65	7.9	70	0.7	22	8	45	70	.55	800
RAC-S- 10	10	60	5	60	0.7	19	5	50	60	.73	650
RFC-S- 15	15	80	2.5	47	0.7	19	2.5	70	47	1.4	500
RFC-S- 22	22	75	2.5	40	0.7	26	2.5	75	40	1.8	430
RFC-S- 33	33	85	2.5	32	0.7	44	2.5	80	32	3.5	300
RFC-S- 47	47	80	2.5	22	1.1	60	2.5	80	22	4.0	275
RFC-S- 68	68	75	2.5	16	1.5	83	2.5	80	14	4.7	250
RFC-S-100	100	75	1.5	10	2.5	72	1.5	80	9.5	6.0	220

The inductance values listed above are preferred values but the lesser used logarithmic values are also part of the standard NYT line. Examples: RFC-S-.27, RFC-S-5.6. Write for complete Bulletin #125.



NYT PART NO.	L μH	Q min.	MC	Fo MC	Cd μμF	min. Rp KΩ	MC	min. Rp KΩ	MC	max. RES. Ω	I max. mA
RFC-M- 1.0	1.0	100	15	170	.85	9	15	10	170	.04	2700
RFC-M- 1.5	1.5	100	10	140	.85	9	10	15	140	.04	2700
RFC-M- 2.2	2.2	95	10	110	.85	13	10	15	110	.05	2500
RFC-M- 3.3	3.3	60	7.9	90	.85	10	8	20	90	.05	2500
RFC-M- 4.7	4.7	60	7.9	75	.85	14	8	30	75	.09	1800
RFC-M- 6.8	6.8	70	7.9	65	.85	24	8	40	65	.17	1300
RFC-M- 10	10	65	5	50	.9	20	5	60	50	.32	1000
RFC-M- 15	15	75	4	40	.9	28	4	90	40	.62	730
RFC-M- 22	22	65	2.5	35	.9	22	2.5	90	35	.8	600
RFC-M- 33	33	80	2.5	27	.9	41	2.5	120	27	1.5	450
RFC-M- 47	47	100	2.5	24	.9	75	2.5	120	24	3.0	300
RFC-M- 68	68	100	2.5	20	.9	110	2.5	150	20	5.2	250
RFC-M- 100	100	100	1.5	17	.9	95	1.5	150	17	7	200
RFC-M- 150	150	90	1.0	11	1.3	85	1.0	150	11	8	190
RFC-M- 220	220	85	1.0	7	2.2	112	1.0	150	7	10	180
RFC-M- 330	330	80	.8	4.5	3.8	136	.8	120	4.5	12	165
RFC-M- 470	470	75	.8	3.5	4.4	180	.8	120	3.5	14	150
RFC-M- 680	680	65	.8	2.7	5.0	225	.8	150	2.7	17	140
RFC-M-1000	1000	70	.5	2.3	5.0	225	.5	150	2.3	21	125

The inductance values listed above are preferred values but the lesser used logarithmic values are also part of the standard NYT line. Examples: RFC-M-8.2, RFC-M-120. Write for complete Bulletin #125.

Inductance Tolerances:

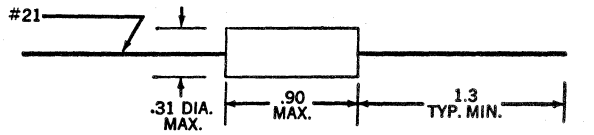
0.1 to 1 μH ±20% (Q-Meter)
1.1 to 10 μH ±10% (Q-Meter)
over 10 μH ± 5% (1 kc Bridge)

Self-resonant frequency (Distributed Capacity) measured with full length leads on Grid-Dipmeter (20%).

Q and Rp values as measured on Q-Meter. Minimum Rp values listed at the self-resonant frequency are very conservative. Actual values average 50% higher.

Imax ratings are conservative even at 125°C operation. They are based on ⅓ watt dissipation for Series S and M chokes, and on ½ watt dissipation for Series L chokes.

Special sizes, inductance values, or special combinations of parameters not listed can be furnished promptly. Inquiries are invited.



NYT PART NO.	L μH	Q min.	MC	Fo MC	Cd μμF	min. Rp KΩ	MC	min. Rp KΩ	MC	max. RES. Ω	I max. mA
RFC-L- 1.0	1.0	130	15	170	0.9	12	15	12	170	.03	4000
RFC-L- 1.5	1.5	130	10	140	0.9	12	10	17	140	.03	4000
RFC-L- 2.2	2.2	130	10	115	0.9	18	10	22	115	.04	3500
RFC-L- 3.3	3.3	100	7.9	90	0.9	17	8	26	90	.04	3500
RFC-L- 4.7	4.7	75	7.9	80	0.9	18	8	30	80	.05	3100
RFC-L- 6.8	6.8	65	7.9	65	0.9	22	8	35	65	.06	3000
RFC-L- 10	10	75	5	50	0.9	23	5	70	50	.15	1800
RFC-L- 15	15	75	5	40	0.9	36	5	80	40	.3	1300
RFC-L- 22	22	75	2.5	32	0.9	26	2.5	80	32	.5	1000
RFC-L- 33	33	70	2.5	28	0.9	36	2.5	80	28	.7	850
RFC-L- 47	47	75	2.5	25	0.9	56	2.5	140	25	1.3	620
RFC-L- 68	68	100	2.5	20	0.9	105	2.5	150	20	2.4	450
RFC-L- 100	100	100	1.5	17	0.9	95	1.5	150	17	3.2	400
RFC-L- 150	150	100	1.0	14	0.9	95	1.0	150	14	6.4	280
RFC-L- 220	220	95	1.0	11	0.9	133	1.0	200	11	12	200
RFC-L- 330	330	65	.79	7.5	1.4	110	.8	200	7.5	14	190
RFC-L- 470	470	60	.79	5.5	1.8	132	.8	200	5.5	17	170
RFC-L- 680	680	75	.5	3.2	3.5	165	.5	150	3.2	20	155
RFC-L- 1000	1000	75	.5	2.4	4.3	240	.5	150	2.4	24	145
RFC-L- 1500	1500	75	.4	1.9	4.5	290	.4	200	1.9	29	130
RFC-L- 2200	2200	65	.25	1.5	4.7	230	.25	200	1.5	35	120
RFC-L- 3300	3300	65	.25	1.2	5.3	330	.25	200	1.2	45	105
RFC-L- 4700	4700	65	.25	.95	6.2	470	.25	300	.95	53	95
RFC-L- 6800	6800	65	.25	.75	6.3	700	.25	300	.75	67	85
RFC-L-10000	10000	65	.15	.58	7.8	1040	.15	400	.58	80	80

The inductance values listed above are preferred values but the lesser used logarithmic values are also part of the standard NYT line. Examples: RFC-L-18, RFC-L-3900. Write for complete Bulletin #125.

NYT ELECTRONICS, INC. 2979 North Ontario Street • Burbank, California
MANUFACTURERS OF INDUCTIVE DEVICES FROM POWER TO RADIO FREQUENCIES, PULSE CIRCUITRY, MAGNETIC AMPLIFIERS AND POWER SUPPLY MODULES

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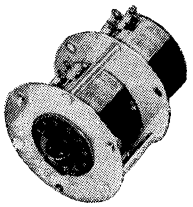
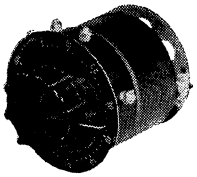
Adjust-A-Volt VARIABLE TRANSFORMERS

FOR CONTROL OF AC LINES, POWER, HEAT, SPEED AND LIGHT

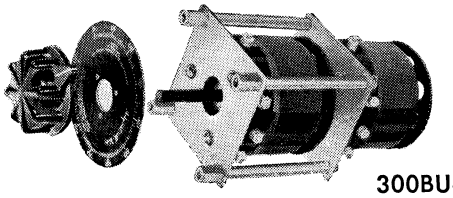
100BU



100BU-2

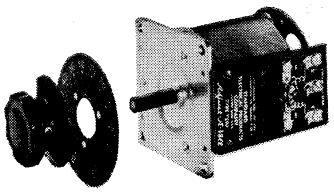


300BU

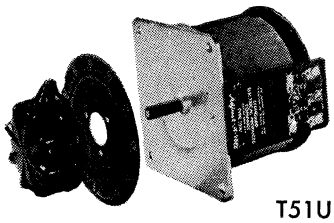


300BU-2

TYPE	PHASE	INPUT VOLTS	OUTPUT VOLTS	OUTPUT AMP. MAX.	OUTPUT KVA MAX.	NET WGT. LBS.	NET PRICE
100BU	1	120	0-240	1.25	.165	2	$ 8.50
100BU-2	1	240	0-264	1.25	.33	4	25.00
	3	120	0-132	1.25	.29	4	25.00
100BU-3	3	240	0-132	1.25	.52	6	40.00
300BU	1	115	0-135	3.0	.4	4	$12.50
300BU-2	3	115	0-135	3.0	.7	10	36.50
300BU-3	3	230	0-230	3.0	1.2	14	58.75



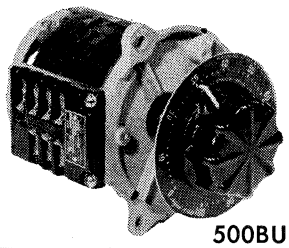
T21U



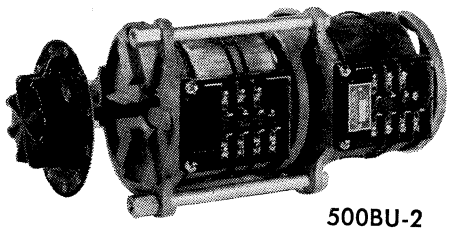
T51U

These rugged panel-mounted Adjust-A-Volts are interchangeable with other square base units. Both types are available in ganged assemblies.

TYPE	PHASE	INPUT VOLTS	OUTPUT VOLTS	OUTPUT AMP. MAX.	OUTPUT KVA MAX.	NET WGT. LBS.	NET PRICE
T21U	1	115	0-135	3.1	0.36	4.5 lbs.	$13.50
T51U	1	115	0-135	7.8	0.90	7.5 lbs.	$17.50



500BU



500BU-2

Designed for back of panel mounting. Shaft can be adjusted without upsetting adjustment between rotor and commutator.

Type	P h.	Input Volts	Output Volts	Output Amp. Max.	Output KVA	Net Wgt. Lbs.	Net Price
500BU	1	115	0-135	7.5	1.0	8	$18.00
500BU-2	1	230	0-270	7.5	2.0	16	44.00
	3	115	0-135	7.5	1.75	16	
500BU-3	3	230	0-270	7.5	3.5	28	60.75
520-BU	1	115	0-270	3.0	.35	8	20.00
	1	230	0-270	3.0	.81	8	

Type	P h.	Inputs Volts	Output Volts	Output Amp. Max.	Output KVA	Net Wgt. Lbs.	Net Price
520BU-2	1	230	0-540	3.0	.7	16	$48.50
	1	460	0-540	3.0	1.6	16	
	3	115	0-270	3.0	.6	16	
	3	230	0-270	3.0	1.4	16	
520BU-3	3	230	0-540	3.0	1.2	25	
	3	460	0-540	3.0	2.8	25	68.25

There is a standard line of Adjust-A-Volt, manual and motor-driven variable transformers of higher capacities as well as 400 cycle, manual or motor-driven types to meet full military specifications. For information and specifications on higher capacity units or motor-driven units write for the 22 page Adjust-A-Volt catalog. See complete Adjust-A-Volt line specifications cataloged in Radio-Electronic Master.

Excellent design and delivery on special variable transformers to meet specific requirements can be provided.

STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

Order from Local Electronic Parts Distributors or Write for List.

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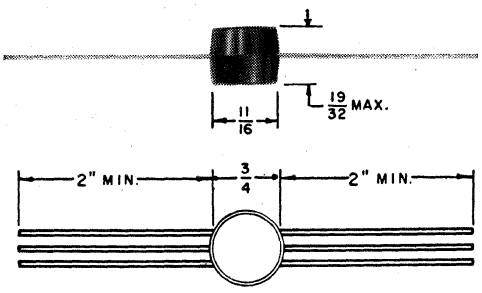
TECHNITROL Standard Pulse Transformers

GENERAL CASE SERIES

SERIES T

Type TE



Available in:

4 leads 2 windings	6 leads 3 windings

For blocking oscillator and interstage coupling applications

EPOXY RESIN CASES

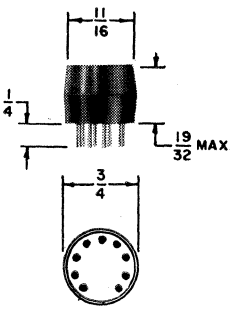
Specifications for all Series T Pulse Transformers:

Pulse duration	0.1 to 25μ sec
Pulse repetition rate	up to 10 mc
Pulse energy	6 watt - μ sec
Weight	⅓ ounce
Voltage rating between windings	500 volts rms

Wound with one or two secondaries, either inverting or non-inverting.

Pulse Transformers coming within these general ranges of characteristics can be supplied in any one of the Series T cases.

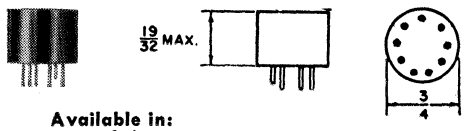
Type TP



Available in:

7 pins 2 or 3 windings	9 pins 2, 3 or 4 windings

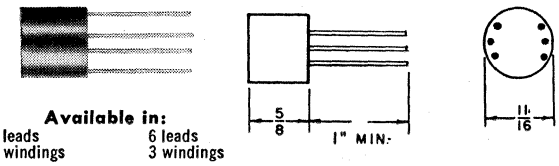
Type TCP



Available in:

5 pins 2 windings	6 pins 3 windings
7 pins 2 or 3 windings	9 pins 2, 3 or 4 windings

Type TC



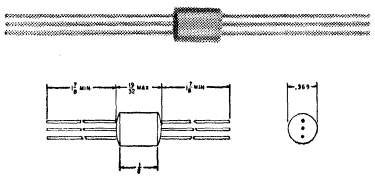
Available in:

4 leads 2 windings	6 leads 3 windings

SERIES M

Type AME

ALUMINUM CASES

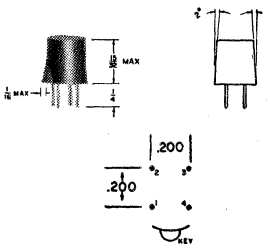


For sub-miniature applications, particularly transistors

Specifications for all Series M Pulse Transformers:

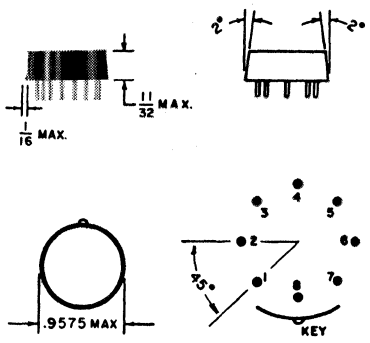
Pulse width	0.05 μ sec to 5.0 μ sec
Pulse repetition rate	Up to 500 kc
Total pulse energy	3.5 watt - μ sec
Weight	5 grams
Test voltage	500 volts dc

Type MP



SERIES P

Type PE



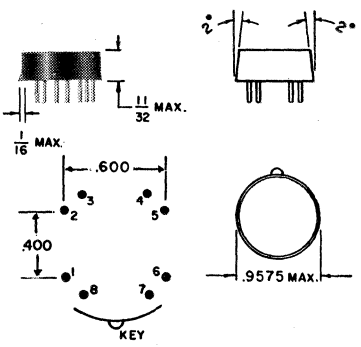
For printed circuits and automatic assembly

Specifications for all Series P Pulse Transformers:

Pulse width	0.5 to 10 μ sec
Repetition rate	Up to 4 mc
Total pulse energy	5 watt - μ sec
Weight	10 grams
Test voltage	500 volts dc
Pin lengths	⅛" or ¼" as desired

All Series of Technitrol Transformers are available in different grades. See opposite page.

Type PA



Technitrol Incorporated
1952 EAST ALLEGHENY AVE., PHILADELPHIA 34, PENNSYLVANIA
NEW ENGLAND: 456 MAIN STREET, WAKEFIELD, MASSACHUSETTS
WEST COAST: 252 NORTH IRVING BOULEVARD, LOS ANGELES 4, CALIFORNIA
See YELLOW SECTION for Local Offices, Telephone, etc.

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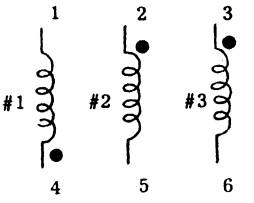
TECHNITROL List of Stock Items (All Military Grade)

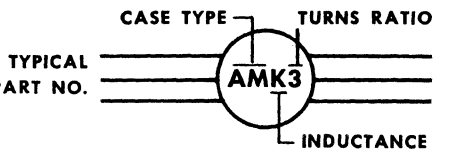
Types TE & AME

TYPE TE	TYPE AME	PRIMARY INDUCTANCE (mh)	TURNS RATIO
G		22 ±20%	
B	AMB	10 "	1 - 1:1:1
K	AMK	4.7 "	3 - 3:1:1
O	AMO	1.0 "	13 - 3:3:1
Q	AMQ	0.47 "	5 - 5:1:1
S	AMS	0.22 "	15 - 5:5:1
U	AMU	0.1 "	



• INDICATES SWING SAME POLARITY

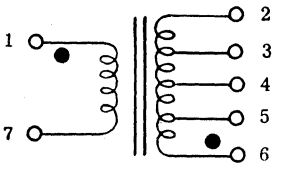
TEST VOLTAGE BETWEEN WINDINGS:
TE: 500 volts rms
AME: 500 volts dc



Type TP

PART NO.	TURNS BETWEEN WINDINGS 1-7	2-3	3-3	4-5	5-6	INDUCTANCE 1-7
XVAM	240	12	24	60	20	58 mh ±20%
BVAM	120	5	20	10	5	15 mh "
AVAM	60	2	10	5	3	3.8 mh "
NVAM	36	2	3	9	3	1.25 mh "
RVAM	18	1	2	4.5	1.5	0.33 mh "

TAPPED SECONDARY FOR TURNS RATIO EXPERIMENTS.

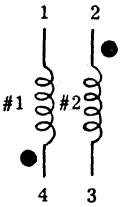


• INDICATES SWING SAME POLARITY

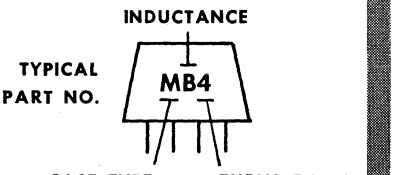
TEST VOLTAGE: 500 VOLTS RMS.

Type MP

FIRST LETTERS	PRIMARY INDUCTANCE (mh)	TURNS RATIOS
MB	10 ±20%	
MK	4.7 "	1 - 1:1
MO	1 "	3 - 3:1
MQ	0.47 "	4 - 4:1
MS	0.22 "	5 - 5:1
MU	0.1 "	



• INDICATES SWING SAME POLARITY



TEST VOLTAGE BETWEEN WINDINGS: 500 volts dc

PRICE LIST

1-9 • $7.00

10-24 • 6.30

25-49 • 5.50

50-99 • 4.70

Application Notes

VACUUM TUBE BLOCKING OSCILLATORS:

The following table of winding inductances and corresponding pulse widths generally holds. Feedback-turns ratio should be about 1 : 1

Inductance (mh)	Pulse width (μ sec)
22	2 to 8
10	0.5 to 2
4.7	0.3 to 1.0
1	0.2 to 0.5
0.47	0.15 to 0.4
0.1	0.1 to 0.25

TRANSISTOR BLOCKING OSCILLATORS:

The pulse width for a given inductance is approximately 2 to 8 times that shown in chart. For collector-to-base or collector-to-emitter, feedback-turns ratios of 3 : 1 or 4 : 1 have been found to be most generally used.

INTERSTAGE COUPLING

In vacuum tube circuits, the pulse width (for 5-10% droop) requires roughly twice the inductance shown in the chart. For transistor interstage coupling, use inductance shown in chart for given pulse width.

ORDERING INFORMATION, NON-STOCK ITEMS:

All transformers are available in 3 grades: Commercial, Military and X grade. These can be ordered in any standard series and case. Normal delivery of such samples is 2 weeks. Prices for custom-wound transformers start at approximately $7.00 for 1 to 4 quantity, and as low as $1.50 in production quantities.

Commercial Grade transformers operate at temperatures from −25°C. to +105°C., withstanding indefinite exposure to relative humidity of 95%.

MIL Grade transformers are encapsulated for temperatures from −55°C. to +105°C. and will surpass most requirements of MIL-T-27A Grade 5, Class R.

X Grade transformers meet all MIL grade requirements and will operate up to +150°C.

Technitrol Incorporated
1952 EAST ALLEGHENY AVE., PHILADELPHIA 34, PENNSYLVANIA
NEW ENGLAND: 456 MAIN STREET, WAKEFIELD, MASSACHUSETTS
WEST COAST: 252 NORTH IRVING BOULEVARD, LOS ANGELES 4, CALIFORNIA
See YELLOW SECTION for Local Offices, Telephone, etc.

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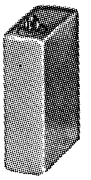
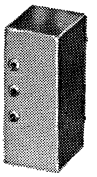
For Your Special Applications

The bulk of UTC production is on special units designed to specific customers' needs. Illustrated below are some typical units and some unusual units as manufactured for special applications. We would be pleased to advise and quote to your special requirements.

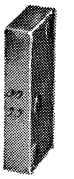
FILTERS
All types for frequencies from .1 cycle to 400 MC.



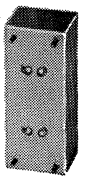
400 ∽ telemetering, 3 db at ± 7.5%, 40 db at 230 and 700 ∽, ⅝ x 1¼ x 2".



15 ∽ BP filter, 20 db at 30 ∽, 45 db at 100 ∽, phase angle at CF less than 3° from —40 to + 100° C.



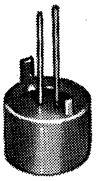
LP filter within 1 db to 49 KC, stable to .1 db from 0 to 85° C., 45 db at 55 KC.



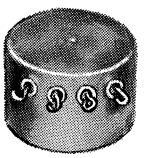
LP filter less than .1 db 0 to 2.5 KC, 50 db beyond 3 KC.

HIGH Q COILS
Toroid, laminated, and cup structures from .1 cycle to 400 MC.

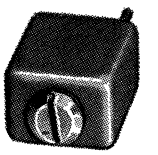
Tuned DO-T servo amplifier transformer, 400 ∽ .5% distortion.



Toroid for printed circuit, Q of 90 at 15 KC.



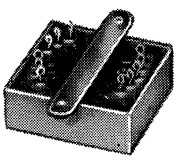
Dual toroid, Q of 75 at 10 KC, and Q of 120 at 5 KC.



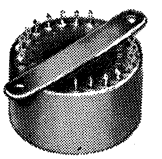
HVC tapped variable inductor for 3 KC oscillator.

SPECIALTIES
Saturable reactors, reference transformers, magnetic amplifiers, combined units.

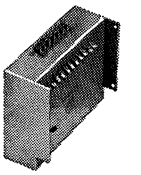
RF saturable inductor for sweep from 17 MC to 21 MC.



Voltage reference transformer .05% accuracy.

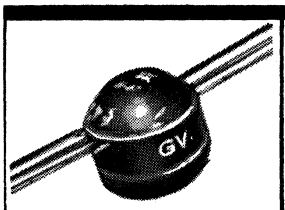


Multi-control magnetic amplifier for airborne servo.



Input, output, two tuned interstages, peaking network, and BP filter, all in one case.

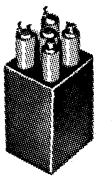
PULSE TRANSFORMERS
From miniature blocking oscillator to 10 megawatt.



Wound core unit .01 microsecond rise time.

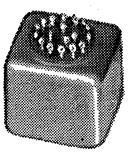
Pulse current tansformer 100 Amp.

Pulse output to magnatron, bifilar filament.

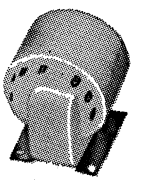


Precise wave shape pulse output, 2500 V. 3 Amps.

POWER COMPONENTS
Standard and high temperature . . . hermetic, molded, and encapsulated.

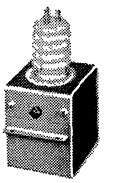


Multi-winding 140 VA, 6 KC power transformer 1¼ x 1¼ x 1".



200° C. power transformer, 400 ∽, 150 VA.

400 ∽ scope transformer, 20 KV output.



60 ∽ current limiting filament transformer, Sec. 25 Mmfd., 30 KV hipot.

UNITED TRANSFORMER CORPORATION

150 Varick Street, New York 13, N. Y. • EXPORT DIVISION: 13 E. 40th St., New York 16, N. Y.,
CABLES: "ARLAB" PACIFIC MFG. DIVISION, 4008 W. Jefferson Blvd., Los Angeles, Cal.

Order from Local Electronic Parts Distributors or Write for List.

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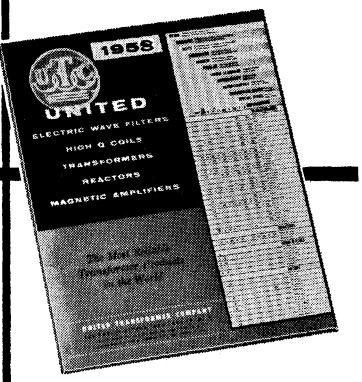
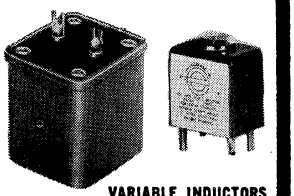
The Transformer for Your Application ..FROM STOCK

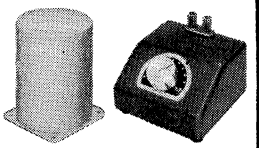
Three hundred **hermetic items proved to MIL-T-27A**...Filters, high Q coils, power, plate, filament, pulse, audio transformers. Eliminates costs and delays of initial MIL-T-27A testing. Seven hundred stock items for virtually every application in the electronic field . . . each with **UTC Reliability, highest in the field.**



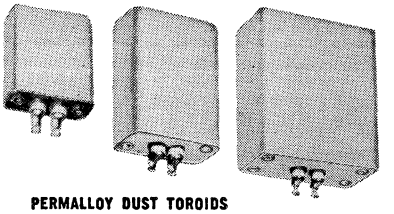
Write for your Copy of Latest Catalog.



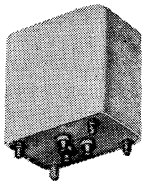
VARIABLE INDUCTORS
Standard,
Hermetic MIL-T-27A



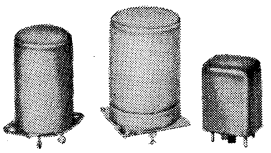
LOW FREQUENCY INDUCTORS
INDUCTANCE DECADES



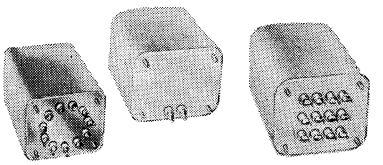
PERMALLOY DUST TOROIDS
Hermetic, MIL-T-27A
Highest Q, accuracy and stability



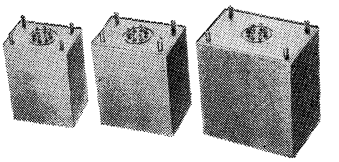
LOW PASS, HIGH PASS, BAND PASS, TELEMETERING FILTERS
Hermetic, MIL-T-27A



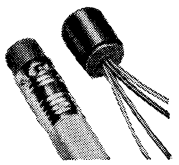
AUDIO COMPONENTS
Hermetic, MIL-T-27A
for every application



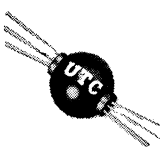
POWER COMPONENTS
Hermetic, MIL-T-27A
Power, Plate, Filament Transformers,
Filter chokes



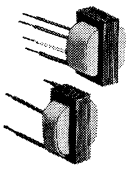
MAGNETIC AMPLIFIERS
Hermetic, MIL-T-27A



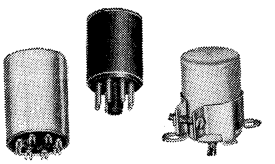
DECI-OUNCER
transistor transformers .1 oz.
Hermetic, MIL-T-27A



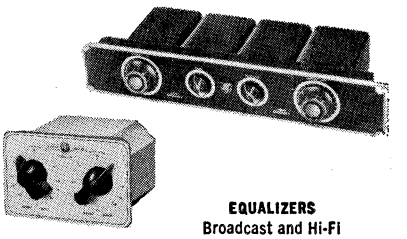
PULSE TRANSFORMERS
Wound Core, MIL-T-27A



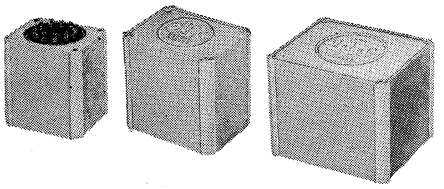
SUB and SUB-SUB OUNCER TRANSFORMERS
Audio and
Transistor



OUNCER AND PLUG-IN
Wide Range Audios



EQUALIZERS
Broadcast and Hi-Fi



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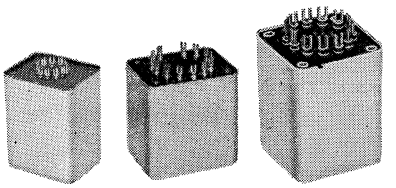

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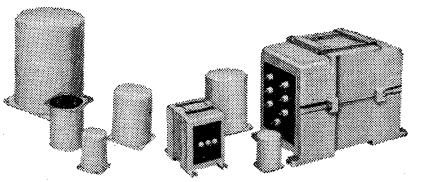
Broadcast and Hi-Fi Favorites



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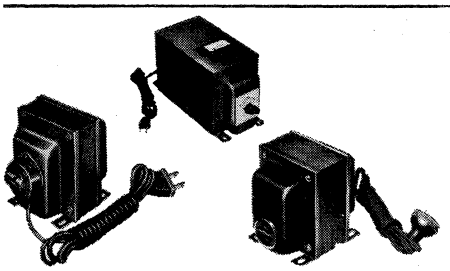
Power and audio units for industrial service



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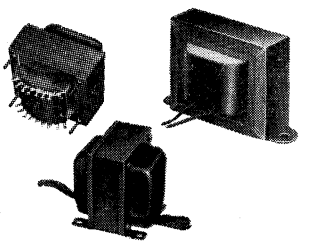
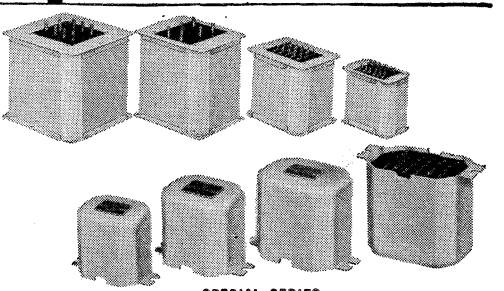


REPLACEMENT TYPES



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Units for every amateur application.

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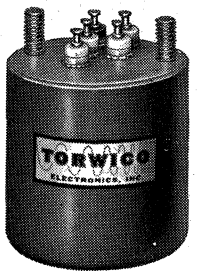


400 CYCLE TINYMAX TRANSFORMERS

for greater space and weight savings

TORWICO'S UNIQUE DESIGN TECHNIQUE TAKES FULL ADVANTAGE OF CORE PERFORMANCE AND PACKAGING EFFICIENCY.

V. A.	O D ±1/32	Height ±1/32	Case Style	Nominal Weight	% Regulation
1.5	1	15/32	D & E	¾ oz.	20
3.0	1	19/32	D & E	1 oz.	15
6.0	1	13/16	D & E	1½ oz.	10
9.0	1	1-1/16	D & E	2 oz.	8
16.0	1-3/8	1-1/8	F	4 oz.	7
25.0	1-3/8	1-3/8	F	5 oz.	6

STANDARD CATALOG NUMBERS

Standard Voltage Ratings PRI/SEC	Available From Stock		
	1.5-9.0 V.A. Size Terminal End Mounting Secondary Centertapped	16 and 25 V.A. Size Terminal End Mounting Secondary Centertapped	1.5-9.0 V.A. Size Reverse Mounting Secondary Centertapped
115/6.0	TW (VA) D6.0T	TW (VA) F6.0T	TW (VA) E6.0T
115/6.3	TW (VA) D6.3T	TW (VA) F6.3T	TW (VA) E6.3T
115/10	TW (VA) D10T	TW (VA) F10T	TW (VA) E10T
115/26	TW (VA) D26T	TW (VA) F26T	TW (VA) E26T
115/115	TW (VA) D115T	TW (VA) F115T	TW (VA) E115T
115/200	TW (VA) D200T	TW (VA) F200T	TW (VA) E200T
115/250	TW (VA) D250T	TW (VA) F250T	TW (VA) E250T
115/300	TW (VA) D300T	TW (VA) F300T	TW (VA) E300T

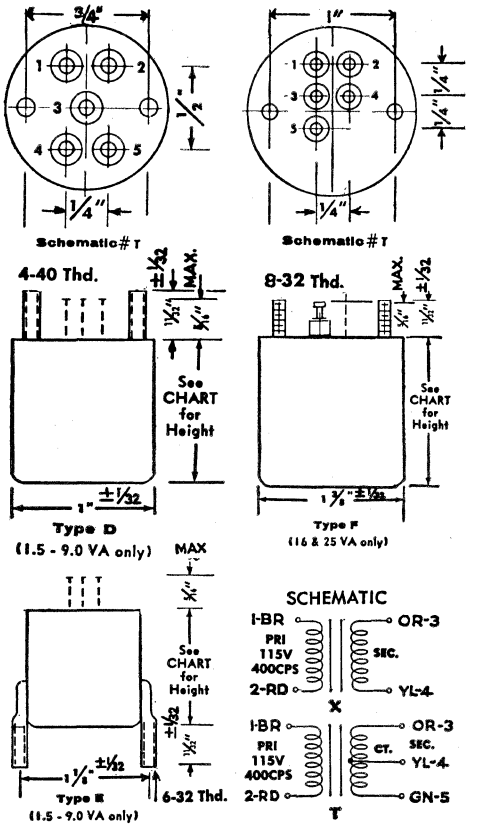
★ Electrostatic shields can be provided between pri and sec. Use next larger case height for a given rating. Simply add "S" to the end of the code number as shown in the example.

Other V.A. ratings, secondary voltages and constructions engineered to your specifications.

HOW TO ORDER:

Non standard ratings may be ordered by code number per the following example:

TW	25	F	6.3	T	S
TINYMAX INDENT.	V.A. Rating	Case Style	Sec. Voltage	Schematic	Electrostatic Shield



tol. ±1/64 unless otherwise specified

All Terminals Color Coded For Permanent Identification
1—Brown 2—Red 3—Orange 4—Yellow 5—Green
In Addition To Terminal Marking As Shown

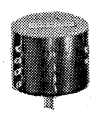
SPECIFICATIONS:

Conform with MIL-T-27A, Grade 4, Class S.
Ambient Temperature —55 to +85°C.
Maximum Total Operating 130°C.
Life Expectancy 10,000 Hours Minimum.
Hermetically Sealed.
Maximum Altitude 70,000 ft.
Pri Voltage 115V ±10%.
Pri. Frequency 400 cps ±5%.
Sec. Voltage Tolerance ±3% (at 115V. in & Rated Load).

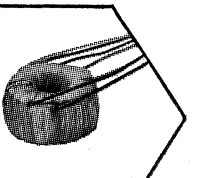
Torwico Electronics reserves the right to make changes at any time to improve design.

TORWICO
ELECTRONICS, INC.
1090 Morris Ave., Union, N. J.

SENSITIVE RELAYS


MAGNETIC AMPLIFIER

FILTERS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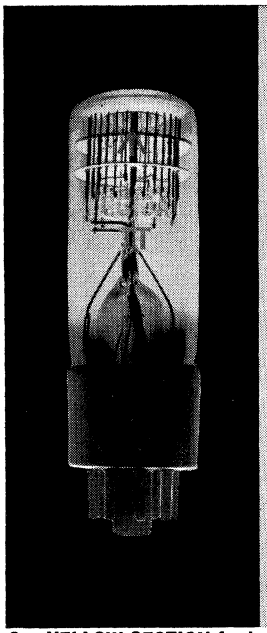
When a reliable high speed counting tube is a must

USE **dekatron®** by Baird Atomic



DEKATRON®. . . the only cold-cathode glow transfer counting tube *with over 10 years of reliability and performance.* Simple circuitry. Electronic speed and accuracy up to 20,000 counts/sec. Counts, stores and reads out all with one tube. For all types of counting applications, sorting, programming, unit flow, packaging and many others. Continuous visual reference to total count.

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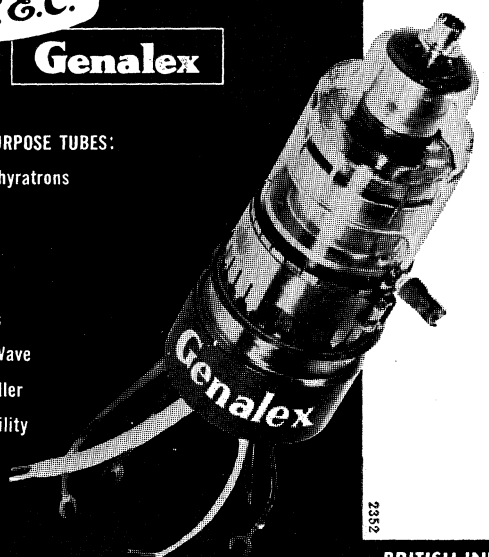

2352

The G.E.C. range of hydrogen thyratrons utilizes new techniques to provide the most reliable operation and greatest possible life. A patented replenisher system (titanium hydride surrounded by the heater) is controlled by a barretter and thermistor, which maintain constant gas pressure regardless of wide variations in supply voltage and ambient temperature. Therefore, since the replenisher voltage is not critical, the supply may be permitted to vary ±7½% and the ambient temperature may vary between −25°C and +75°C. Over these wider allowable limits, Genalex Thyratrons are more stable than older tubes operating in a more restricted range. The newest type in the G.E.C. Hydrogen Thyratron Series is the GHT-4, with the following characteristics:

Maximum Anode Voltage: 25,000 volts, peak.
Maximum Anode Current: 2,000 amps, peak.
Average Anode Current: 3 amps, max.
Pulse power × p.r.f.: 10,000 Megawatt–cps, max.
Jitter: 0.001 microseconds, max.

Known throughout the world for the KT66 and KT88 audio tubes, widely used in quality high fidelity applications, GENALEX also has available many new tube types useful in all fields of electronics.

Address inquiries to Dept. XY1299

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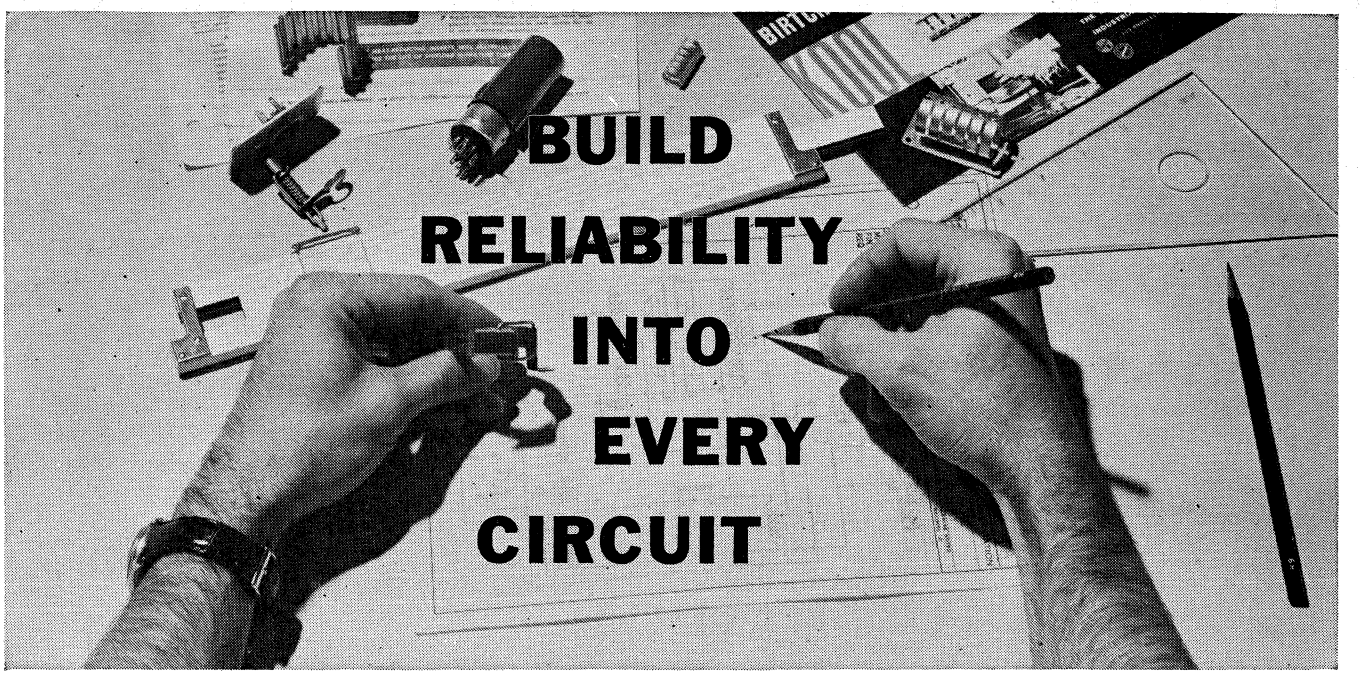
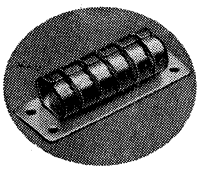


Specify Birtcher tube cooling and retention devices

85% of all electronic equipment failures are caused by tube failures, the main causes being heat and vibration. The Birtcher Corporation is currently solving tough reliability problems for both government and private industry through the use of its tube and component cooling and retention devices—specially adapted where necessary to fit customers' special needs.

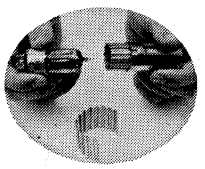


KOOL KLAMPS

Birtcher KOOL KLAMPS perform two important functions, they reduce miniature and sub-miniature tube temperatures by as much as 40° C. while retaining against shock and vibration.
refer to catalog 5-KK

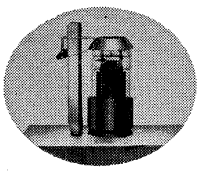
TUBE CLAMPS

Available in more than 6,000 modifications, Birtcher TUBE CLAMPS hold tubes and components securely in place, under severe shock and vibration.
refer to catalog 4-D



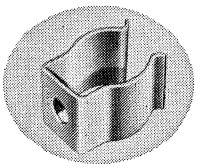
JAN SHIELD INSERTS

The Navy Electronics Research Laboratory developed these Birtcher-manufactured corrugated JAN shield inserts to combat the high rate of tube failures due to excessive heat.
refer to data sheet



TOP HOLDING CLAMPS

In three types: TOP TAINERS, TYPE 2 CLAMPS and CRYSTAL CLIPS. To retain all standard and miniature tubes and plug-in components plus crystals and other wafer-shaped components.
refer to catalog 2-TT



TRANSISTOR CLIPS

TRANSISTOR CLIPS are made in a range of sizes and shapes to retain nearly all currently used transistors and carry off much of the heat to insure greater life and performance.
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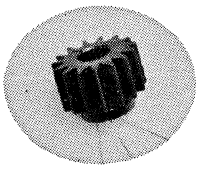

TRANSISTOR RADIATORS

To fit all JEDEC 30 package transistors. Provides large radiating surface to get rid of excessive and damaging heat. Permits maximum input within recommended heat limits.
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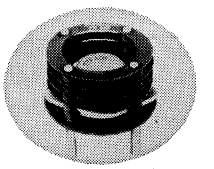

DIODE RADIATORS

Prevent "thermal runaway" in power diodes by maintaining collector junction temperature at or below manufacturers recommended levels. Permits use above ground potential.
refer to catalog 2-TC

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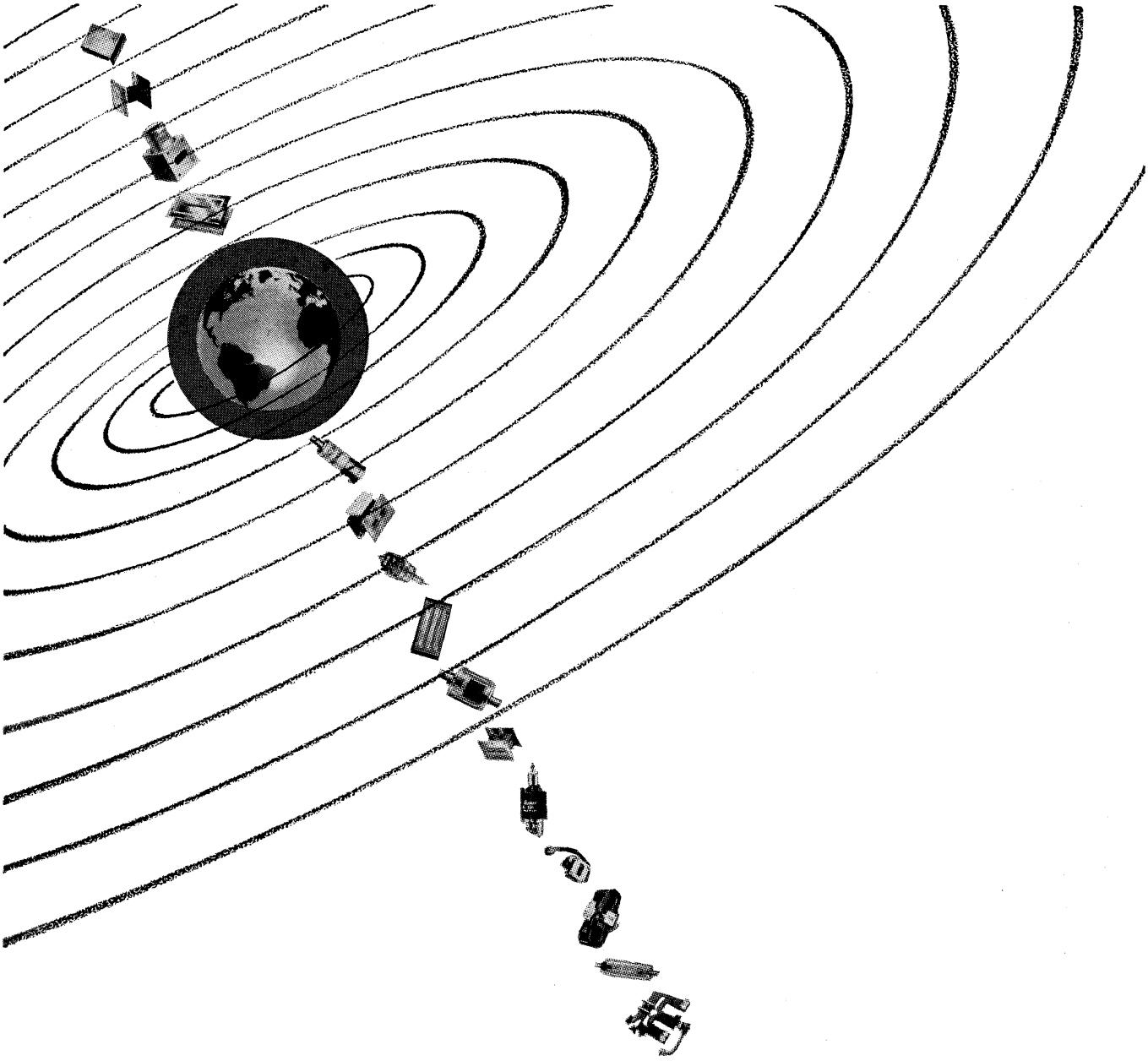

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Bomac LABORATORIES, INC.

Leaders in the design, development and manufacture of TR, ATR, Pre-TR tubes; shutters; reference cavities; crystal protectors; silicon diodes; magnetrons; klystrons; duplexers; pressurizing windows; noise source tubes; high frequency triode oscillators; surge protectors.

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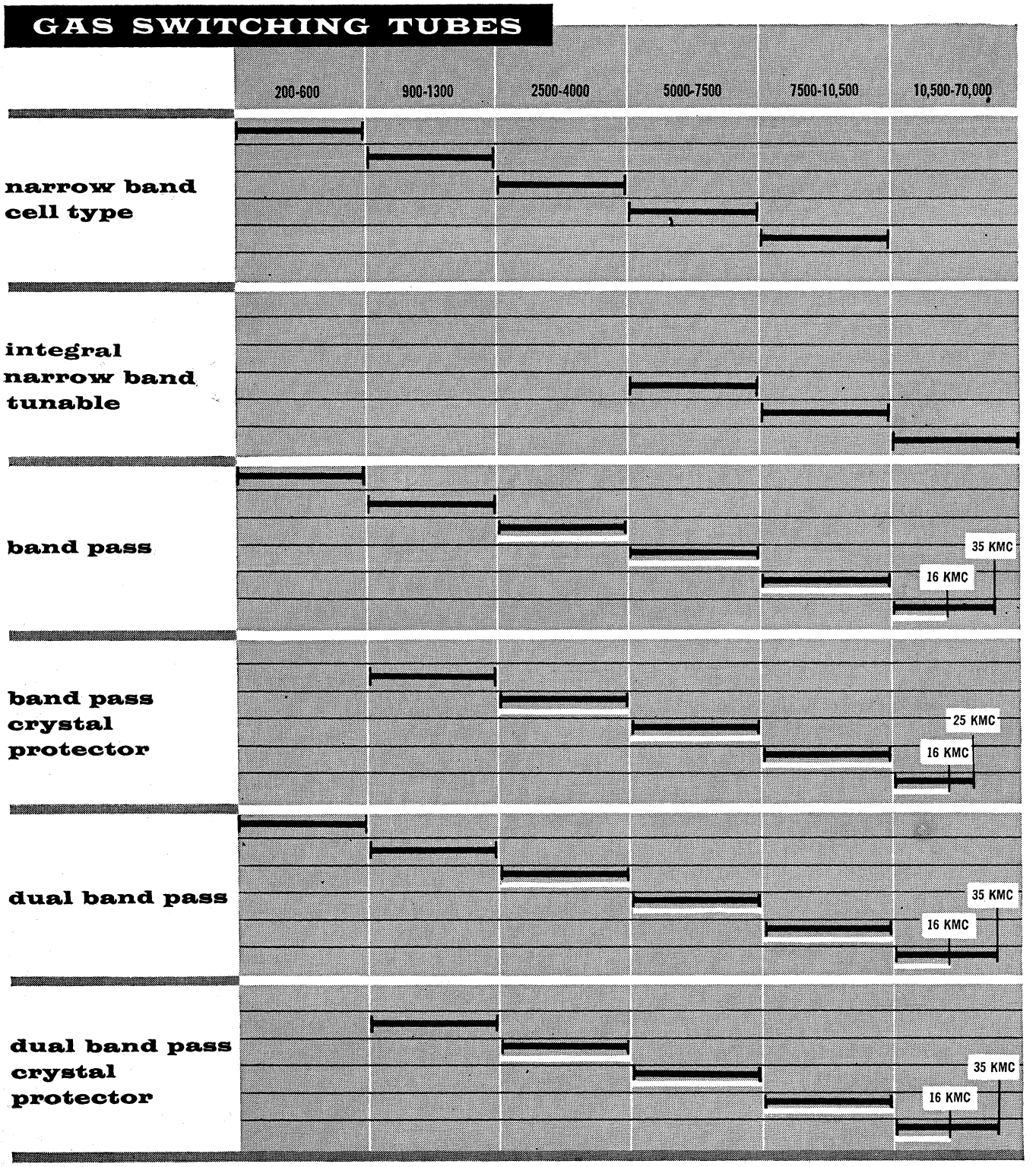

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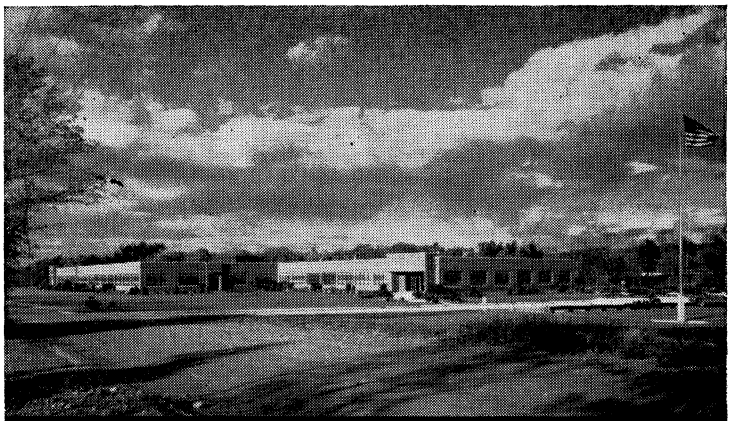
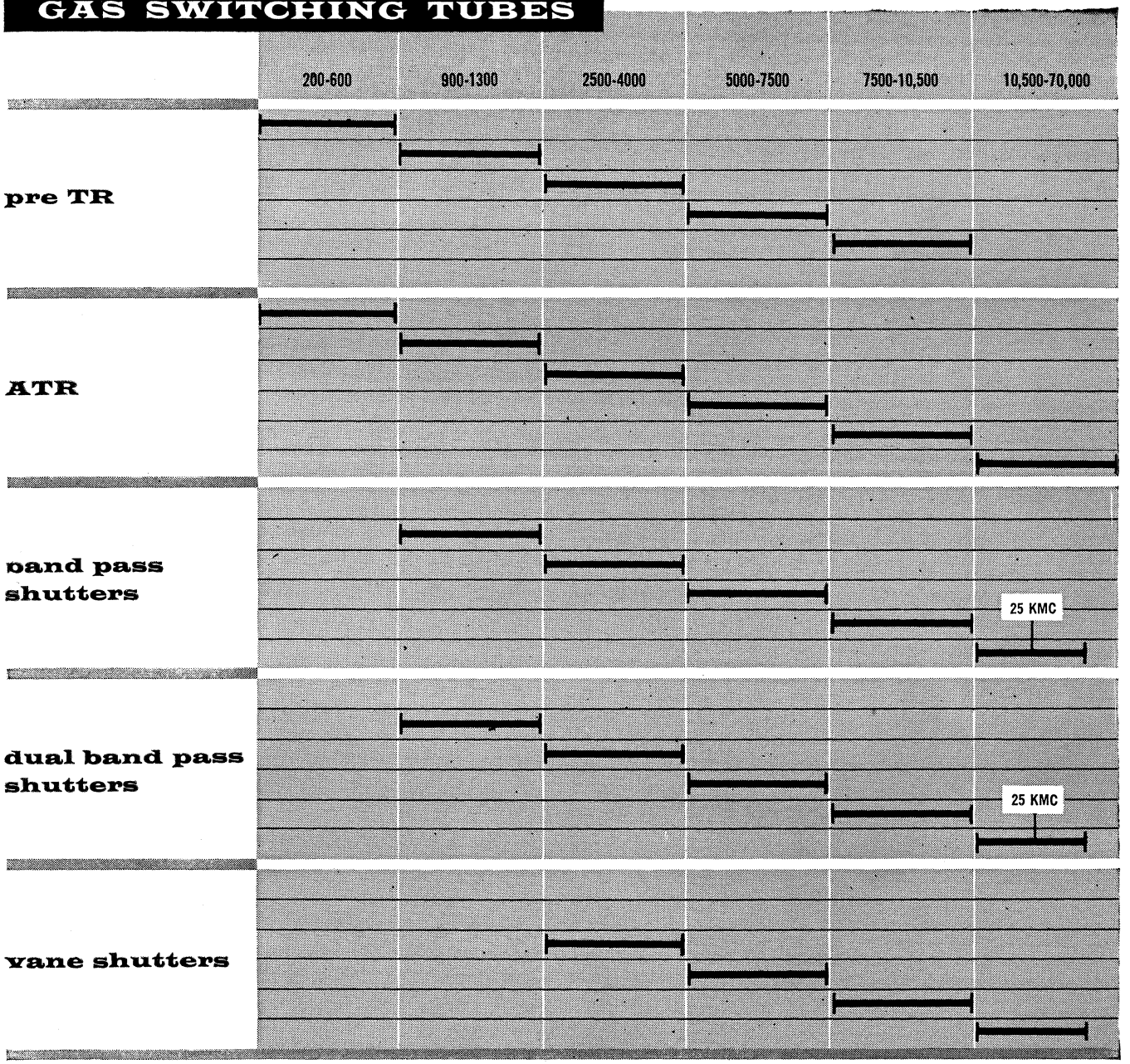


GAS SWITCHING TUBES



Bomac LABORATORIES, INC.
Salem Road, Beverly, Mass.

Standard tubes

Extended temperature tubes (range: −55°C to +125°C)

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At Bomac, where modern methods are implemented by the most up-to-date equipment and highly skilled personnel, flexible production techniques permit single unit or volume production to the same high standards.

PRESSURIZING WINDOWS

choke flange mounted types

Model	Band	Center Freq. (Mc.)	Frequency Range (KMc.)	Max. VSWR Band Edges	Peak Power (KW)	Waveguide Size (RG-)	Max. Pressure (psi)	Mates with UG-	Flange Thickness In.
BL-741	S	2800	2.7-2.9	1.20	750	48/U	30	53/U	.250
BL-712	S	3000	2.8-3.2	1.20	1000	48/U	30	53/U	.250
BL-713	S	3150	2.6-3.7	1.20	1000	48/U	30	54A/U	.100 ± .010
BL-119	X	8800	8.7-8.9	1.10	200	52/U	30	40/U	.060
BL-132	X	9000	8.49-9.578	1.12	200	52/U	30	40A/U	.166 ± .015
BL-722	X	9000	8.49-9.578	1.12	200	51/U	30	52A/U	.166 ± .015
BL-710	X	9050	8.5-9.6	1.12	200	52/U	30	52A/U	.166 ± .015
BL-112	X	9080	8.83-9.33	1.10	200	52/U	30	40/U	.060
BL-117	X	9080	8.83-9.33	1.10	200	52/U	30	40A/U	.060
BL-122	X	9100	8.645-9.555	1.15	200	52/U	30	40A/U	.060
BL-139	X	9100	8.49-9.6	1.15	200	51/U	30	52A/U	.010 (max.)
BL-106	X	9245	8.55-9.95	1.20	—	52/U	30	40/U	.060
BL-105	X	9375	9.15-9.6	1.10	430	51/U	30	52/U	.060
BL-145	X	9375	9.15–9.6	1.10	200	52/U	30	40A/U	.060
BL-777	Ku	15200	12.4-18.0	1.12	100	91/U	30	541/U	.060 ± .005
BL-144	Ku	16000	15.84-16.16	1.08	100	91/U; 107/U	30	541/U	.060
BL-133	Ku	16000	15.0-17.0	1.15	75	91/U	—	541/U	.040

special types

Model	Band	Center Freq. Mc.	Frequency Range kMc.	Max. VSWR Band Edges	Power KW	Waveguide Size RG-	Pressure psi
BL-756	S	3000	2.8-3.2	1.20	—	—	—
BL-770	S	3300	2.6-4.0	1.15	1000	49/U	—
BL-733	C	5650	5.4 ± 0.1% – 5.9 ± 0.1%	1.25	100	49/U	45
BL-771	C	5650	5.4-5.9	1.20	50	49/U	25
BL-708	X	9000 ± 0.1%	8.5 ± 0.1% 9.5 ± 0.1%	1.15	—	Special	30
BL-719	X	9000	8.2-12.4	1.08	200	52/U	17
BL-751	X	9000	8.49-9.578	1.12	200	52/U	30
BL-709	X	9050	—	—	—	51/U	—
BL-126	X	9327	9.25-9.405	1.10	—	—	50
BL-758	X	10155	10.03-10.28	1.10	5	Special	—
BL-761	X	9000 ± 0.1%	8.5 ± 0.1% – 9.5 ± 0.1%	1.15	—	Special	30
BL-767	X	9000	8.5-9.6	1.12	200	52/U	30
BL-768	X	9000 ± 0.1%	8.5 ± 0.1% – 9.5 ± 0.1%	1.10	—	Special	30
BL-786	X	—	8.1-12.4	1.20	—	—	—

ceramic windows

Model	Band	Center Freq. (Mc.)	Description
BL-725	C	—	Copper brazed
BL-753	X	9000	Ceramic Pressurized Windows

soldered types

Model	Band	Center (Freq. Mc.)	Frequency Range (kMc.)	Max. VSWR Band Edges	Peak Power (KW)	Waveguide Size (RG-)	Max. Pressure (psi)
BL-124	S	2800	2.675-2.925	1.10	1000	48/U	30
BL-793	S	3100	2.6-3.7	1.30	—	49/U	30
BL-743	S	3300	—	1.10	1mW	48/U	30
BL-704	C	5000	4.9-5.1	1.15	100	49/U	30
BL-730	C	5000	4.9-5.1	1.15	100	49/U	30
BL-769	C	5000	4.9-5.1	1.15	100	49/U	30
BL-141	C	5210	5.1-5.32	1.10	100	49/U	30
BL-746	C	5280	5.25-5.31	1.05	500	49/U	30
BL-780	C	5400	5.35-5.45	1.12	750	49/U	30
BL-738	C	5500	5.1-5.9	1.25	100	49/U	30
BL-134	C	5550	5.2-5.9	1.20	75	50/U	30
BL-742	C	5637	5.45-5.825	1.12	750	49/U	30
BL-747	Xb	5975	—	—	250	50/U	—
BL-123	Xb	6500	6.15-6.85	1.30	100	50/U	30
BL-755	X	9000	8.85-9.15	1.20	100	52/U	30
BL-794	X	9000	8.4-9.6	1.08	200	52/U	30
BL-789	X	9100	8.99-9.21	1.10	150	52/U	30
BL-107	X	9310	9.21-9.41	1.10	100	51/U	30
BL-114	X	9310	9.2-9.42	1.10	150	52/U	30
BL-125	X	9310	9.2-9.42	1.10	150	52/U	30
BL-764	X	9375	9.2-9.4	1.07	150	52/U	30
BL-788	X	9400	9.29-9.51	1.10	150	52/U	30
BL-136	X	9500	9.4-9.6	1.20	150	52/U	30
BL-774	X	9900	9.6-10.2	1.10	150	52/U	45/30
BL-711	Ku	13000	12.5-13.5	1.25	50	91/U	30
BL-707	Ku	13500 ± 0.1%	13.45 ± 0.1% – 13.55 ± 0.1%	1.10	50	91/U	30
BL-729	Ku	13500	13.500 ± 0.1%	1.07	50	91/U	30
BL-731	Ku	13500	13.45-13.55	1.10	50	91/U	30
BL-140	Ku	16000	—	—	50	91/U	—
BL-143	Ku	16000	15.92-16.08	1.10	50	91/U	15
BL-754	Ku	16100	16.0-16.2	1.10	80	91/U	15
BL-116	Ku	16500	16.3-16.7	1.10	50	91/U	15
BL-715	K	24000	23.1-24.9	1.20	50	53/U	30
BL-737	Ka	34500	34.2-34.8	1.15	20	96/U	15
BL-760	Ka	34900	34.6-35.2	1.15	20	96/U	15

NOTE: A minimum of .005 inch clearance is recommended on all sides for soft soldered types.

miscellaneous windows

Model	Band	Center Freq. (Mc.)	Description
BL-127	S	2800	Viewing Window. Optically clear
BL-705	—	—	Special Window for Waveguide Antenna
BL-736	X	—	Special Window for Waveguide Antenna
BL-135	—	—	Pressure Viewing Window
BL-727	—	—	Pressure Viewing Window
BL-739	—	—	Pressure Viewing Window

NOTE:Bomac manufactures many types of magnetron output windows, used primarily to maintain a vacuum and to transfer power. These windows are availabile at all frequencies

In addition to above listing many other types are available which are classified. Inquiries on types not listed or for special applications are invited. If clearance is needed you will be advised of the appropriate government agency to contact.

See YELLOW SECTION for Local Offices, Telephone, etc.

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SILICON DIODES

Tube Designation	Band	Frequency	Max. Conv. Loss db	Noise Ratio	Max. VSWR	IF Impedance ohms
1N21B	S	3060	6.5	2.0	—	—
1N21BR	S	3060	6.5	2.0	—	—
1N21BM	S	3060	6.5	2.0	—	
1N21C	S	3060	5.5	1.5	—	—
1N21CR	S	3060	5.5	1.5	—	—
1N21CM	S	3060	5.5	1.5	—	—
1N21CMR	S	3060	5.5	1.5	—	—
1N21D	S	3060	5.0	1.3	1.50	325-475
1N21DM	S	3060	5.0	1.3	1.50	325-475
1N21DMR	S	3060	5.0	1.3	—	—
1N21DR	S	3060	5.0	1.3	—	—
1N21EM	S	3060	—	—	1.30	350-450
1N23B	X	9375	6.5	2.7	—	—
1N23BR	X	9375	6.5	2.7	—	—
1N23BM	X	9375	6.5	2.7	—	—
1N23C	X	9375	6.0	2.0	1.50	325-475
1N23CR	X	9375	6.0	2.0	1.50	325-475
1N23CM	X	9375	6.0	2.0	1.50	325-475
1N23CMR	X	9375	6.0	2.0	1.50	325-475
1N23D	X	9375	5.0	1.7	1.30	350-450
1N23DR	X	9375	5.0	1.7	1.30	350-450
1N23DM	X	9375	5.0	1.7	1.30	350-450

Tube Designation	Band	Frequency	Max. Conv. Loss db.	Noise Ratio	Max. VSWR	IF Impedance ohms
1N23DMR	X	9375	5.0	1.7	1.30	350-450
1N23EM	X	9375	—	7.5	—	335-465
1N23EMR	X	9375	—	7.5	—	335-465
1N149M	X	9375	9.5	1.5	1.50	325-475
1N149MR	X	9375	9.5	1.5	1.50	325-475
1N23ER	X	9375	—	7.5	1.30	335-465
1N23WE	X	9375	6.0	1.4	1.30	335-460
1N149R	X	9375	5.5	1.5	1.5	325-475
1N78	Ku	16000	7.5	2.5	—	325-625
1N149	X	9375	5.5	1.5	1.50	325-475
1N53	Ka	34800	8.5	2.5	1.60	400-800
1N26	K	23980	8.5	2.5	—	300-600
1N31	X	9375	—	—	—	—
1N630	—	12400	Coaxial Type Crystal			

Crystal	Band	Frequency	Max. Overall Noise Fig.	Max. VSWR	IF Impedance ohms
1N23E	X	9375	7.5	1.3	350-450
1N21E	S	3060	7.0	1.3	430-530

The 1N21 and 1N23 series are available in matched pairs
The 1N415 and 1N416 series reversible diodes are interchangeable with the 1N21 and 1N23 series

MAGNETRON TUBES

Tube	Ef Volts	If Amps.	Peak Anode Voltage	Peak Anode Current Amps.	Peak Power	Frequency	Output Mates to Flange	Weight	Band
5780	20.0	4.0	30 KV	30.0	250 KW	8400-9600 mcs	UG 52A/U	15 lbs.	X
6551	5.0	2.8	14 KV	15.0	40 KW	23.80-24.27 KMC	Special	7.5 lbs.	K
BL-212	5.0	0.5	1300 V	0.8	100 W	5400-5900 mcs	50 Ω SM Jack	8 oz.	C
BL-218	6.3	3.0	14 KV	7.0	5 KW	51.5-55.5 KMC	UG 385/U	8.5 lbs.	V
BL-219	6.3	3.0	15.5 KV	7.0	5 KW	54.5-57.5 KMC	UG 385/U	8.5 lbs.	V
BL-220	6.3	3.0	14.0 KV	7.0	5 KW	56.5-60.9 KMC	UG 385/U	8.5 lbs.	V
BL-223	5.0	0.7	1900 V	1.1	400 W	5400-5900 mcs	50 Ω TNC plug	10 oz.	C
BL-226	5.0	0.5	1300 V	0.9	90 W	9100-9500 mcs	50 Ω TNC plug	8 oz.	X
BL-227	5.0	0.5	1300 V	0.9	90 W	8700-9100 mcs	50 Ω TNC plug	8 ox.	X
BL-228	5.0	0.5	1300 V	0.9	90 W	8300-8700 mcs	50 Ω TNC plug	8 oz.	X
BL-230	5.0	0.7	2800 V	1.9	1000 W	5400-5900 mcs	50 Ω TNC plug	10 oz.	C
BL-231	5.0	0.5	1400 V	1.0	200 W	5300-6000 mcs	50 Ω SM Jack	8 oz.	C
BL-242	5.0	0.7	1900 V	1.1	400 W	5400-5900 mcs	50 Ω Type N plug	10 oz.	C
BL-243	5.0	0.5	1400 V	1.0	200 W	5400-5900 mcs	50 Ω SM Jack	8 oz.	C

SPARK GAP TUBES

Tube Designation	Description
1B22	Max. Peak Voltage 2700
1B31	Spark Gap Modulator-Breakdown Voltage 6.8-9.9 KV
1B41	Series Gap Modulator-Breakdown Voltage 8.7-10.2 KV
1B45	Series Gap Modulator-Breakdown Voltage 14.5-16.5 KV

Bomac LABORATORIES, INC.
Salem Road, Beverly, Mass.

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BOMAC *microwave tubes and components*

Whatever your needs — a tube or component in production, a modification, or a completely new product — Bomac is able to meet your most exacting requirements.

REFERENCE CAVITIES

Tube Designation	Resonant Frequency	Loaded	Insertion Loss db
5846	9280	2150	4-6
6040	9308	2150	4-6
6041	9312	2150	4-6
6301	9270	1250	5-8
6452	9350	1750	4-6
1Q22	9250	2150	4-6
1Q23	9280	2150	4-6
1Q24	9310	2150	4-6
BL407		BL62 Cavity-no Fill	
BL413		X-Band 4 Element Filter for BL303	
BL414	11000	2150	4-6
BL415	9400	2150	4.6
BL430	9790	Dual Mode for Discriminator	—
BL421		Ku-Band Absorption Cavity	
BL422	9270	2150	4-6
		BL424 Tuned to 9310	
BL428		1Q22 at 9500	
BL429		1Q22 at 8500	

Tube Designation	Resonator Frequency	Loaded	Insertion Loss db
BL431		Dual Mode Detent Cavity, X-Band	
BL434		X-Band Discriminator with Crystals	
BL435		Similar to BL425 Except for Freq.	
BL436	6200	15000	10 db
BL437	7300	15000	10 db
BL438	8800	15000	10 db
BL439	10500	15000	10 db
BL441	9280	3000-4000	5-8db (Sim.to1Q26A)
BL442	Dual mode (8710-9375 Mcs)		
BL443	9841±0.2 Mc	2100	4-6 db (Sim. to 1Q23)
BL444	9790±0.2 Mc	2100	4-6 db (Sim. to 1Q23)
BL452	16280±5.0 Mc	5000-8000	9
BL454	9400		
BL459	8800±0.2	1000-1500	8
BL460	9260±0.1		
BL461	9340±0.1		

REFLEX KLYSTRON

Tube Type	Frequency	Resonator Potential DC Volts	Power Output Milliwatts Min.	Max.
6780/BL800	8500-10000	300	25	100
6316/BL800A	8500-10000	300	40	—
BL801	8500-9600	300	20	—
BL802	9040-9060	250	4	—
6781/BL803	8500-10000	210	35	—
BL806	8600-9900	500	15	—
BL807	8500-10500	350	100	—
BL811	8490-9660	210	15-25	—

Tube Type	Frequency	Resonator Potential DC Volts	Power Output Milliwatts Min.	Max.
BL812	8500-9600	300	12	120
BL814	10400-12300	400	150	—
BL815	9142-9152	200	15	—
BL818	8500-10000	350	50	—
BL819	9192	300	40	—
BL820	9147	300	40	—
BL824	9200-9500	300	22	—

SURGE PROTECTORS

Tube Designation	Description
BL121	Spark Gap Voltage Control Tube 2.0-2.4 KV
BL137	Modified BL121, 2000 Volts
BL142	Protective Gas Device 3000-4000 Volts
BL146	Special Protective Gas Diode 33000 Volts
BL700	Special BL146 for 19±1 KV Operation
BL702	Special BL146 for 19±1 KV Operation, ½" Length
BL703	Special BL137, 2300-2700 Volts
BL706	Special BL137, 100 Volts Hold-off
BL716	Special BL146, 24000-27000 Volts Breakdown
BL717	Special BL700, 8500 Volts Minimum, 10000 Volts Maximum
BL718	Special BL700, 10500 Volts Minimum, 12000 Volts Maximum

Tube Designation	Description
BL724	Special BL700, 7.2 KV Minimum, 7.7 KV Maximum
BL726	20-25 KV
BL735	16-18 KV. Same outline as 1B45
BL744	Modified BL121
BL745	For 5.5 KV Breakdown, 2500 Volts Hold-off
BL752	Modified BL146 for 5.5 KV-6. 5 KV Breakdown
BL762	16 KV Breakdown (Max.) 14 KV (Min.).
BL763	18 KV Breakdown (Max.) 16 KV (Min.)
BL772	11.5 KV Breakdown (Max.) 9.0 KV (Min.)
BL773	Discharge Tube for Ku Noise Source BL579
BL776	12-14 KV Breakdown. 1B45 Outline
BL778	Hold-off 12 KV Breakdown 14-16 KV. Similar to BL716

DUPLEXERS & COMPONENTS

Bomac designs and manufactures a complete line of duplexers and components including hybrids, mixers, adapters, as well as complete systems.

Bomac LABORATORIES, INC.
Salem Road, Beverly, Mass.

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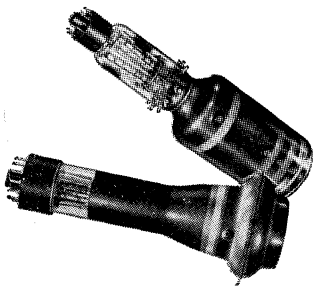
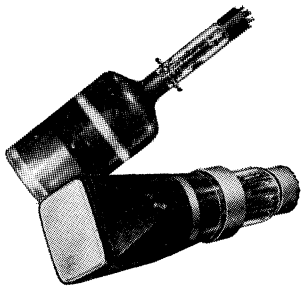
INDUSTRIAL & MILITARY
Cathode Ray Tubes



Single-beam and Multi-beam cathode ray tubes with round, rectangular, or square faces from 3 to 12 inches. One, two, three, four, five, eight, and ten gun types. Those shown below are but a few of the many standard types regularly produced by ETC. All phosphors are available.

Also many special C-R tubes including Dual X-axis input, Spiral band, Radial deflection, and Primary beam commutator types. Types to critical military and industrial specifications... by the pioneers in multi-gun cathode ray tubes.

ETC single- and multi-channel oscilloscopes are described on page 000.



TUBE TYPE	PHYSICAL CHARACTERISTICS MAX. FACE DIMEN."	RADIUS OF FACE CURVATURE	MAX. RATINGS POST ACCELERATOR EBS VDC	ACCEL-ERATOR EB2 VDC	ELECTRICAL CHARACTERISTICS EB3	EB2	FOCUS VOLTAGE EB1	GRID CUT-OFF MINUS VDC	D1 - D2 VDC/IN	D3 - D4 VDC/IN
E T C SINGLE-GUN C-R TUBES										
3ACP	3	FLAT	6,000	2,000	4,000	2,000	400-690	45-75	180-220	133-163
3ADP	3	FLAT	6,000	3,000	4,000	2,000	320-470	52-87	140-155	61-68
3KP *	3	8		2,500		2,000	320-600	0-90	100-136	76-104
3WP *	3	FLAT		2,500		1,500	247-465	45-75	62-76	43-52
4FP	3½x3½	30	6,000	3,000	4,000	2,000	335-615	52-87	120-165	80-120
4KP	3½x3½	30		2,500		1,500	255-545	36-60	62-76	36-46
5ABP	5	FLAT	6,000	2,600	3,000	1,500	300-515	34-56	40-50	31.5-38.5
5ADP *	5	FLAT	6,000	2,600	3,000	1,500	300-515	34-56	40-50	31.5-38.5
5AMP	5	FLAT		6,000		2,500	0-300	34-56	40-50	20-25
5AQP	5	FLAT		4,000		2,500	0-300	34-56	40-50	31.5-38.5
5ATP	5	FLAT		10,000		6,000	0-700	34-56	94-116	34-42
5AWP *	5	FLAT	12,000	3,500	10,300	2,300	500-730	32-50	113-128	113-128
5BGP (T51P)	5	FLAT	12,000	2,000	10,000	1,650	180-590	50-80	71-86	28-35
5BHP (T54P)	5	FLAT	12,000	2,000	10,000	1,650	125-500	45-75	71-86	15-19
5CP *	5	8	4,000	2,000	4,000	2,000	375-690	30-90	78-106	66-90
5JP *	5	10	4,000	2,000	3,000	1,500	250-472	34-79	58-86	58-86
5LP *	5	10	4,000	2,000	3,000	1,500	282-475	22.5-67.5	62-93	54-81
5RP *	5	FLAT	25,500	3,500	10,000	2,000	362-695	30-90	102-154	97-145
5XP	5	FLAT	25,500	3,650	12,000	2,000	362-695	45-75	130-159	42-52
5YP	5	8	8,000	3,500	4,000	2,000	362-695	30-90	72-108	24-36
61DRP	4½x5½	400		4,000		2,500	0-300	34-55	40-50	31-38
E T C TWO-GUN C-R TUBES										
3ABP *	3	FLAT	6,000	2,000	4,000	2,000	380-580	45-75	164-198	148-181
4DP *	3½x3½	30	6,000	3,000	4,000	2,000	335-615	52-87	115-140	90-115
5AFP *	5	FLAT	10,500	3,500	4,000	2,000	400-684	53-87	54-66	49-60
5ANP	5	FLAT		10,000		2,500	0-300	34-56	40-50	22.5-27.5
5ARP	5	FLAT		6,000		2,500	0-300	34-56	45-55	31.5-38.5
5BDP *	5	FLAT	25,500	3,500	14,000	2,000	400-630	45-75	130-160	111-133
5SP *	5	FLAT	7,500	2,500	4,000	2,000	363-695	45-75	83-101	70-86
52REP	5	FLAT	6,600	2,200	6,000	2,000	400-700	30-70	65-75	25-35
52SBP	5	FLAT	15,000	3,500	10,000	2,000	550-850	60-90	85-105	17-21
62DRP	4½x5½	40		4,000		2,500	0-350	34-55	40-50	31-38
E T C THREE-GUN C-R TUBES										
4HP *	3½x3½	30	5,500	2,750	4,000	2,000	350-460	42-78	120-147	45-55
6DP *	6	FLAT	12,000	4,000	12,000	4,000	950-1225	75-124	112-138	105-130
7ACP *	4 x 6	30	11,500	3,850	9,000	3,000	595-1,095	63-135	86-130	84-126
E T C FOUR-GUN C-R TUBES										
54DGP	5	FLAT	6,600	2,200	4,000	2,000	375-695	30-90	74-110	43-64
54RAP	5	FLAT	10,500	3,500	4,000	2,000	400-684	53-87	54-66	49-60
54SWP	5	FLAT	10,500	3,500	4,000	2,000	400-684	53-87	83-101	70-86
74DRP	5½x5½	40	10,500	3,500	4,000	2,000	470-670	52-76	56-68	48-59
E T C FIVE-GUN C-R TUBES										
7XP *	7	24	4,400	2,200	4,000	2,000	440-750	22.5-67.5	63-105	59-94
7YP *	5½x5½	40	7,000	3,500	4,000	2,000	450-700	50-90	60-90	28-45

* DESIGNED TO MIL-E-1C SPECIFICATIONS

electronic tube corporation
1200 E. Mermaid Lane • Philadelphia 18, Penna.

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Eimac First for Reliability in Power Electron Tubes

HIGH VACUUM RECTIFIERS

	U.S.A. Price	Filament Voltage Volts	Filament Current Amps	Peak Inverse Voltage Volts	Peak Plate Current Amps	Average Plate Current ma	Plate Dissipation Watts
2-01C	$ 15.25	5.0	0.35	1,000	0.010	1	0.1
2-25A	12.50	6.3	3.0	25,000	1.0	50	15
2-50A	15.00	5.0	4.0	30,000	1.0	75	30
2-150D	25.00	5.0	13.0	30,000	3.0	250	90
2-240A	40.00	7.5	12.0	25,000	4.0	500	150
2-450A	94.00	7.5	26.5	25,000	8.0	1000	450
2-2000A	214.50	10.0	25.0	75,000	12.0	750	1200
250R	28.00	5.0	10.5	60,000	2.5	250	150
253	20.50	5.0	10.0	15,000	2.5	350	100
8020(100R)	15.00	5.0	6.5	40,000	1.5	100	60
2CL40A	32.00	6.0	2.7	16,000	10.0[6]	120[4]	40[4]
2X1000A	120.00	26.5	2.2	25,000	25.0[6]	1250[6]	1000
2X3000F	140.00	7.5	51.0	25,000	20.0	3000	3000
MERCURY-VAPOR RECTIFIERS							
KY21A	25.00	2.5	10.0	11,000	3.0	750	.....
RX21A	24.00	2.5	10.0	11,000	3.0	750	.....

PREFORMED CONTACT FINGER STOCK

A prepared strip of silver-plated spring material, slotted and formed into a series of fingers designed to make sliding contact.

Single Edge	Width
CF-100	17/32"
CF-300	31/32"
CF-500	1 3/8"
CF-900	1/2"
Double Edge	**Width**
CF-200	13/16"
CF-400	1 17/32"
CF-600	2 1/4"
Klystron Types	**Width**
CF-700	17/32"
CF-800	13/32" x 5/16"

Used as contact between klystrons and externally-tuned cavities.

PULSE MODULATORS

	U.S.A. Price	Plate Dissipation Watts	Plate Voltage Volts	Plate Current ma	Grid Dissipation Watts	Screen Voltage Volts	Screen Dissipation Watts	Filament Voltage Volts	Filament Current Amps	Amplification Factor
4PR60A	$90.00	60	20,000	18,000[3]	....	1500	8	26.0	2.25	....
6C21	77.00	300	30,000	15,000[3]	50	.....	....	8.2	17.00	30

HEAT-DISSIPATING CONNECTORS

Type	Hole Diameter
HR-1	.052
HR-2	.062
HR-3	.072
HR-4	.102
HR-5	.127
HR-6	.367
HR-7	.127
HR-8	.575
HR-9	.569
HR-10	.510

SK-604 TUBE EXTRACTOR

A spring-steel extractor for use with the 4X150 series, 4X250 series and 2C39 series tubes.

VACUUM SWITCHES

Single-pole double-throw switch within a high vacuum adaptable for high-voltage switching. Contact spacing .015". Switch will handle R-F potentials as high as 20 Kv. in D-C switching will handle approximately 1.5 Amps. at 5 Kv.

Type	Coils
VS-2	12V
VS-4	24V
VS-5	
VS-6	

100IG IONIZATION GAUGE

For measuring pressures from 10^{-3} to less than 10^{-8} mm of mercury.

HV-1 DIFFUSION PUMP

Triple-jet, air-cooled vacuum pump of the oil-diffusion type. Capable of reaching an ultimate vacuum of 4 x 10^{-7} mm of mercury when used with suitable forepump.

AIR SYSTEM SOCKETS

	U.S.A. Price	Tube	Screen By-Pass Capacitor uuf	Special Characteristics
SK-100	$123.00	4KM3000LQ; 3KM3000LA; 3K3000LQ	.....	Cathode socket.
SK-110	123.00	3K50,000LA,F,Q; 3KM50,000PA; 4K50,000LQ; 4KM50,000SG; 6K50,000LQ, 4KM50,000LA; 4KM50.000LF; 4KM50,000LQ	.....	Cathode socket.
SK-200	60.00	3K2500SG; 3K2500LX; 3KM4000LT	.....	Cathode socket.
SK-300	41.00	4CX5000A	none	
SK-400	12.00	4-400A; 4-250A; 4-125A; 4X500F	none	
SK-500	17.00	4-1000A	none	
SK-600	15.25	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	2700	No terminals grounded.
SK-602	15.25	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	2700	No terminals grounded. (Special SK-600)
SK-610	17.10	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	2700	Cathode terminals grounded.
SK-620	15.75	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	1100	No terminals grounded. Screen by-pass capacitor plastic sealed.
SK-630	17.60	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	1100	Cathode terminals grounded. Screen by-pass capacitor plastic sealed.
SK-640	5.00	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	none	No terminals grounded.
SK-650	7.50	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	none	Cathode terminals grounded.
SK-655	6.65	(Screen by-pass capacitor for use with SK-650)	1100	Plastic sealed.
SK-700	20.00	4CX300A	1100	No terminals grounded.
SK-710	20.00	4CX300A	1100	Cathode terminals grounded.
SK-740	On Request	4CX300A	none	No terminals grounded.
SK-760	On Request	4CX300A	none	Integral chimney. No terminals grounded.
SK-770	On Request	4CX300A	none	Integral chimney, screen terminals grounded.
SK-800	40.00	4CX1000A	1450	Cathode terminals grounded.
SK-900	48.00	4X500A	650	
SK-1000	On Request	4KM170,000LA	.....	Cathode socket.

CHIMNEYS

	U.S.A. Price
SK-306	$11.48
SK-406	6.00
SK-506	9.00
SK-606	.60
SK-626	.70
SK-636	6.00
SK-806	8.00
SK-906	10.00

1 Waveguide Output Fitting
2 Coaxial Output Fitting
3 Pulse
4 Convection liquid cooled
5 Cathode Current
6 Pulse-clipper service only
7 TV Peak-Synchronizing Level
9 Plus 2250 watts bombarder power

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AMPLIFIER KLYSTRONS

	U.S.A. Price	TYPICAL OPERATION Output Power, Watts CW	Pulse	Power Gain db	Frequency Range Mc	MAXIMUM RATINGS Beam Voltage Volts	Beam Current Amps
3K2500LX	$ 2,360.00	1000	.....	25	980-1200	7000	0.6
3K2500SG	2,950.00	1000	.....	25	1700-2400	7000	0.6
3K3000LQ	2,360.00	2000	.....	30	720- 985 620- 900	9000	0.75
3K50,000LA	4,200.00	10,000	12,0007	25	470- 580	20,000	2.5
3K50,000LF	4,200.00	10,000	12,0007	25	580- 720	20,000	2.5
3K50,000LQ	4,200.00	10,000	12,0007	25	720- 985	20,000	2.5
3KM3000LA	2,470.00	2000	.....	30	375- 570	9000	0.75
3KM4000LT	1,880.00	.....	30,000	30	955-1220	24,000	3.3
3KM50,000PA	11,000.00	20,000	50,000	30	225- 400	30,000	2.5
4K50,000LQ	3,650.00	10,000	.....	50	720- 985	20,000	2.5
4KM3000LQ	3,750.00	2000	.....	40	720- 985	10,000	0.75
4KM50,000LA	4,230.00	10,000	.....	50	400- 585	20,000	2.5
4KM50,000LF	Price on Request	10,000	.....	50	580- 720	20,000	2.5
4KM50,000LQ	3,760.00	10,000	.....	50	610- 985	20,000	2.5
4KM50,000SG	10,000.00	10,000	.....	40	1700-2400	18,000	2.0
4KM170,000LA	23,500.00	75,000	 200,000	50 50	300- 500 300- 500	33,000 50,000	5.5 11.0
6K50,000LQ	8,250.00	10,000	.....	55	720- 985	20,000	2.5

REFLEX KLYSTRONS

	U.S.A. Price	MAXIMUM RATINGS Resonator Voltage Volts	Resonator Dissipation Watts	Cathode Current ma	Reflector Voltage Volts (Typical)	ELECTRICAL CHARACTERISTICS Heater Voltage Volts	Heater Current Amps	Frequency Range Mc
1K015CA2	$295.00	350	15	50	—250	6.3	0.8	5400-6000
1K015CG1	295.00	350	15	50	—250	6.3	0.8	5400-6000
1K125CA1	235.00	1000	125	110	—285	6.3	1.5	3700-4400
1K125CB1	235.00	1000	125	110	—335	6.3	1.5	4400-5000
1K20KA1	475.00	350	20	50	—190	6.3	0.8	10,700-11,700
1K20XD1	475.00	350	20	50	—175	6.3	0.8	10,000-10,800
1K20XK1	475.00	350	20	50	—160	6.3	0.8	9200-10,000
1K20XS1	475.00	350	20	50	—140	6.3	0.8	8500-9300

TETRODES

	U.S.A. Price	MAXIMUM RATINGS Plate Dissipation Watts	Plate Voltage Volts	Plate Current ma	Grid Dissipation Watts	Screen Voltage Volts	Screen Dissipation Watts	ELECTRICAL CHARACTERISTICS Filament Voltage Volts	Filament Current Amps	Amplification Factor
4-65A	$ 20.00	65	3000	150	5	400	10	6.0	3.5	.....
4-125A	30.25	125	3000	225	5	400	20	5.0	6.5	.....
4-250A	41.25	250	4000	350	10	600	35	5.0	14.5	.....
4-400A	48.00	400	4000	350	10	600	35	5.0	14.5	.....
4-1000A	132.00	1000	6000	700	25	1000	75	7.5	21.0	.....
4CN15A	57.65	15	2500	.....	2	400	12	6.0	3.0	.....
4CW10,000A	Price on Request	10,000	7500	3000	75	1500	250	7.5	75.0	.....
4CX250B	45.00	250	2000	250	2	300	12	6.0	2.6	.....
4CX250K	54.00	250	2000	250	2	300	12	6.0	2.6	.....
4CX250M	54.00	250	2000	250	2	300	12	26.5	0.57	.....
4CX300A	48.00	300	2500	250	2	400	12	6.0	3.0	.....
4CX1000A	156.00	1000	3000	1000	0	350	12	6.0	12.5	.....
4CX5000A	450.00	5000	7500	3000	75	1500	250	7.5	75.0	.....
4W300B	42.50	300	2000	250	2	300	12	6.0	2.6	.....
4W20,000A	1,850.00	20,000	8000	15,000	60	1500	200	10.0	30.09	.....
4X150A	38.95	150	1250	250	2	300	12	6.0	2.6	.....
4X150D	38.95	150	1250	250	2	300	12	26.5	0.57	.....
4X150G	54.00	150	1250	250	2	300	15	2.5	7.0	.....
4X250B	42.50	250	2000	250	2	300	12	6.0	2.6	.....
4X250F	42.50	250	2000	250	2	300	12	26.5	0.57	.....
4X500A	121.00	500	4000	350	10	500	30	5.0	13.5	.....
4X500F	121.00	500	4000	350	10	500	30	5.0	13.5	.....

PENTODE

4E27A/5-125B	$ 40.00	125	4000	200	5	750	20	5.0	7.50	.....

TRIODES

2C39A	$ 22.50	100	1000	1255	2	.....	.....	6.3	1.0	100
2C39B	32.15	100	1000	1255	2	.....	.....	6.3	1.0	100
2C39WA	30.00	100	1000	1255	2	.....	.....	6.3	1.0	100
3C24	15.00	25	2000	75	7	.....	.....	6.3	3.0	24
3CPN10A5	36.65	10	.....	.....	2	.....	.....	6.0	1.0	100
3CX100A5	32.15	100	1000	1255	2	.....	.....	6.0	1.0	100
3W5000A1	210.00	5000	6000	2500	50	.....	.....	7.5	51.0	5
3W5000A3	198.00	5000	6000	2500	150	.....	.....	7.5	51.0	20
3W5000F1	210.00	5000	6000	2500	50	.....	.....	7.5	51.0	5
3W5000F3	198.00	5000	6000	2500	150	.....	.....	7.5	51.0	20
3X100A5	25.00	100	1000	1255	2	.....	.....	6.3	1.0	100
3X2500A3	198.00	2500	6000	2500	150	.....	.....	7.5	51.0	20
3X2500F3	198.00	2500	6000	2500	150	.....	.....	7.5	51.0	20
3X3000A1	198.00	3000	6000	2500	50	.....	.....	7.5	51.0	5
3X3000F1	198.00	3000	6000	2500	50	.....	.....	7.5	51.0	5
25T	15.00	25	2000	75	7	.....	.....	6.3	3.0	24
35T	20.00	50	2000	150	15	.....	.....	5.0	4.0	39
35TG	24.00	50	2000	150	15	.....	.....	5.0	4.0	39
75TH	28.00	75	3000	225	16	.....	.....	5.0	6.25	20
75TL	28.00	75	3000	225	13	.....	.....	5.0	6.25	12
100TH	20.50	100	3000	225	20	.....	.....	5.0	6.3	38
100TL	20.50	100	3000	225	15	.....	.....	5.0	6.3	14
152TH	50.00	150	3000	450	30	.....	.....	5 or 10	12.5 or 6.25	20
152TL	50.00	150	3000	450	25	.....	.....	5 or 10	12.5 or 6.25	12
250TH	33.00	250	4000	350	40	.....	.....	5.0	10.5	37
250TL	33.00	250	4000	350	35	.....	.....	5.0	10.5	14
304TH	60.50	300	3000	900	60	.....	.....	5 or 10	25 or 12.5	20
304TL	60.50	300	3000	900	50	.....	.....	5 or 10	25 or 12.5	12
450TH	77.00	450	6000	600	80	.....	.....	7.5	12.0	38
450TL	77.00	450	6000	600	65	.....	.....	7.5	12.0	18
592/3-200A3	37.50	200	3500	250	25	.....	.....	10.0	5.0	25
750TL	137.50	750	10,000	1000	100	.....	.....	7.5	21.0	15
1000T	137.50	1000	7500	750	80	.....	.....	7.5	15.5	35
1500T	245.00	1500	8000	1250	125	.....	.....	7.5	24.0	24
2000T	340.00	2000	8000	1750	150	.....	.....	10.0	23.5	23

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Mullard

ELECTRON TUBES

for High Fidelity and Industrial Applications

EL34 / 6CA7

GZ34 / 5AR4

EL84 / 6BQ5

ECC83 / 12AX7

EF86 / 6267

MULLARD TYPE	EIA TYPE	DESCRIPTION	Sugg. user PRICE
DM70	1M3	Indicator Tube	$1.95
GZ34	5AR4	Bantam Indirectly Heated Full Wave Rectifier	4.20
GZ32	5V4G	Indirectly Heated Full Wave Rectifier	3.60
ECL80	6AB8	Triode Pentode	3.75
EF95	6AK5	High Slope RF Pentode	4.50
EABC80	6AK8	Triple Diode Triode	3.55
EB91	6AL5	Double Diode	1.75
EL90	6AQ5	Output Pentode	2.15
ECC85	6AQ8	RF Double Triode	2.60
EBC90	6AT6	Double Diode Triode	1.85
EF94	6AU6	Sharp Cut-off Pentode	2.00
EBC91	6AV6	Twin Diode Triode	1.60
EF93	6BA6	Variable-Mu RF Pentode	2.00
EK90	6BE6	Heptode	2.25
ECF80	6BL8	Triode Pentode	3.80
ECL82	6BM8	Triode Pentode	3.00
EL84	6BQ5	Output Pentode	2.30
EC90	6C4	RF Triode	2.90
EZ81	6CA4	Miniature Full Wave Rectifier	2.10
EL34	6CA7	Output Pentode	6.20
EM81	6DA5	Indicator Tube	2.60
EBF89	6DC8	Duo Diode Pentode	3.25
ECC91	6J6	RF Double Triode	2.65
ECF82	6U8	RF Triode Pentode	3.15
EZ80	6V4	Miniature Full Wave Rectifier	1.50
EZ90	6X4	Miniature Full Wave Rectifier	1.60
ECC81	12AT7	RF Double Triode	2.85
ECC82	12AU7	Low-Mu AF Double Triode	2.35
ECC83	12AX7	High-Mu AF Double Triode	2.35
PCL82	16A8	Triode Pentode	4.40
EL37		Output Pentode	5.75
UL84	45B5	Output Pentode	2.75
ECH81		Triode Heptode	3.40
UCL82		Triode Pentode	3.00
EM84		Indicator Tube	2.60
UF86		Low Noise AF Pentode	3.25
			4.40
EF86	6267	Low Noise AF Pentode	2.50
E88CC	6922	RF Double Triode	5.50
			7.75
7189	7189	Output Pentode	2.90
EC95	6ER5	RF Triode	3.50
XC95	2ER5	RF Triode	3.50
7025	7025	AF Double Triode	2.60

SEE CATALOG FOR COMPLETE DESCRIPTION.

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Trade Mark

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EA76/5647
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5718
5840
5899
5902
6021
DC70/6375
DF60/5678
DF61
DF62/1AD4
DL69
DL70/6373
DL73
DL620/5672

MICROWAVE TUBES

JP9-7/2J42
JP9-15/2J42A
JP9-80/4J52
JP9-250/4J50
JP9-250A/4J78
JPT9-01
KS9-20/723A/B
KS9-20A/2K25
KT9-150W
TD03-5
TD03-10/5861
TD04-20
TD1-100A/2C39A

POWER TUBES

QQV02-6
QQV03-10/6360
QQV03-20A/6252
QQV06-40A/5894A
QV03-12/5763
QV06-20/6146
QV1-150A/4X150A
QY3-65/4-65A
QY3-125/6155/4-125A
QY4-250/6156/4-250A
QY4-500A/4X500A
QY5-3000A/6076
TY2-125/5866
TY4-350/833A
TY6-5000A/5924

PHOTOSENSITIVE DEVICES

OCP71
20CG
20CV
53CG
53CV
58CG
58CV
61RV
61SV
63TV
90AG
90AV
90CG
90CV

CATHODE RAY TUBES

DB7-36/3WP11
DG7-36/3WP1
DG13-2/5CP1A
DG13-34/5ADP1
DG16-22/7AHP1
MF13-1/5FP7A
MW13-35/5FP4A

GERMANIUM DIODES AND TRANSISTORS

0A10
0A71
0A73
0A86
0C44
0C70
0C71
0C72
0C73
0C76
0C45
0C16

MISCELLANEOUS TUBES

E180F/6688
E90CC/5920
E1T
6080

GEIGER-MULLER TUBES

MX112
MX115
MX120
MX108
MX113
MX123
MX118
MX122
MX119
MX124
MX124/01

PREFERRED REPLACEMENT TYPES FOR BRITISH & EUROPEAN EQUIPMENT

MULLARD TYPE	Sugg. user PRICE
AZ31	3.40
DA90	3.25
DAF91	2.25
DAF96	3.00
DCC90	4.60
DF64	3.50
DF91	2.25
DF92	2.60
DF96	3.15
DF97	3.15
DK40	4.40
DK91	2.60
DK92	3.50
DK96	3.50
DL64	3.50
DL66	3.60
DL92	2.35
DL93	3.00
DL94	2.25
DL96	2.70
DM70	2.15
E88CC	7.75
EA50	3.25
EABC80	3.65
EAF42	3.15
EB91	1.75
EBC33	5.25
EBC41	2.75
EBC81	3.40
EBC90	1.85
EBC91	1.60
EBF80	2.70
EBF83	3.90
EBF89	3.25
EC70	7.50
EC90	1.75
EC91	3.75
EC92	2.40
ECC32	5.75
ECC33	5.75
ECC34	5.75
ECC35	3.30
ECC40	4.40
ECC81	3.00
ECC82	2.45
ECC83	2.50
ECC84	3.90
ECC85	2.90
ECC88	4.40
ECC91	2.65
ECF80	3.90
ECF82	3.25
ECH42	3.50
ECH81	3.50
ECH83	4.00
ECL80	3.90
ECL82	3.50
ECL83	4.40
EF22	5.25
EF36	5.50
EF37A	6.00
EF39	5.25
EF40	4.25
EF41	3.00
EF42	4.40
EF50	5.50
EF55	6.50
EF80	3.15
EF85	3.15
EF86	2.50
EF89	3.00
EF91	3.15
EF92	3.50
EF93	2.00
EF94	2.10
EF95	4.50
EF98	3.15
EK90	2.25
EL33	3.75
EL34	6.20
EL37	5.75
EL38	7.00
EL41	3.15
EL42	3.15
EL81	4.20
EL84	2.30
EL85	5.50
EL90	2.15
EL91	3.15
EL95	3.15
EL821	6.75
EL822	7.25
EM34	3.90
EM81	2.60
EM84	2.60
EQ80	4.90
EY51	4.00
EY84	5.00
EY86	4.00
EY91	2.90
EZ35	2.00
EZ40	2.40
EZ41	3.15
EZ80	1.50
EZ81	2.10
EZ90	1.60
FW4/500	4.50
FW4/800	4.90
GZ30	3.90
GZ32	4.25
GZ33	4.25
GZ34	4.20
HBC90	1.85
HBC91	1.60
HF93	2.00
HK90	2.10
HL92	2.10
HY90	1.35
PABC80	6.00
PCC84	4.00
PCF80	4.40
PCL82	4.40
PCL83	4.40
PL36	5.50
PL81	5.25
PL82	3.15
PL83	3.65
PL820	3.75
PY32	3.25
PY81	3.25
PY82	2.75
U30	6.25
UABC80	3.65
UBC41	2.75
UBC81	3.45
UBF80	3.40
UBF89	3.15
UC92	4.00
UCC84	3.50
UCC85	3.65
UCF80	3.50
UCH42	3.50
UCH81	3.50
UCL82	4.25
UCL83	4.40
UF41	3.00
UF80	2.90
UF85	3.15
UF86	3.25
UF89	3.00
UL41	3.15
UL84	2.75
UM4	4.00
UY41	1.90
UY85	1.90

VOLTAGE REFERENCE AND STABILIZER TUBES

75C1
85A2/0G3
85A3/5783
90C1
108C1/0B2
150B2
150C2/0A2
5651W

ELECTROMETERS

ME1400
ME1401/5802
ME1403/5889

THYRATRONS

EN32/6574
EN70/5643
EN91/2D21
EN92/5696
EN93/6D4
MT5545/5545
XG1-2500/MT57/5559
XG2-12
XG2-25
XG2-6400
XG5-500/MT17/5557
XG15-12
XR1-1600/5796
XR1-3200/5544
XR1-6400

PULSE MODULATORS

QQV5-P10/3E29
QV20-P18/4PR60A
XH3-045/3C45
XH8-100/4C35
XH16-200/5C22
5949

COLD CATHODE TUBES

Z300T/1267/0A4G
Z803U/6779
Z900T/5823

IMAGE CONVERTERS

ME1200AA
ME1201AA

FLASH TUBES

LSD2
LSD8
LSD18

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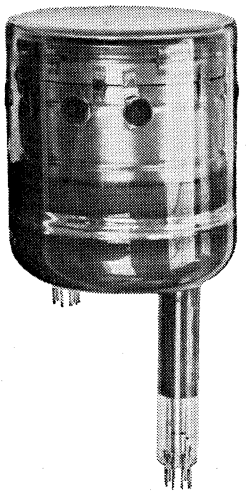
HUGHES ELECTRON TUBES

HUGHES FAMILY OF DIRECT-VIEW STORAGE TUBES



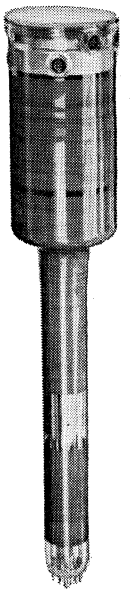
TONOTRON*

HALF-TONE DISPLAY TUBE

Features: High brightness, superior storage uniformity, controllable persistence and compact design.

Applications: "B" scan radar, armament control radar, plan position indicator information and slow-scan television.

Available models:
Electrostatic deflection, 5-inch diameter
Electrostatic deflection, 3-inch diameter
Electrostatic deflection, 4-inch diameter
Magnetic deflection, 5-inch diameter.

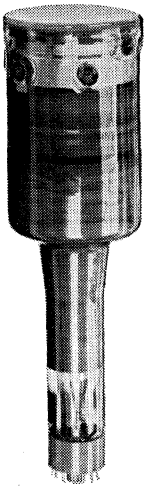


TYPOTRON®

CHARACTER DISPLAY TUBE

Features: Presentation of data in words, numbers or symbols, high writing speed and uniform light intensity.

Applications: Radar tracking information computer readout and monitoring analog-to-digital conversion equipment.



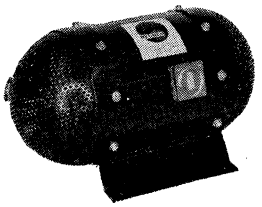
MEMOTRON®

OSCILLOGRAPHIC IMAGE DISPLAY TUBE

Features: The capture and retention of electrical traces and transients for visual examination, comparison of successive wave forms and bright display.

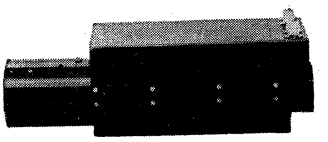
Applications: Oscillography, plotting a family of curves, shock or vibration tests and presentation of transistor characteristics.

HUGHES MICROWAVE TUBES All types are rugged, compact, lightweight.



Type LOU-2:

Ku band backward wave oscillator. Frequency range: 12.4-18.0 kmc.



Type MAS-1A:

S-band traveling wave amplifier. Frequency range: 2-4 kmc.

Type PAS-2:

S-band backward wave amplifier. Frequency range: 2.4-3.5 kmc. Noise: less than 5db.

*Trademark of Hughes Aircraft Company

For technical information or application data please write **Hughes Products,** Electron Tubes, International Airport Station, Los Angeles 45, California.

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HUGHES PRODUCTS

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See YELLOW SECTION for Local Offices, Telephone, etc.

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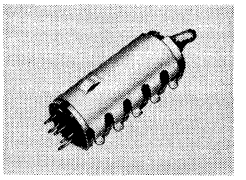
IERC heat-dissipating electron tube shields

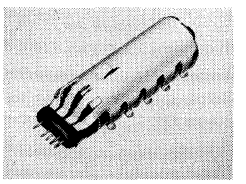
meet new design applications in missile, guidance control and other military electronic equipment.

IERC 300 SERIES

T3-300 Series subminiature tube clamp shields are designed for use in minimum space and to bond directly to heat sink or chassis. They excel in vibration and shock environments. The T3-300 Series are the only clamps having no resonance condition in vibration with their resulting increase in accelerations applied to the tube.

T3-321 for short subminiature round button tubes
T3-331 for long subminiature round button tubes
T3-322FP for short subminiature flat press tubes
T3-332FP for long subminiature flat press tubes
T3-323FB for all subminiature flat bulb tubes
Note: Above assemblies are silver. For aluminum, add "A" to Part No., i.e. T3A-321

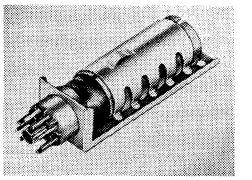


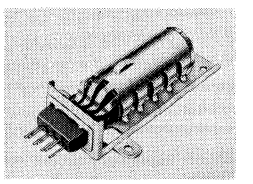


RIGHT ANGLE SOCKET AND SHIELD ASSEMBLY

IERC T3-1400 SERIES

T3-1421 for short round button subminiature tubes
T3-1431 for long round button subminiature tubes
T3-1422FP-7 for short flat press 7-pin subminiature tubes
T3-1432FP-7 for long flat press 7-pin subminiature tubes
T3-1423FB-7 for all flat bulb 7-pin subminiature tubes
Note: For 3, 4, 5 and 6-pin tubes, write for part number, advising tube number.

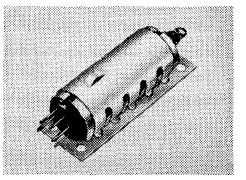


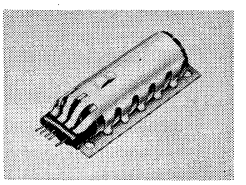


IERC 400 SERIES

The T3-400 Series subminiature tube clamp shields are the same as the T3-300 Series with a base plate added for ease of mounting to the chassis or heat sink.

T3-421 for short subminiature round button tubes
T3-431 for long subminiature round button tubes
T3-422FP for short subminiature flat press tubes
T3-432FP for long subminiature flat press tubes
T3-423FB for all subminiature flat bulb tubes
Note: Above assemblies are silver. For aluminum, add "A" to Part No. as T3A-421

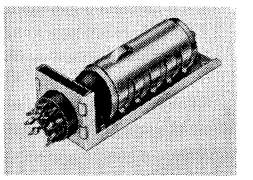


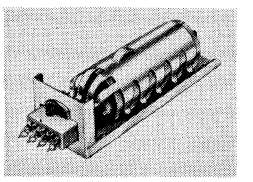


RIGHT ANGLE MILITARY SOCKET AND SHIELD ASSEMBLY

IERC T3-1500 Series

T3-1521 for short round button subminiature tubes
T3-1531 for long round button subminiature tubes
Note: MS 35407-1 Socket with center rivet and looped leads
T3-1522 for short flat press subminiature tubes
T3-1532 for long flat press subminiature tubes
Note: MS 35408-1 Socket with looped leads



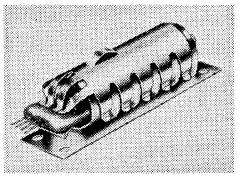


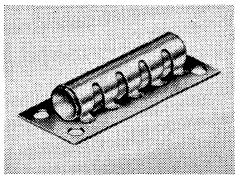
IERC 400 SERIES

T3-424FP for short subminiature flat press tubes
T3-434FP for long subminiature flat press tubes
Note: These shields have longer mounting base dimensions than T3-422FP and T3-432FP placing rivet holes clear of shields for easy installation

T1-421 for subminiature tubes of T1 bulb diam.
T2-421 for subminiature tubes of T2 bulb diam.

Note: Above assemblies are silver. For aluminum, add "A" to Part No. as T1A-421

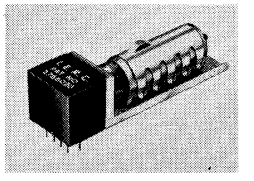


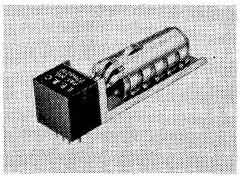


RIGHT ANGLE PRINTED CIRCUIT MILITARY SOCKET AND SHIELD ASSEMBLY

IERC T3-2500 Series

T3-2521 for short round button subminiature tubes
T3-2531 for long round button subminiature tubes
Note: MS 35407-1 socket used in assembly
T3-2522 for short flat press subminiature tubes
T3-2532 for long flat press subminiature tubes
Note: (1) MS 35408-1 socket used in assembly
Note: (2) All T3-1400, T3-1500, T3-2400 and T3-2500 right angle assemblies listed are silver assemblies silver plated. For Cadmium plated assemblies, add "A" after Part No. (T3-1421A). For black Cadmium plated assemblies, add "B" after Part No. (T3-1521B). When silver inner liner is desired add "L" after Part No. (T3-2421L).

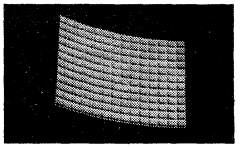


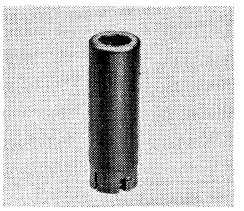


Silver Inner Liner For All Round Button and Flat Press Subminiature Tube Shields
21L for SHORT subminiature tubes
31L for LONG subminiature tubes
23L for FLAT BULB subminiature tubes
IERC inner liners provide more intimate contact between bulb and shield when used with IERC 300 and 400 series subminiature shields. When ordering assemblies, add "L" to Part No. for correct length (T3-421L)

IERC Subminiature Vertical Tube Shield

T3-3031H for short round button submin. tubes
T3-3041H for long round button submin. tubes
Note: base locking mechanism fits MS 35407 socket
T3-3032H for short flat press subminiature tubes
T3-3042H for long flat press subminiature tubes
Note: base locking mechanism fits MS 35408 socket

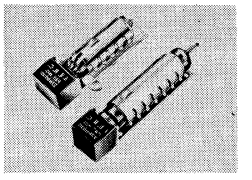


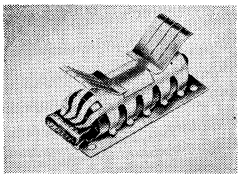


RIGHT ANGLE PRINTED CIRCUIT SOCKET AND SHIELD ASSEMBLY

IERC T3-2400 Series

T3-2421 for short round button subminiature tubes
T3-2431 for long round button subminiature tubes
T3-2422-7 for short flat press 7-pin subminiature tubes
T3-2432-7 for long flat press 7-pin subminiature tubes
Note: (1) For 3, 4, 5 and 6-pin tubes, write for part number, advising tube number.
Butterfly spring can be supplied on any standard T3- tube shield for installation when a top plate is used to conduct heat away from tube. When ordering assemblies with butterfly spring, change T3- of Part No. to 93 as shown (T3-422FP to 93422)





IERC announces the availability of a trained engineering staff to assist in solving electronic equipment, thermal and vibration problems related to electron tubes and transistors. Write your requirements TODAY—No obligation, of course!

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145 West Magnolia Boulevard, Burbank, California

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Manufacturer of the Only Complete Line of Heat-Dissipating Tube Shields and Transistor Heat Dissipators

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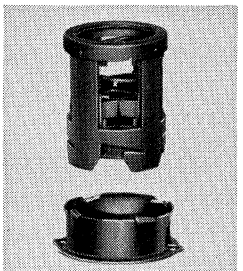
Announcing... IERC'S THERMA-flex®

This military type "B" Series used on tubes operating at normal room ambient will reduce bulb temperature as much as 60% lower than a Jan-shielded tube and 40% below bare bulb temperature. Type "B" meets requirements of Mil-S-9372B (USAF) and Mil-STD-242A (ships). Recommended by the military for all new equipment design.

T5-1015 for short 7-pin miniature tubes
T5-1020 for medium 7-pin miniature tubes
T5-1025 for long 7-pin miniature tubes
T6-1015 for short 9-pin miniature tubes
T6-1020 for medium 9-pin miniature tubes
T6-1025 for long 9-pin miniature tubes
T5-1001 base for all 7-pin miniature shields
T6-1001 base for all 9-pin miniature shields

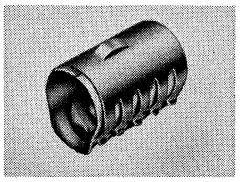


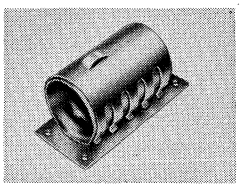
Meets Mil-S-9372B (USAF), MS 24231 and MS 24232. Meets Mil-STD-242A (SHIPS)

Miniature Hardmount Series

T5P-315 for short 7-pin miniature tubes
T5P-325 for medium 7-pin miniature tubes
T5P-335 for long 7-pin miniature tubes
T6P-316 for short 9-pin miniature tubes
T6P-326 for medium 9-pin miniature tubes
T6P-336 for long 9-pin miniature tubes
T5P-415 for short 7-pin miniature tubes
T5P-425 for medium 7-pin miniature tubes
T5P-435 for long 7-pin miniature tubes
T6P-416 for short 9-pin miniature tubes
T6P-426 for medium 9-pin miniature tubes
T6P-436 for long 9-pin miniature tubes

Note: Above assemblies are copper shields Cadmium plated. For silver assemblies, add "S" after part No. (T5P-415S). For aluminum assemblies, add "A" after Part No. (T5P-415A).



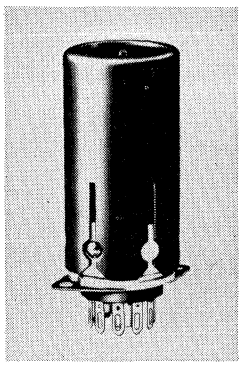


The TR series miniature tube shield is designed for direct replacement of JAN-S-28A shields and fit standard JAN-S-28A sockets and base assembly. The TR shields meet MIL-S-9372B (USAF) MS 24233; MIL-S-19786 (Navy); SCL-6307/2 (Army); CAA-R-777C Amendment #3.

TR5-5015H for short 7-pin miniature tubes
TR5-5020H for medium 7-pin miniature tubes
TR5-5025H for long 7-pin miniature tubes
TR6-6015H for short 9-pin miniature tubes
TR6-6020H for medium 9-pin miniature tubes
TR6-6025H for long 9-pin miniature tubes
TR6-6027H for tubes like 6094 type

Note: Recommended for replacement of Jan shields

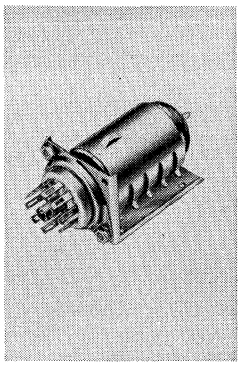
For THERMA-flex liner add "T" to part number, as (TRT5-5015H)



Miniature Hardmount Shields with standard JAN sockets as an integral part. Meets your design problems.

T5P-1415-1 socket and shield assembly for short 7-pin miniature tubes
T5P-1425-1 socket and shield assembly for medium 7-pin miniature tubes
T5P-1435-1 socket and shield assembly for long 7-pin miniature tubes
T6P-1416-1 socket and shield assembly for short 9-pin miniature tubes
T6P-1426-1 socket and shield assembly for medium 9-pin miniature tubes
T6P-1436-1 socket and shield assembly for long 9-pin miniature tubes

Note: For orders without socket, specify by dropping the "-1" from Part No. (T5P-1416)



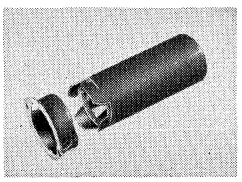
NW5-5515H for short 7-pin miniature tubes
NW5-5520H for medium 7-pin miniature tubes
NW5-5525H for long 7-pin miniature tubes
NW6-6515H for short 9-pin miniature tubes
NW6-6520H for medium 9-pin miniature tubes
NW6-6525H for long 9-pin miniature tubes

Note: (1) For use with T5-1001H and T6-1001H, IERC Military "B" Type Bases

For THERMA-flex liner add "T" to part number, as (NWT5-5515H)

IERC tube shields for BENDIX 6094 tube

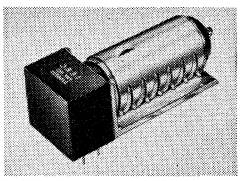
TR6-6027H (MS 24233) for use on JAN-S-28A base
NW6-6528-2H (MS 24230) for use with IERC Military "B" type base T6-1001H (MS 24231)
Write IERC for heat-dissipating Tube Shield information for other non-standard electron tube sizes.

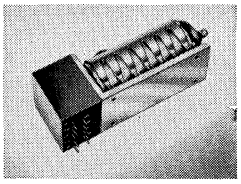


Meets Mil-S-9372B (USAF),

Miniature Hardmount shield with right angle printed circuit socket for 7 and 9-pin miniature tubes to solve your hot tube problems associated with printed circuit boards.

T5P-2415 plug-in socket and shield assembly for short 7-pin miniature tubes
T5P-2425 plug-in socket and shield assembly for medium 7-pin miniature tubes
T5P-2435 plug-in socket and shield assembly for long 7-pin miniature tubes
T6P-2416 plug-in socket and shield assembly for short 9-pin miniature tubes
T6P-2426 plug-in socket and shield assembly for medium 9-pin miniature tubes
T6P-2436 plug-in socket and shield assembly for long 9-pin miniature tubes

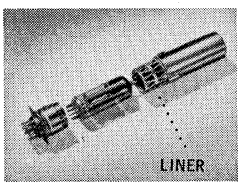




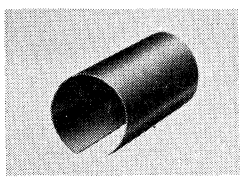
IERC INSERT LINERS

IERC PART NO.	USE WITH JAN SHIELD NO.
T5-225015J	TS 102U01
T5-225020J	TS 102U02
T5-225025J	TS 102U03
T6-226015J	TS 103U01
T6-226020J	TS 103U02
T6-226025J	TS 103U03
T5-125000J	7-pin miniature Jan Shield Base
T6-126000J	9 pin miniature Jan Shield Base

Magnetic liners available for all IERC NW, TR and Octal size IERC Heat-dissipating Tube Shields. Write for complete information regarding magnetic shielding to meet your specifications.

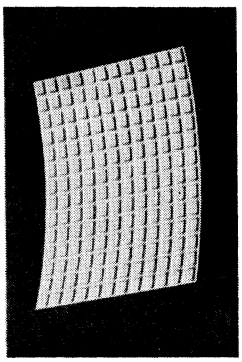


LINER



55L silver inner liner for all 7-pin short miniature tube hardmount shields
75L silver inner liner for all 7-pin medium miniature tube hardmount shields
95L silver inner liner for all 7-pin long miniature tube hardmount shields
56L silver inner liner for all 9-pin short miniature tube hardmount shields
76L silver inner liner for all 9-pin medium miniature tube hardmount shields
96L silver inner liner for all 9-pin long miniature tube hardmount shields

Note: A more intimate contact between bulb and shield is provided when liners are used with IERC Hardmount Heat-dissipating Tube Shields



IERC announces the availability of a trained engineering staff to assist in solving electronic equipment, thermal and vibration problems related to electron tubes and transistors. Write your requirements TODAY—No obligation, of course!

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PATENTED—PAT. PENDING

Manufacturer of the Only Complete Line of Heat-Dissipating Tube Shields and Transistor Heat Dissipators

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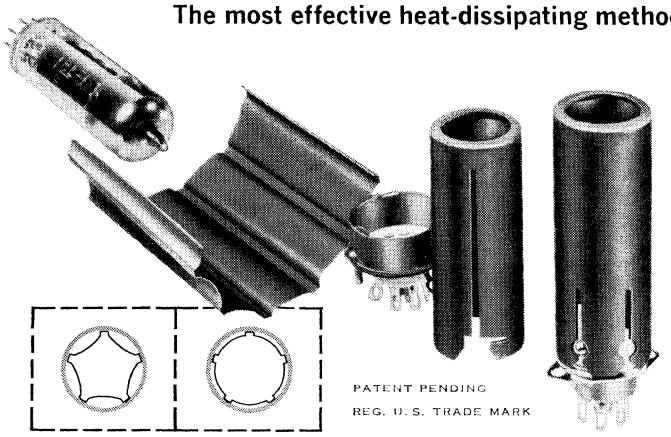
HEAT-DISSIPATING TUBE SHIELDS

The most effective heat-dissipating method for cooling miniature electron tubes!



IERC THERMA-flex Heat-dissipating Tube Shields are available in most sizes and types of IERC Miniature Heat-dissipating Tube Shields. They have the new, HI-EFFICIENCY heat-dissipating THERMA-flex liner. This liner has had more than a year and one-half of research, testing and development by IERC. Government* test sources have checked THERMA-flex shield performance. Latest testing techniques were employed. These prove the IERC THERMA-flex liner to be the most efficient type available for vertically-mounted tube shields. The broad areas of the liner attain a **particular** semi-eliptical precision spring curve when placed in the shield. Tube insertion flexes this curve in adjustment with bulb contours. Maximum metal to glass contact area is provided. Heat is distributed from hot spot to shield and heat sink which is then dissipated by conduction, radiation and convection. IERC Miniature Heat-dissipating Tube Shields with THERMA-flex liners will meet all requirements of MIL-S-9372 (USAF) and MIL-S-19876 (NAVY). For shield sizes see TR and NW listings

*See NEL Reliability Design Handbook, Sec. 502—"Improved Type Min. Tube Shields," R. B. Jordan, Jan. 15, 1959, OTS, PB121839.

GENERAL INFORMATION

IERC Octal/Power heat-dissipating tube shields

The IERC Octal tube shields have been qualified to applicable portions of Miniature Heat-dissipation Tube Shield Specification MIL-S-9372B such as heat dissipation requirements, the 5 to 2000 cps vibration tests, and, in addition a 90 G shock test. All shields are furnished with the new "Henderlube" finish, a dry lubricant for easy installation and removal of shield. "Henderlube" provides electrostatic shielding. Mounting hole dimension in bases match standard military bottom-mounted sockets.

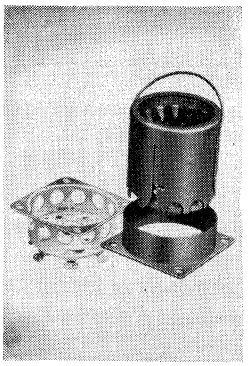
The IERC heat-dissipating, electrostatic shielding vibration and shock-protecting tube shield permits tube types of the 6252 and 6907 (or other tubes of similar outline dimensions) to be used in environments previously considered impossible. Note shield illustrated is designed for use with Johnson Socket 122-105.

IERC PART NUMBER	FOR FOLLOWING OR SIMILAR TUBES
T14-2020-1H	6252, 6907

BASE PART NO. T14-2000-1H

Other T14 shields are available for tubes such as the 5R4WGA (not illustrated)

Shield **T14-2047NH**, Base **T16-2001H**

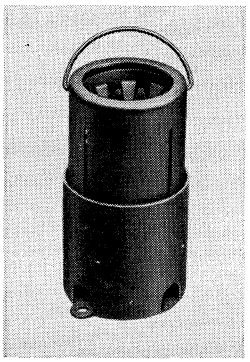


IERC T9-2000 Series Shields

For shorter T9 size tubes **T9-2017H, T9-2020H, T9-2022H**
IERC Base Part **T9-2000H**
For longer T9 size tubes **T9-2025H, T9-2026H, T9-2027H, T9-2030H, T9-2032H**
IERC Base Part **T9-2001H**

IERC T11-2000 Series Shields

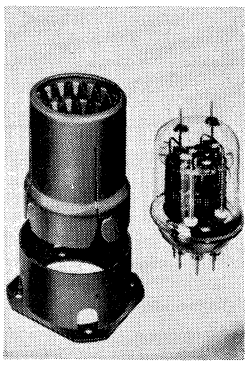
For all T11 size tubes
T11-2027H, T11-2031H, T11-2041H
IERC Base Part **T11-2001H**



The T16 special tube shield was designed to provide maximum cooling, electrostatic shielding and retention under extreme shock and vibration environments for power tubes of the 826, 829B and 3E29 types. With IERC shields, these tubes may be operated at full ratings in high thermal, shock and vibration conditions which were not previously possible.

IERC PART NO.	FOR FOLLOWING OR SIMILAR TUBES
T16-1031NLH	826, 829B, 3E29

BASE PART NO. T16-1002LH

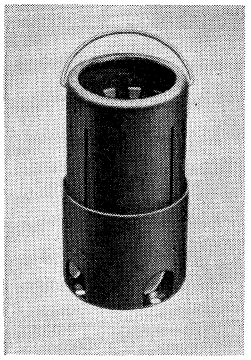


IERC T12-2000 Series Tube Shields

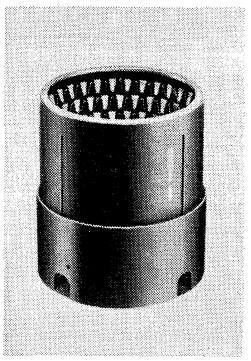
T12-2022H, 2025H, 2027H, 2030H, 2035H, 2040H and **2045H** for ALL T12 size tubes with standard Octal tube base.
IERC base part No. **T12-2001H**

T12-2022NH, 2025NH, 2027NH, 2030NH, 2036NH, 2040NH, and **2045NH** for all T12 size tubes with a tube base of 1.700" Max. diameter.
IERC Base part No. **T12-2001H**

T12-2022-2NH, 2025-2NH, 2027-2NH, 2030-2NH, 2035-2NH, 2040-2NH, and **2045-2NH** for all T12 size tubes with JETEC B8-86 and B8-98 tube bases.
IERC Base part No. **T12-2001-3H**



Illustrated is a typical shield for large power type tubes. These shields are available in T18, T20, T24, T26 and T28 sizes. The bases for these shields are designed to fit various top mounted, bottom mounted and sub mounted sockets. If tube or tube and socket combination is not listed in this guide, write IERC advising tube type, methods of mounting and socket being used.



IERC announces the availability of a trained engineering staff to assist in solving electronic equipment, thermal and vibration problems related to electron tubes and transistors. Write your requirements TODAY—No obligation, of course!

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Manufacturer of the Only Complete Line of Heat-Dissipating Tube Shields and Transistor Heat Dissipators

SEE PAGE 1061 FOR IERC SALES REPRESENTATIVES CONVENIENTLY LOCATED TO SERVE YOU BEST

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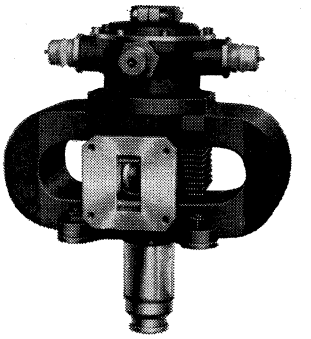
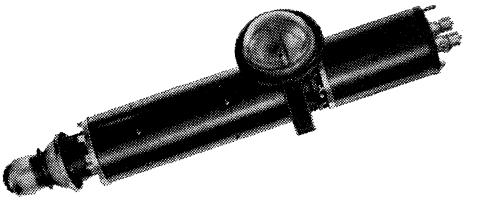
MAGNETRONS



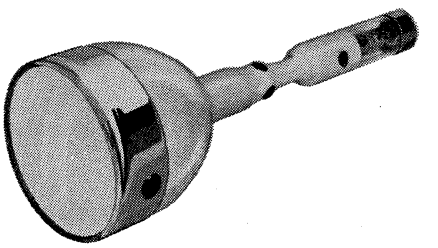
TYPE NUMBER	FREQUENCY RANGE MEGACYCLES	PEAK POWER (MINIMUM) KILOWATTS	DUTY RATIO	REMARKS
L-3204	8800 ±25	0.04	0.25	Extremely high duty.
L-3105	9300 ±40	0.10	0.01	Extreme ruggedization.
L-3186	9300 ±40	0.10	0.027	Ruggedized.
L-3028B	9280 to 9320	0.12	0.027	Frequency stable.
L-3058	9330 to 9350	1.0	0.003	High power beacon.
L-3268	9300 ±30	4.0	0.001	Recommended for new systems.
LT-6233	9280 to 9345	7.0	0.003	High duty beacon.
L-3103	8500 to 9600	30.0	0.002	High duty version of LT-6543.
L-3168	9375 ±30	30.0	0.002	High duty version of LT-4J52A.
LT-6543A	8500 to 9600	65.0	0.001	Tested for pulse jitter.
L-3211	8600 to 9500	65.0	0.001	Hydraulically tuned.
LT-6510	9375 ±30	65.0	0.001	Tested for pulse jitter.
LT-4J52A	9375 ±25	70.0	0.001	Recommended for new systems.
LT-4J50A	9375 ±30	225.0	0.001	Recommended for new systems.

KLYSTRONS



TYPE NUMBER	FREQUENCY RANGE MEGACYCLES	PEAK POWER (MINIMUM) MEGAWATTS	CATHODE PULSE LENGTH MICRO-SECONDS	CATHODE DUTY RATIO	REMARKS
L-3283	1250 to 1350	2	8	0.003	Broadband—(50 megacycles between 2 megawatt points).
L-3035	1240 to 1360	2.2	8	0.003	Long range search radar.
L-3235	1240 to 1360	4	8	0.003	For linear accelerator.
L-3257	1280 to 1330	4	30	0.0003	For linear accelerator.
L-3227	1280 to 1330	5	8	0.002	For linear accelerator.
L-3231	1240 to 1360	5	8	0.0015	For linear accelerator.
L-3250	1250 to 1350	10	7.2	0.0015	Long range search radar.

DISPLAY TUBES



5CHP11

Dual Deflection Character Writing CRT. High speed electrostatic deflection character writing, with equal sensitivity for X and Y axis. Magnetic deflection character positioning. High definition gun (3000 TV lines). Bright, photographic screen.

5CJP11

High Definition CRT. 3000 line TV resolution. Highly actinic photographic screen. Up to 30 KV operation.

5CGP29

Single Gun Lawrence Type Color Tube. Multi-color long persistence phosphors. 80 color elements per inch. Simple retrofit for monochrome tube, using standard deflection and focus components. Magnetic deflection and focus.

See YELLOW SECTION for Local Offices, Telephone, etc.

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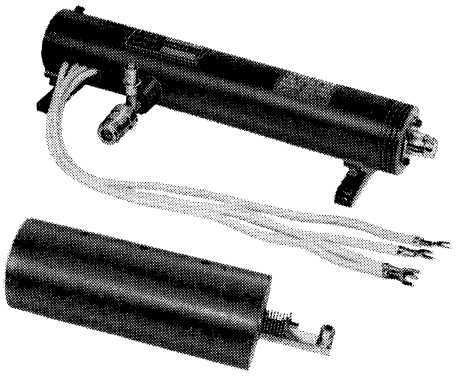
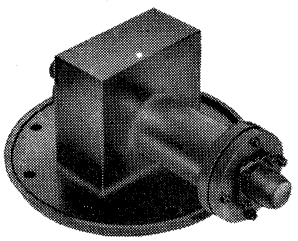
TRAVELING WAVE TUBES

BACKWARD WAVE OSCILLATORS



TYPE NUMBER	FREQUENCY RANGE MEGACYCLES	POWER OUTPUT	FOCUSING	DUTY FACTOR	REMARKS
TWT					
L-3266	8000 to 12000	10 milliwatts	Periodic Permanent Magnet.	CW	
L-3272	Classified	Classified	Periodic Permanent Magnet.	Classified	
L-3236	8000 to 12000	2 watts	Periodic Permanent Magnet.	CW	Designed for military airborne environments.
L-3190	Classified	Classified	Permanent Magnet.	Classified	
L-3264	100 to 300	100 watts	Solenoid	CW	
BWO					
L-3265	7000 to 11000	10 milliwatts	Solenoid	CW	
L-3274	8200 to 12400	10 milliwatts	Solenoid	CW	
L-3279	15000 to 21000	5 milliwatts	Solenoid	CW	

MINIATURE NOISE SOURCES



TYPE NUMBER	FREQUENCY RANGE MEGACYCLES	EXCESS NOISE RATIO	NOMINAL OPERATING CURRENT	NOMINAL OPERATING VOLTAGE	REMARKS
L-2000	2700 to 2900	18.5 ±0.2db	75 ma	30 volts	Waveguide
L-2001	5400 to 5900	13.0 ±0.5db	100 ma	70 volts	Waveguide
L-2002	7500 to 8600	14.5 ±0.5db	100 ma	40 volts	Waveguide
L-2003	8500 to 9600	14.5 ±0.5db	100 ma	50 volts	Waveguide
L-2004	8500 to 9600	18.5 ±0.5db	100 ma	50 volts	Waveguide
L-2005	16000 to 17000	18.4 ±0.5db	50 ma	60 volts	Waveguide
L-2006	1000 to 2000	18.5 ±0.5db	50 ma	175 volts	Coaxial
L-2007	2000 to 4000	18.5 ±0.5db	85 ma	135 volts	Coaxial
L-2008	200 to 450*	18.5 ±0.5db	25 ma	200 volts	Coaxial

*Any 50 mc band in the stated range.

The noise sources listed are miniaturized and rugged units specifically designed for pulsed operation in conjunction with automatic noise measuring equipments. They are equally suitable for CW operation. Inquiries are requested for radar systems requirements as the above is only a representative list of various units now in production.

DUPLEXERS AND TR TUBES

Litton Industries is actively engaged in production and development of high and low power duplexers and TR tubes for the UHF frequency range. Information on these devices can be supplied on request.

Information on Litton Industries classified tubes is available on your evidence of "need to know."

CAPABILITY THAT CAN CHANGE YOUR PLANNING

LITTON INDUSTRIES
Electron Tube Division

PLANTS IN SAN CARLOS, CALIFORNIA AND SALT LAKE CITY, UTAH

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DESIGNER'S CHOICE

FOR INDUSTRIAL AND MILITARY ELECTRONICS

RCA INDUSTRIAL TUBES

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LOW-POWER TUBES
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RAYTHEON

A LEADER IN CREATIVE MICROWAVE TECHNOLOGY

REFLEX KLYSTRON OSCILLATORS
Self-Contained and External Cavity

Type No.	Max. Freq. Range Megs.	Power Output Milliwatts Av.	Power Output Milliwatts Min.	Reso. Poten. D.C. Volts	Focus Poten. D.C. Volts	Maximum Temperature Coefficient Mc/C°	Filament Current at 6.3V Amps	†
5837	750-3000	160 40	50 15	325 300	10	.....	0.675	1A
RK-5777	600-2350	160	100	400	0 to 5	.15	0.985	1A
6BM6	750-3000	160 40	50 10	325 300	300 10	.....	0.650	1A
2K28A	1500-3750	140	95	300	300	±.15	0.650	1A
5981	1245-1460	100	40	225	.....	±.05	0.455	2C
RK-5778	1800-4620	150	100	300	−5 to 5	.15	0.985	3A
6BL6	1600-4000 2000-4500 3600-5500	121 45 72	..... 25 25	300 300 300	0	....	0.675	1A
5836	1600-5500	121 45	 25	300	10	.....	0.675	1A
5721	2000-12,000	150 125 40	50 100 20	1000 1000 1250	4 to 18	±.040 ±.025 ±.040	0.580	1A 3A
726B	2883-3173	150	110	300	.....	−0.1 to +0.1	0.440	2C
6236	3800-7600	125	90	1000	4 to 18	±.1	0.580	1A-3A
726-C	2700-2960	100	85	300	.....	−.1 to +.05	0.440	2C
6043	2950-3275	175 50	150 25	300 250	300 250	±.15	0.650	1A
2K29	3400-3960	106	85	300	.....	−.1 to +.05	0.440	2C
2K56	3840-4460	100	80	300	.....	−.1 to +.05	0.440	2C
QK-381	4100-4450	4.5	3.0	250	.....	−.10 to +.05	0.440	2C
2K22	4240-4910	115	75	300	.....	−.1 to +.05	0.440	2C
2K48	4000-11,000	....	5 5 20 20	1250 1250 1250 1250	.....	.....	0.575	1A 3A
6115A	5100-5900	100	70	300	.....	−.10 to +.05	0.440	2C
QK-412	5100-5900	100	70	300	.....	−.10 to +.10	0.440	2C
RK-6037	5120-5430	30	20	300	0 to −200	.....	••	4C
QK-754	5925-6425	1400	1000	750	.....	−0.2 to +0.2	0.650	2A
QK-549	5925-6450	120	100	300	.....	−.1 to +.1	0.440	2C
QK-461	5925-6450	120	100	300	.....	±0.1	0.440	2C
QK-404	5925-6450	120	100	300	.....	−.10 to +.10	0.440	2C
5976	6200-7425	110	85	300	.....	−.10 to +.10	0.440	2C
QK-531	6575-6875	110	85	300	.....	−.1 to +.1	0.440	2C
QK-755	6575-7125	1400	1000	750	.....	−0.2 to +0.2	0.650	2A
2K26	6250-7060	100	80	300	.....	±0.1	0.440	2C
QK-422	7125-8125	150	100	300	.....	0 to −.20	0.440	2B
RK-6390	6870-10,750	80 80	55 55	1250	2 to 16	±.025	0.580	1A 3A
QK-532	6875-7125	110	85	300	.....	−.1 to +.1	0.440	2C
QK-623	7125-7650	110	85	300	.....	−.1 to +.1	0.440	2C
QK-758	7125-7750	1400	1000	750	.....	−0.2 to +0.2	0.650	2A
QK-645	7125-8500	250	120	375	.....	.....	0.440	2B
QK-661	7125-8500	1400	1000	750	.....	−0.1 to +0.1	0.675	2B
QK-752	7125-7750	110	90	300	.....	−0.1 to +0.1	0.440	2A
QK-759	7750-7750	1400	1000	750	.....	−0.2 to +0.2	0.650	2A
QK-753	7750-8400	110	90	300	.....	−0.1 to +0.1	0.440	2A
QK-742	8500-9600	35	12	250	.....	0.0 to −0.1	1.200	5B
2K25	8500-9660	32 22	20 15	300	.....	0 to −.20	0.440	2C
2K45	8500-9660	32	20	300	−35 to +15	.....	0.762	4C
6116	8500-9660	32	20	300	0 to −280	.....	••	4C
6940	8500-9660	32	20	300	0 to −280	.....	••	4C
RK6310	8500-10,000	70	50	300	.....	0 to −.20	1.20	2B
RK6312	8500-10,000	70	50	300	.....	0 to −.20	1.20	2B
RK6316	8500-10,000	70	50	300	.....	0 to −.20	1.20.	2B
QK-414	9660-10,250	20	15	300	.....	−.10 to +.10	0.440	2C
QK448	12,000-13,800	85	50	300	.....	±.05	0.675	2B
RK-6178	15,750-16,250	25	20	300	.....	−.20 to −.60	0.675	2B
RK-6573	15,500-17,000	25	20	300	.....	−.20 to −.60	0.675	2B
QK-306	18,000-22,000	40	10	1800	−20 to −100	−1.0	0.580	2B
*RK6253	18,000-22,000	40	10	1800	−20 to −100	−1.0	0.580	2B
2K33	22,000-25,000	40	10	1800	−20 to −100	−1.0	0.580	2B
*RK6254	22,000-25,000	40	10	1800	−20 to −100	−1.0	0.580	2B
QK-463	24,500-27,500	40	10	1800	−20 to −125	−1.0	0.580	2B
QK-289	§27,270-30,000	20	10	2250	−20 to −250	To be Specified	0.580	2B
QK-290	§29,700-33,520	20	10	2250	−20 to −250	To be Specified	0.580	2B
QK-291	§33,520-36,250	18	5	2250	−20 to −250	To be Specified	0.580	2B
QK-292	§35,100-39,700	10	5	2250	−20 to −200	To be Specified	0.580	2B
QK-293	34,900-42,800	5	.....	2500	−20 to −200	To be Specified	0.580	2B
QK-294	40,000-51,800	5	.....	3000	−20 to −200	To be Specified	0.580	2B
QK-295	•	To be Spec.		3500	−20 to −200	To be Specified	0.580	2B

†1 = Mechanical Inductive
2 = Mechanical Capacitive
3 = Non-Contacting Plunger
4 = Thermal Capacitive
5 = External Cavity

• 2 Tubes Necessary to Cover From 50,000 to 60,000 Mc

A = Coaxial Cable
B = Waveguide
C = Coaxial to Waveguide
* With UG/425/U Output Flange
§ Typical Operating Range

••Klystron .470 Tuner .825

MAGNETRON OSCILLATORS

Type No.	Heater V	Heater A	Range	Class*	Typical Operation Anode Kv	Anode Amps	Duty Cycle	Min. Po. Pk. Kw
RK4J30	23.5	2.2	1220-1232	2	27.0	46.0	.0009	600.0
RK5J26	23.5	2.2	1220-1350	3	27.5	46.0	.0009	400.0
RK6517	2.5	85.0	1250-1350	3	53.0	50.0	.0025	1000.0
QK327	8.25	78.0	2700-2850	3	61	115	.00072	3500
RK5586	16.0	3.1	2700-2900	3	28.0	55.0	.0005	700.0
RK6518	13.0	40.0	2700-3010	2	41.0	87.5	.0006	1500.0
RK6410A	8.2	79.0	2750-2860	2	71.0	130.0	.0007	4500.0
RK6406A	8.8	79.0	2850-2910	2	52.0	85.0	.0006	1750.0
RK2J67	6.3	1.5	2795-2855	3	18.0	25.0	.001	150.0
RK2J66	6.3	1.5	2845-2905	3	18.0	25.0	.001	150.0
RK2J34	6.3	1.5	2700-2740	2	20.0	30.0	.001	285.0
RK2J33	6.3	1.5	2740-2780	2	20.0	30.0	.001	285.0
RK2J30	6.3	1.5	2860-2900	2	20.0	30.0	.001	285.0
RK4J35	16.0	3.1	2700-2740	2	28.0	70.0	.0005	900.0
RK4J34	16.0	3.1	2740-2780	2	28.0	70.0	.0005	900.0
RK4J33	16.0	3.1	2780-2820	2	28.0	70.0	.0005	900.0
RK4J32	16.0	3.1	2820-2860	2	28.0	70.0	.0005	900.0
RK4J31	16.0	3.1	2860-2900	2	28.0	70.0	.0005	900.0
RK5657	16.0	3.1	2900-3100	3	30.0	55.0	.0005	700.0
RK2J70	6.3	1.25	3030-3110	2	7.0	8.0	.001	20.0
RK2J71	6.3	1.25	3190-3201	2	5.0	5.0	.002	6.0
RK6402	8.3	43.0	3430-3570	3	47.0	50.0	.0014	700.0
RK6695	16.0	3.1	3430-3570	3	31.0	60.0	.001	650.0
RK6177	6.3	0.6	4268-4350	4	.30	.03	CW	.011
QK632	5.0	19.0	5250-5310	2	36	60	.001	1000
QK456	6.3	1.50	5360-5400	2	14.0	14.0	.001	75.0
QK682	5.0	1.5	5400-5900	3	2.75	2.0	.002	800
QK735	5.0	1.0	5400-5900	3	2.0	1.5	.003	400
RK6344	11.0	11.0	5450-5825	3	21.5	22.0	.001	175.0
QK662	5.0	5.0	5450-5825	3	24.5	24.0	.001	250.0
QK539	5.0	19.0	5450-5510	2	36	60	.001	1000
RK2J51A	6.3	1.0	8500-9600	3	14.0	14.0	.001	45.0
RK6249A	9.0	14.4	8500-9600	3	28.0	25.0	.0008	200
RK6248	6.3	5.0	8700-8900	3	3.5	0.91	.045	1220
RK2J50	6.3	1.0	8750-8900	2	12.0	12.0	.001	40.0
RK6229J	5.0	.45	8900-9400	3	4.1	0.5	.0005	0.40
RK2J49	6.3	1.0	9000-9160	2	12.0	12.0	.001	40.0
QK367	6.3	1.0	9015-9075	2	12.8	12.0	.001	40.0
RK6967A	6.3	2.9	9205-9285	2	15.0	13.5	.001	75.0
RK2J56A	6.3	1.0	9215-9275	2	12.8	12.0	.001	40.0
QK362A	5.0	.60	9300-9500	3	1.4	0.9	.002	.06
QK172	6.0	30.0	9330-9420	2	33	40	.00105	430
RK2J55	6.3	1.0	9345-9405	2	12.8	12.0	.001	40.0
RK6002	4.0	40.0	9230-9404	2	27.5	30.0	.002	225.0
QK624	3.6	36.0	9340-9440	2	40	70	.000875	1000
RK2J42	6.3	0.5	9345-9405	2	5.5	4.5	.002	7.0
RK2J42H	6.3	0.5	9345-9405	2	5.5	4.5	.002	7.0
RK730A	6.3	1.0	9345-9405	2	12.0	12.0	.001	40.0
RK725A	6.3	1.0	9345-9405	2	12.0	12.0	.001	40.0
QK324	4.8	12.0	15850-16160	2	24.0	12.0	.0025	70.0
QK702	4.8	12.0	15840-16160	3	24.0	12.0	.0025	70.0
RK6841	4.0	10.5	16410-16625	2	16.5	14.0	.0009	45.0

STORAGE TUBES

Type No.	Function	Output Form	Deflection	Focus	Resol. of lines 50% Mod.	Elec. Gun
RK6835/QK464A	Storage Tube	Electric	Magnetic	Magnetic	600	Single
QK411A	Storage Tube	Electric	Electrostatic	Electrostatic	400	Single
QK703	Storage Tube	Electric	Magnetic	Magnetic or Electrostatic	1000	Coaxial Dual
QK685	Storage Tube	Electric	Magnetic	Magnetic or Electrostatic	1000	Single
QK545	Simulator	Visual	Magnetic	Magnetic	.....	Single
QK767	Simulator	Visual	Magnetic	Magnetic or Electrostatic	.....	Single

BACKWARD WAVE OSCILLATORS

Type No.	Frequency Range Megs.	Delay Line Voltage Volts	Control Grid Voltage Neg. V	Delay Line Current mA	Anode Ratings V	Anode Ratings mA	Power Output mW.	Filament Ratings V	Filament Ratings A
QK691	2000-4000	150-1400	0-100	20-45	100 250	0 10	80-1000	6.3	1.3
QK528	3600-7200	170-1400	0-100	15-40	50 150	0 5	20-300	6.3	1.0
QK610	6700-11,400	250-1400	0-150	15-35	75 250	0 6	20-300	6.3	1.3

* Class 1 = Tunable CW
2 = Fixed Frequency-Pulsed
3 = Tunable-Pulsed
4 = CW Electro-Mech. Freq. Mod.
5 = Fixed Frequency-CW

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Contact Raytheon Power Tube Sales for further details on any of the above types and classified and developmental types not yet listed. Complete Magnetron, Klystron and Special Tube Data Booklets available on request.

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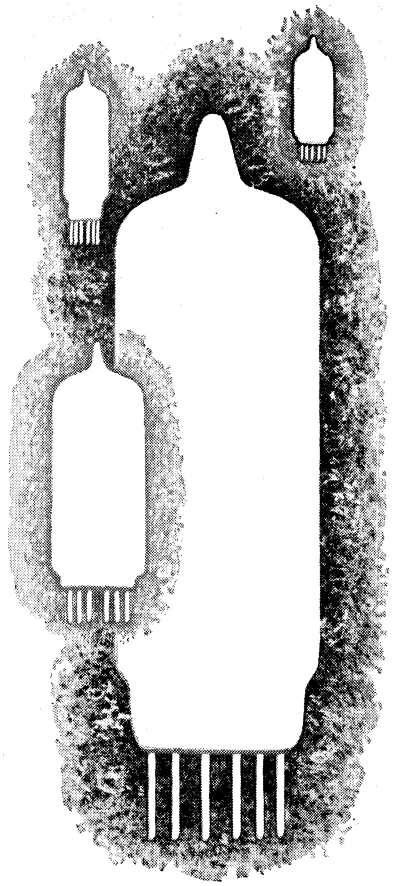

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1B3GT	6AF4	6BM8	6CA7	6J6A	9DZ8	18DZ8	EABC80/6T8	ECH81/6AJ8	EM84/6FG6
2AF4A	6AF4A	6BQ5	6CB6	6K6GT	12AT7	35DZ8	EBC91/6AV6	ECL82/6BM8	EZ80/6V4
3AF4A	6AJ8	6BQ6GT/6CU6	6CG7	6SN7GTB	12AU7	35W4	EBF89/6DC8	EF86/5928-6267	EZ81/6CA4
5AR4	6AL5	6BQ7A	6DA6	6T8	12AU7A	50BM8	EC92/6AB4	EF89/6DA6	GZ34/5AR4
5J6	6AQ8	6BR5	6DC8	6U8	12AX7	50C5	ECC81/12AT7	EL34/6CA7	PCC85/9AQ8
5U4GB	6AV6	6BZ7	6DZ8	6V4	12BA6	5928-6267	ECC83/12AX7	EL84/6BQ5	PCL82/16A8
6AB4	6AX4GT	6CA4	6FG6	6W4GT	12SN7GT	7025	ECC85/6AQ8	EM80/6BR5	UCL82/50BM8
			6J6	9AQ8	16A8	EAA-EB91/6AL5	ECF82/6U8		

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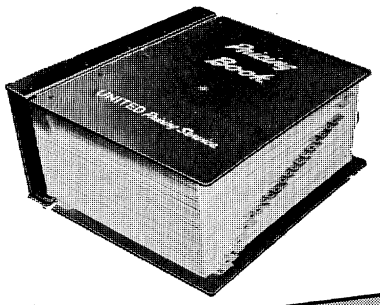

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SYLVANIA INDUSTRIAL & MILITARY
Special-Purpose Cathode Ray Tubes

Type	Faceplate	Focus	Deflection	Deflection Angle	Anode Volts Kv. Abs. Max.	Nominal Length (Inches)
RADAR INDICATORS						
3FP7A	C	ES	ES	..	4.4*	10
3JP7	C	ES	ES	..	4.4*	10
3JP12	C	ES	ES	..	4.4*	10
3KP7	C	ES	ES	..	2.75	11 1/2
5ABP7	C	ES	ES	..	6.6*	16 3/4
5ADP7	C	ES	ES	..	6.6*	16 3/4
5AHP7	C	ES	MAG.	53	11.0	11 1/8
5AHP7A	CA	ES	MAG.	53	11.0	11 1/8
5AHP14	C	ES	MAG.	53	11.0	11 1/8
5AHP14A	CA	ES	MAG.	53	11.0	11 1/8
5AHP19	C	ES	MAG.	53	11.0	11 1/8
5AHP19A	CA	ES	MAG.	53	11.0	11 1/8
5AQP7	C	ES	ES	..	4.4	16 3/4
5CP7A	C	ES	ES	..	4.4*	16 3/4
5CP12	C	ES	ES	..	4.4*	16 3/4
5FP7A	C	MAG.	MAG.	53	8.8	11 1/8
5FP14	C	MAG.	MAG.	53	8.8	11 1/8
5FP14A	C	MAG.	MAG.	53	8.8	11 1/8
5UP7	C	ES	ES	..	2.75	14 3/4
6DP7	CA	ES	ES	..	15.0*	20 1/16
6DP14	CA	ES	ES	..	15.0*	20 1/16
6DP19	CA	ES	ES	..	15.0*	20 1/16
6DP25	CA	ES	ES	..	15.0*	20 1/16
7ABP7	C	ES	MAG.	50	11.0	13 1/4
7ABP7A	CA	ES	MAG.	50	11.0	13 1/4
7ABP14	C	ES	MAG.	50	11.0	13 1/4
7ABP14A	CA	ES	MAG.	50	11.0	13 1/4
7ABP19	C	ES	MAG.	50	11.0	13 1/4
7ABP19A	CA	ES	MAG.	50	11.0	13 1/4
7BP2A	C	MAG.	MAG.	53	8.8	13 1/4
7BP7A	C	MAG.	MAG.	53	8.8	13 1/4
7JP7	C	ES	ES	..	6.6	14 1/2
7MP7	C	MAG.	MAG.	50	8.8	12 1/2
7MP14	C	MAG.	MAG.	50	8.8	12 3/4
8CP7	C	ES	ES	..	6.6*	16 1/2
10KP7	T	MAG.	MAG.	50	11.0	17 5/8
10KP7A	T	MAG.	MAG.	50	11.0	17 5/8
10VP7	CA	MAG.	MAG.	50	13.2	17 5/8
10WP7	T	ES	MAG.	50	13.2	16 15/16
10WP7A	TA	ES	MAG.	50	13.2	16 15/16
10WP14	T	ES	MAG.	50	13.2	16 15/16
10WP14A	TA	ES	MAG.	50	13.2	16 15/16
10WP19	T	ES	MAG.	50	13.2	16 15/16
10WP19A	TA	ES	MAG.	50	13.2	16 15/16
12ABP7	T	ES	MAG.	55	13.2	18
12ABP7A	TA	ES	MAG.	55	13.2	18
12ABP14	T	ES	MAG.	55	13.2	18
12ABP14A	TA	ES	MAG.	55	13.2	18
12ABP19	T	ES	MAG.	55	13.2	18
12ABP19A	TA	ES	MAG.	55	13.2	18
12DP7A	T	MAG.	MAG.	50	11.0	19 5/8
12DP7C	TA	MAG.	MAG.	50	13.2	19 5/8
12SP7	C	MAG.	MAG.	55	11.0	18 3/4
12SP7D	TA	MAG.	MAG.	55	15.0	18 3/4
OSCILLOSCOPES						
2AP1A	C	ES	ES	..	1.1	7 7/16
3BP1A	C	ES	ES	..	2.2	10

Type	Faceplate	Focus	Deflection	Deflection Angle	Anode Volts Kv. Abs. Max.	Nominal Length (Inches)
OSCILLOSCOPES (Continued)						
3JP1	C	ES	ES	..	4.4*	10
3JP2	C	ES	ES	..	4.4*	10
3KP1	C	ES	ES	..	2.75	11 1/2
3MP1	C	ES	ES	..	2.75	8
3RP1	C	ES	ES	..	2.75	9 1/8
3RP1A	C	ES	ES	..	2.75	9 1/8
5ABP1	C	ES	ES	..	6.6*	16 3/4
5ADP1	C	ES	ES	..	6.6*	16 3/4
5ADP2	C	ES	ES	..	6.6*	16 3/4
5AQP1	C	ES	ES	..	4.4	16 3/4
5AQP2	C	ES	ES	..	4.4	16 3/4
5BP1A	C	ES	ES	..	2.2	16 3/4
5CP1A	C	ES	ES	..	4.4*	16 3/4
5UP1	C	ES	ES	..	2.75	14 3/4
6DP1	CA	ES	ES	..	15.0*	20 1/16
6DP2	CA	ES	ES	..	15.0*	20 1/16
7JP1/7VP1	C	ES	ES	..	6.6	14 1/2
8CP1	C	ES	ES	..	6.6	16 1/2
8CP2	C	ES	ES	..	6.6*	16 1/2
VIDEO RECORDERS						
3KP11	C	ES	ES	..	2.75	11 1/2
5ABP11	C	ES	ES	..	6.6*	16 3/4
5ADP11	C	ES	ES	..	6.6*	16 3/4
5AQP11	C	ES	ES	..	4.4	16 3/4
5CP11A	C	ES	ES	..	4.4*	16 3/4
5FP11A	C	MAG.	MAG.	53	8.8	11 1/8
5UP11	C	ES	ES	..	2.75	14 3/4
5WP11	C	ES	MAG.	50	30.	11 7/16
6DP11	CA	ES	ES	..	15.0*	20 1/16
8CP5	C	ES	ES	..	6.6*	16 1/2
8CP11	C	ES	ES	..	6.6*	16 1/2
10NP11	A	MAG.	MAG.	52	27.5	17 5/8
INDUSTRIAL MONITORS						
3KP4	C	ES	ES	..	2.75	11 1/2
3RP4	C	ES	ES	..	2.75	9 1/8
5ABP4	C	ES	ES	..	6.6*	10 3/4
5ABP4A	CA	ES	MAG.	53	11.0	11 1/8
5FP4A	C	MAG.	MAG.	53	8.8	11 1/8
8CP4	C	ES	ES	..	6.6*	16 1/2
8FP4	TA	MAG.	MAG.	90	10.8	11 7/16
10SP4	TA	ES	MAG.	50	22.0	16 5/8
RECEIVER CHECK TUBES						
5AXP4	C	AUTO	MAG.	53	19.8	10 5/8
8XP4	T	AUTO	MAG.	90	22.0	11 7/16
8YP4	T	AUTO	MAG.	110	22.0	8 11/16
FLYING SPOT SCANNERS						
3KP16	C	ES	ES	..	2.75	11 1/2
5BNP16	CA	ES	MAG.	53	19.8	10 5/8
5WP15	C	ES	MAG.	50	30.	11 7/16
5ZP15	CA	ES	MAG.	40	30.0	14 3/8
5ZP16	CA	ES	MAG.	40	30.0	14 3/8
5ZP24	CA	ES	MAG.	40	30.0	14 3/8
10VP15	CA	MAG.	MAG.	50	13.2	17 5/8

A = Aluminized C = Clear T = Tinted * = Post accelerator voltage

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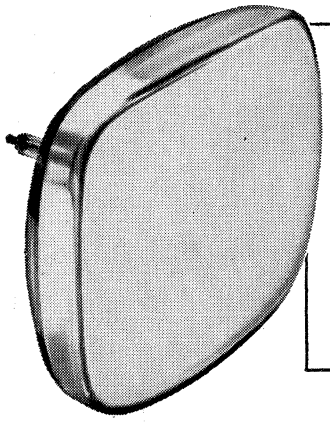

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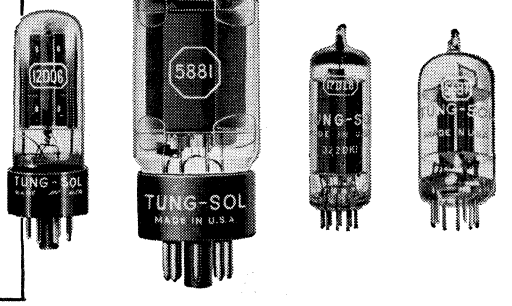

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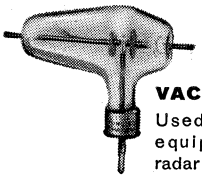

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Used throughout industrial electronic equipment and broadcasting operations—AM, FM and TV.
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VOLTAGE REFERENCE TUBES
Used in radios and other electronic gear with regulated power supplies. Especially in high-accuracy units.
Types available: 5651, 5651WA, 5783, 5783WA.

TELEPHONE TUBES
Used in hand sets and carrier equipment.
Types available: 313C, 407A, 4028/408A, 338A.

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Used widely in equipment handling frequencies from the audio level through the frequency band.
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Used in radar modulators and missile tracking beacons. Miniatures in airborne units.
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Used in radio and other electronic equipment with regulated power supplies.
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Used in public address systems, hi-fi amplifiers, radio transmitters and receivers.
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POWER TRIODES
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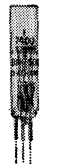

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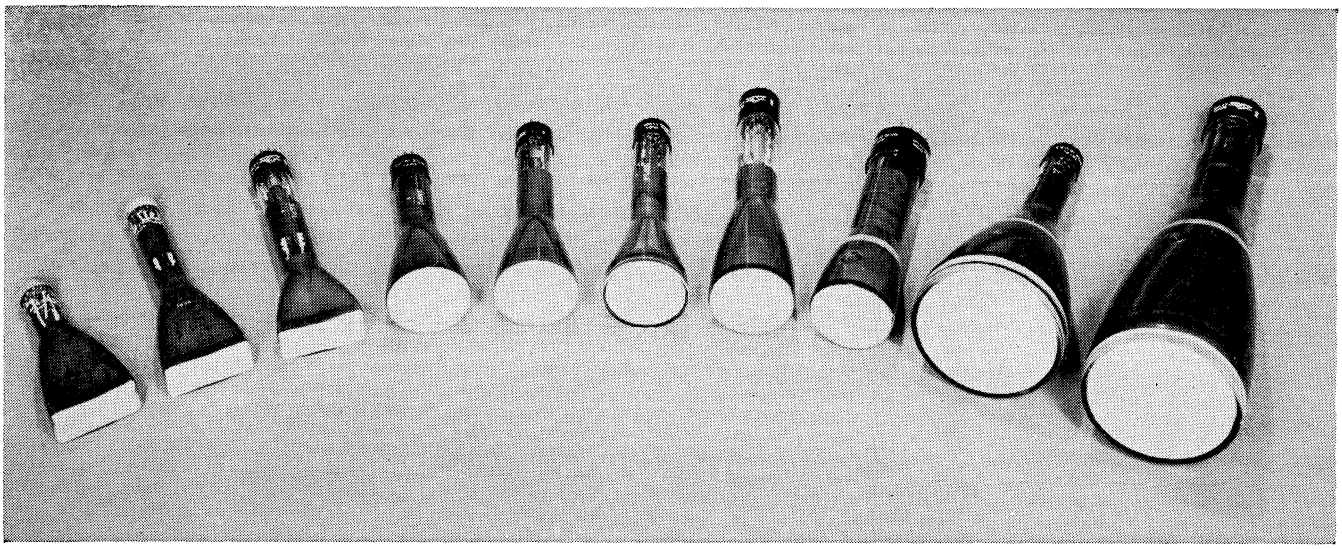

LENGTH:	from 7"
FACE:	1½" x 3" 3" 5"
FACE PLATE:	Round Flat
PHOSPHORS:	P1, P2, P7, P11 and specials
SPECIFICATIONS:	MIL or EIA
ANODES:	Monoaccelerator and post deflection

Check with WATERMAN or our engineering representatives for information, competitive prices and delivery. Prototype tubes, complete shielding and mounting kits are available "off-the-shelf" from America's leading industrial distributors. OEM quantities from the factory.

Waterman manufactures a diversified line of oscilloscopes, see page 763 EEM. Consult Radio Electronic Master for list of typical RAYONIC® Cathode Ray Tubes.

WATERMAN PRODUCTS

WATERMAN PRODUCTS CO., INC.

PHILADELPHIA 25, PA.

Cable Address: Poketscope

Order from Local Electronic Parts Distributor or Write for List.

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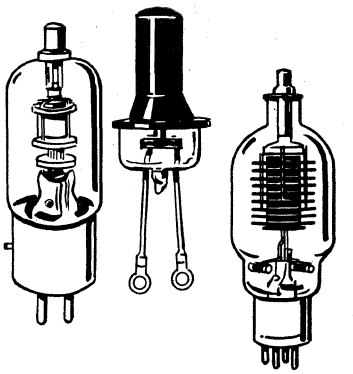
UNITED ELECTRONICS

(A subsidiary of Ling Electronics, Inc.)

leader in High Vacuum Thermionic Diodes

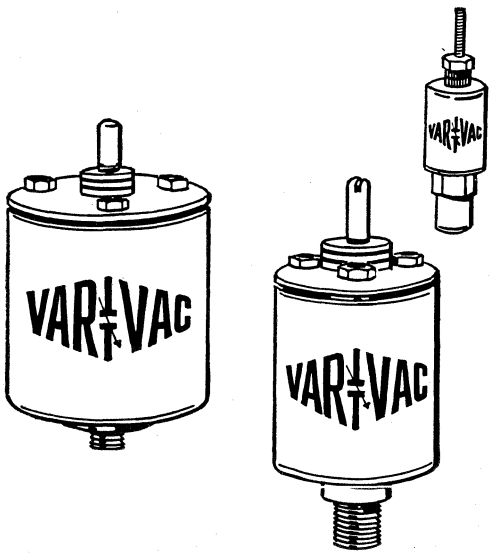


CLIPPER DIODE— RECTIFIER TUBES

TYPE	DESCRIPTION	RECTIFIER RATING					CLIPPER DIODE RATING					Shock Rating	Nominal DIMENSIONS INCHES	
		FILAMENT		epx	ib	Ib	FILAMENT		epx	ib	Ibrms			
		Vac	Aac	kv	a	Adc	Vac	Aac	kv	a	Aac		LENGTH	DIA.
3B24WA	High Vacuum Rectifier	5.0	3.0	20	.300	.060	—	—	—	—	—	450G	4.8	1.5
3B29	Clipper Diode-Rectifier	2.5	4.9	16	.250	.065	2.5	4.9	10	8	.240	—	5.3	1.5
3B29W	Clipper Diode-Rectifier	2.5	4.9	16	.250	.065	2.5	4.9	10	8	.240	300G	5.3	1.5
X-4	External Anode Diode	6.3	.630	3	.280	.070	—	—	—	—	—	300G	1.1	0.8
X-80 (6303)	Clipper Diode Rectifier	11.5	15.25	40	2.5	.700	12.2	15.5	33	50	1.25	300G	9.7	3.6
217C	High Vacuum Rectifier	10.0	3.25	7.5	.600	.150	—	—	—	—	—	—	8.5	2.3
371B	High Vacuum Rectifier	5.0	10.3	25	1.5	.300	—	—	—	—	—	—	8.7	2.3
541	External Anode Diode	5.0	14.0	25	2.5	.500	5.4	15.0	25	12	.800	—	4.4	2.0
543	High Vacuum Rectifier	5.0	5.0	30	.400	.100	—	—	—	—	—	375G	4.5	1.4
545	External Anode Diode	6.3	1.3	5	.160	.050	6.3	1.3	5	6	.240	300G	2.2	0.8
546	Clipper Diode-Rectifier	11.5	63.0	35	8.1	2.6	12.2	65	35	150	5.2	—	12	6.1
548	External Anode Diode	11.5	15.25	33	2.7	.860	11.5	15.25	33	50	1.25	—	5.2	2.6
549	High Vacuum Rectifier	2.5	5.0	11	1.0	.190	—	—	—	—	—	375G	5.7	1.5
552	External Anode Diode	2.5	1.67	20	.040	.010	—	—	—	—	—	300G	1.3	0.8
554	External Anode Diode	6.3	3.5	17	.470	.150	6.3	1.3	16	12	.450	300G	2.7	1.1
558	Clipper Diode-Rectifier	5.0	12.0	15	.840	.300	5.0	12.0	15	7	.470	300G	5.7	1.5
561 (7402)	Clipper Diode-Rectifier	11.5	15.25	33	2.7	.860	11.5	15.25	33	50	1.25	300G	9.7	3.6
576A	Clipper Diode-Rectifier	5.0	14.0	25	2.5	.500	5.4	15.0	25	12	.800	—	7.7	2.3
577	High Vacuum Rectifier	5.0	10.3	25	1.5	.300	—	—	—	—	—	—	7.5	2.0
577W	High Vacuum Rectifier	5.0	10.3	25	1.5	.300	—	—	—	—	—	375G	7.5	2.0
578	High Vacuum Rectifier	5.0	6.0	40	.750	.100	—	—	—	—	—	—	6.5	2.0
582	High Vacuum Rectifier	2.5	4.9	9	.800	.200	—	—	—	—	—	—	5.7	1.5
583	Clipper Diode-Rectifier	2.5	4.9	17	.250	.065	2.5	4.9	15	8	.240	375G	4.8	1.4
589	External Anode Diode	6.3	1.6	16	.250	.065	6.3	1.6	10	8	.300	300G	2.2	0.8
593	High Vacuum Rectifier	5.0	10.3	25	1.5	.300	—	—	—	—	—	—	7.5	2.0
593W	High Vacuum Rectifier	5.0	10.3	25	1.5	.300	—	—	—	—	—	375G	7.5	2.0
596	Full-Wave Vacuum Rectifier	5.0	3.0	4.5	.165	.055	—	—	—	—	—	—	5.7	2.2
705WA	High Vacuum Rectifier	5.0	5.0	30	.400	.100	—	—	—	—	—	300G	5.0	2.3
6339	External Anode Diode	6.3	1.6	16	.250	.065	6.3	1.6	10	8	.300	300G	2.3	0.8
7159	External Anode Diode	6.3	3.5	17	.470	.150	6.3	3.5	16	12	.450	300G	3.6	1.8
7310	High Vacuum Rectifier	5.0	6.0	20	.750	.100	—	—	—	—	—	—	6.5	2.0
8020A	High Vacuum Rectifier	5.0	6.0	40	.600	.100	—	—	—	—	—	—	7.5	2.3

FIRST *with ceramicized vacuum variable capacitors*

to meet the exacting needs of modern equipment



CERAMIC ENVELOPED VACUUM VARIABLE CAPACITORS

TYPE	Capacitance MMF		Amperes RMS Current	Maximum Peak RF Voltage	Shaft Revolutions Turns	Shaft Torque Oz.-In.	Nominal Dimensions	
	Max.	Min.					Length In.	Diam. In.
A-10/3	10	1	1	3 KV	5	10	1.5	.6
B-50/10	50	3	20	10 KV	21	20	3.6	1.7
C-250/10	250	10	30	10 KV	24	20	4.5	3.0
C-400/10	400	15	30	10 KV	24	20	4.5	3.0

See YELLOW SECTION for local offices, telephones, etc.

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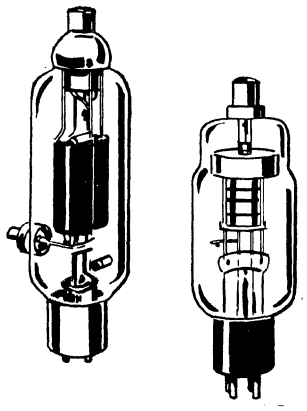

MODERN PRODUCTION techniques, plus UNITED's high standards of quality make these time-proved models better than ever.

A continuing demand for their use in a wide variety of applications is the result of sound basic design and the ability to perform under the most exacting service conditions.

VACUUM TRIODES

TYPE NO.	FILAMENT		Mu	MAX. ANODE RATINGS			TYPICAL OPERATION							INTERELECTRODE CAPACITANCE—mmf			MAX. FREQ. MC/SEC FULL INPUT	Maximum DIMENSIONS INCHES	
							PLATE			GRID									
	Volts	Amps.		Volts	Amps.	Diss.	Volts DC	Amps. DC	Output Watts	Volts DC	MA. DC	Driving Power	Peak RF Grid Voltage	G-P	G-F	P-F		LENGTH	DIA.
CV-11	10	2.5	14	1500	.165	75	1250	.134	134	—200	5	1.5	300	9.0	5.0	2.3	30	6⅜	2 1/16
UXCV-11	10	2.5	14	1500	.165	75	1250	.134	134	—200	5	1.5	300	9.0	5.0	2.3	30	7¼	2 1/16
HV-18	10	3.85	18	2500	.210	200	2000	.183	282	—240	21	8.4	400	6.5	5.0	1.5	50	9⅞	2 15/16
FV-20	10	3.75	20	1750	.200	150	1500	.169	176	—200	10	2.0	380	6.8	5.1	3.5	50	8¾	2⅝
KU-23	11	4.0	23	3000	.275	250	2500	.246	448	—250	17.5	7.6	435	6.5	6.0	1.4	30	10¼	3
V-70-D	7.5	3.25	28	1750	.170	85	1500	.148	182	—140	14	3.6	260	4.5	4.5	1.7	30	7¼	2 1/16
UE-100	10	2.5	23	1750	.150	75	1500	.148	183	—140	7	1.0	210	4.5	3.5	1.4	30	7⅞	2 1/16
203-WA	10	3.25	25	1250	.175	100	1000	.165	113	—100	20	4.5	225	14.5	6.5	5.5	15	7⅞	2 5/16
211-W	10	3.25	12	1250	.175	100	1000	.119	84	—180	12	2.5	210	14.5	6.0	5.5	15	7⅞	2 5/16
242-C	10	3.25	12	1250	.175	100	1000	.119	84	—180	12	2.5	210	14.5	6.0	5.5	15	7⅞	2 5/16
265	10	5.2	75	1800	.200	160	1500	.179	207	— 80	18	1.4	180	11.0	7.8	3.8	15	9½	2¾
311-CH	10	3.25	12	1750	.200	125	1500	.165	182	—300	12	5.7	470	8.0	5.5	4.5	30	8¾	2⅝
311-CT	10	3.25	12	1500	.200	120	1500	.165	182	—300	12	5.7	470	8.0	5.5	4.0	20	8¾	2⅝
311-T	10	3.25	12	1500	.200	100	1000	.119	84	—180	12	2.5	210	13.0	6.0	5.0	20	8¾	2⅝
468	10	4.05	18	2500	.200	200	2000	.183	282	—240	21	8.4	400	7.0	8.8	1.25	30	11	3
805	10	3.25	100	1500	.210	125	1250	.182	158	— 70	23	1.6	200	6.5	8.5	10.5	30	8½	2 5/16
810	10	4.25	36	2500	.275	125	2000	.162	259	—150	22	5.8	265	4.8	8.7	12.0	30	8¾	2 1/16
830B	10	2.00	25	1000	.150	60	1000	.150	117	—160	33	10.1	310	11.0	5.0	1.8	15	6⅝	2 1/16
845W	10	3.25	5	1250	.095	100	1000	.082	64	—400	1.5	0.6	500	13.5	6.0	6.5	15	7⅞	2 5/16

GAS FILLED AND MERCURY VAPOR RECTIFIERS AND THYRATRONS

TYPE No.	DESCRIPTION	FILAMENT		ANODE			Maximum Supply Frequency	Maximum DIMENSIONS INCHES	
		Vac	Aac	epx kv	ib a	Ib Adc		Length	Dia.
3B28	HALF-WAVE XENON* RECTIFIER	2.5	5.0	10	1	0.25	150**	6⅛	2 1/16
4B32	HALF-WAVE XENON* RECTIFIER	5.0	7.25	10	5	1.25	150**	8½	2 5/16
966	HALF-WAVE MERCURY VAPOR RECTIFIER	2.5	5.0	10	1	0.25		6⅝	2 1/16
973	MERCURY VAPOR GRID-CONTROLLED RECTIFIER	5.0	6.75	10	5.0	1.25		8½	2 5/16
UX-973	MERCURY VAPOR GRID-CONTROLLED RECTIFIER	5.0	6.75	10	5.0	1.25		9⅛	2 5/16
8008XE	HALF-WAVE XENON* RECTIFIER	5.0	7.25	10	5	1.25	150**	8¾	2 5/16

*Xenon-filled tubes operate over wide ambient temperature range without heating or cooling devices.

**For applications where the supply frequency exceeds 150 cps the use of a vacuum rectifier should be considered.

UNITED ELECTRONICS CO.
A Subsidiary of Ling Electronics, Inc.

United Electronics
42 Spring St.
Newark 4, N. J.
Phone HUmbolt 4-6300

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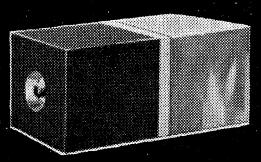
THE ONLY ULTRASONIC CLEANERS WITH A CHOICE OF TRANSDUCER POWER!

ACOUSTICA ULTRASONIC GENERAL PURPOSE CLEANERS

ACOUSTICA ULTRASONIC HEAVY DUTY CLEANERS

The transducer is the heart of the ultrasonic cleaner!



An ultrasonic cleaner is no better than its transducer. Acoustica transducers have proved their superiority. The new low-frequency Multipower transducer used in the Acoustica heavy duty industrial line produces the most effective cleaning field known today. It represents a major break-through in ultrasonic technology.

All prices include tank and matching generator

Choose the correct cleaner for your purpose!

In determining which ultrasonic cleaning unit to buy, remember that all ultrasonic cleaning systems are not alike. The principle is the same, but the results are not. *The power and frequency of the transducer* are the key factors in determining the success or failure of applying ultrasonic energy for solving industry's cleaning problems. Acoustica research has developed *two* types of transducers for its ultrasonic cleaning units—the *General Purpose* 40kc barium titanate transducer and the *Multipower* heavy duty 20kc transducer. Expert Acoustica engineers are ready to advise you which type will better suit your needs.

Immediate Delivery From Stock

acoustica

LEADER IN RESEARCH AND DEVELOPMENT OF ULTRASONIC SYSTEMS

WRITE OR PHONE FOR COMPLETE INFORMATION

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10400 Aviation Blvd., Los Angeles, Calif.
ORchard 0-3393, SPring 6-0511

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BRANSON

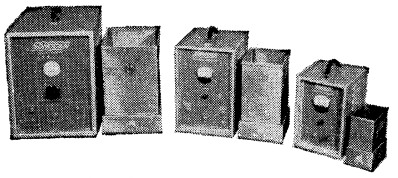
GREATEST VALUES IN ULTRASONIC CLEANING

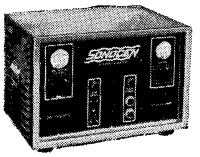
1. PRODUCTION and MAINTENANCE CLEANING of delicate, intricate Components and Assemblies

SONOGEN® *Ultrasonic Cleaning Equipment* is fast, thorough, and cuts cleaning time and costs to the bone. Ultrasonic activation of cleaning fluids penetrates even deep, blind holes, and literally blasts loose the most difficult soils in a fraction of the time of conventional methods. Full line of cleaning elements and systems, outstanding in economy and reliability.

SONOGEN® *Equipment* is in wide use for cleaning Switch and Relay Parts • Vacuum-Tube Components • Instrument Parts and Sub-Assemblies • Semi-Conductor Elements • Printed Circuit Boards • CRT Necks • Quartz Crystals • Ball Bearings • Even Complete Chassis • and others requiring "surgical" cleanliness.

SONOGEN® GENERATORS





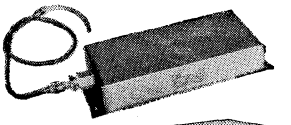
SONOGEN® Generators AP-50, AP-25 and AP-10 with T-Series Transducers;Model AP-200 (below).

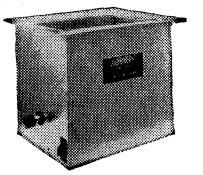
Seven SONOGEN® *Generators* with average RF Outputs from 50 to 5000 Watts and a wide selection of Immersible and Tank-Type Transducers, develop pulsed power at 38 kc/s for maximum cleaning effect with quiet operation. Simple design and rugged construction assure minimum maintenance.

SONOGEN® TRANSDUCERS

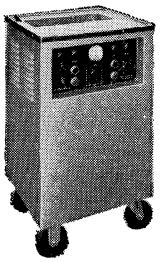
SONOGEN® *Transducers* meet every need. *B-Series* Immersible units mount on Tank Walls with power connections outside the Tank. *E-Series* Immersible units have power leads watertight for use in fluids. All Immersible units are welded all-stainless-steel, may be arranged for optimum cleaning-energy pattern in dip or automated cleaning. *T-Series* units combine Transducer and Tank in integrated units from ½- to 25-gallon capacity.

SONOGEN® *Transducers: E-Series Immersible above, TH-Series Transducer/Tank unit below.*



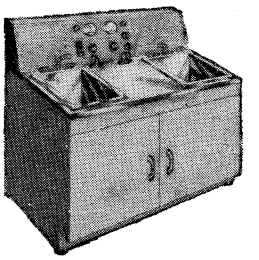


SONOGEN INTEGRATED CLEANING SYSTEMS



SONOGEN® *R-50* packaged Roll-Around Cleaning Unit combines 5-gallon tank with transducers, generator, pump, filter and temperature control for complete mobile facilities. Larger roll-around models are also available.

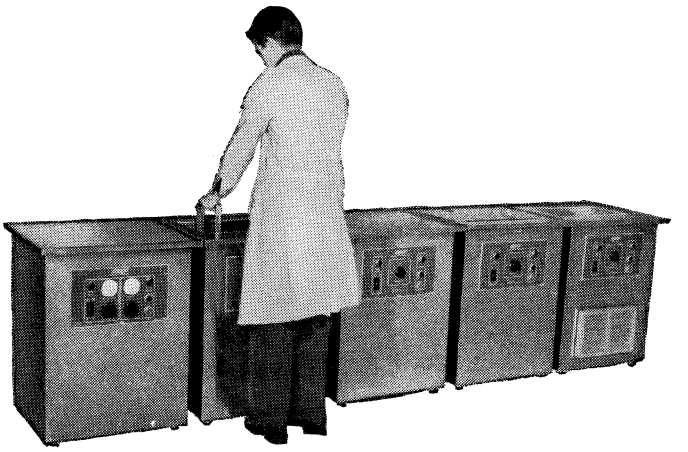
SONOGEN® *H-50* Cabinet-Type Cleaning Unit with cleaning and rinse tanks, hot and cold faucets, spray and air hoses, drains and removable lids. 110-V 60-C AC. Easy access to generator, stainless-steel work surfaces.



C-SERIES ULTRASONIC CLEANING SYSTEMS

Modular, fixed or movable, units provide complete flexibility in assembling any combination of cleaning, heating-and-filtering, rinsing, and drying stages. Average RF cleaning powers to 1 KW, tanks to 30 gallons. *Heli-Arc* welded Type-316 stainless steel. Teflon seals, flush-joint construction; raised rounded lips on all counter tops. All interiors easily accessible. Full controls, indicators, and circuit breakers.

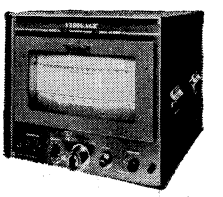
Left to right: C-100 Generator, Tank, recirculating Filter-Heater, Rinse, Dryer. Cabinets: C-50, *20"W, 24"D, 32"H; 5 gals, 250W RF avg* — C-100, *26"W, 24"D, 32"H; 12 gals, 500W RF avg* — C-200, *30"W, 32"D, 36"H; 30 gals, 1 KW RF avg.*



2. GAGING from one side of Wave Guides, Radomes, Tubing, Large Sheets

VIDIGAGE® *Automatic Thickness Gages* give instant, precise readings in inches on large, bright CR Tubes with interchangeable scales. Measure thickness nondestructively from one side of work, on sheet, tubing, castings, forgings. Detect laminar flaw in brazed assemblies and plastic laminates.

Write for 24-Page Book on Ultrasonic Cleaning; also Literature on Branson VIDIGAGE® Ultrasonic Thickness Gages.



VIDIGAGE® 21 with 21" CRT is fast and precise.

Specializing in Ultrasonics since 1946

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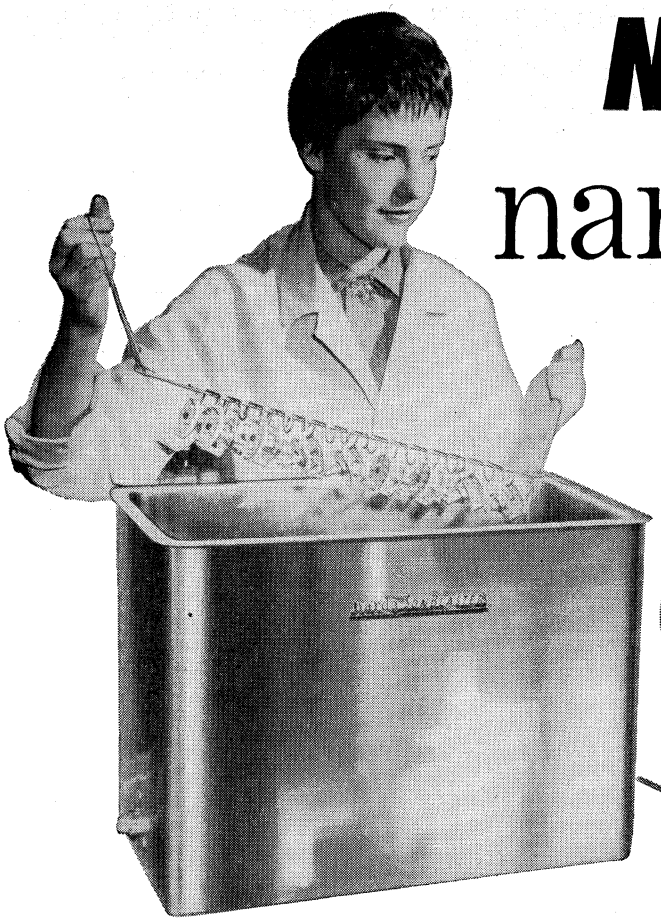
NEW GIANT narda SONBLASTER



Transducerized Tank NT-5001
Capacity: 10 gallons
Dimensions: 20" L x 11½" W x 10" D

Generator G-5001
500 watts output

Generator features tank selector and load selector switches on front panel to operate one or two NT-5001 tanks alternately. Other combinations of tanks and submersible transducers available from stock; larger tanks available on special order.

$1325

for mass-production ultrasonic cleaning and high capacity chemical processing!

Here's a new Narda SonBlaster ultrasonic cleaner with tremendous cavitation activity and generating capacity! Featuring full 500 watts output, this SonBlaster is available with a fully transducerized giant 10-gallon capacity tank. In addition, it will operate from six to ten model NT-605 high energy submersible transducers, at any one time, for use in any arrangement in any shape tank you need, up to 70 gallon volume.

Install this new Narda SonBlaster, and immediately you'll start chalking up savings over costly solvent, vapor or alkaline degreasing methods! You'll save on chemicals and solvents, cut maintenance and downtime, eliminate expensive installations, save on floor space, and release labor for other work. But perhaps most important, you'll clean faster, cut rejects, and eliminate bottlenecks.

Whether you're interested in mass-production cleaning or degreasing of mechanical, electronic, optical, or horological parts or assemblies... rapid, quantity cleaning of "hot-lab" apparatus, medical instruments, ceramic materials, electrical components or optical and technical glassware... or in speeding up metal finishing and chemical processing of all types—you'll find this new SonBlaster will do your work faster, better and cheaper. Write for more details now, and we'll include a free questionnaire to help determine the precise model you need. Address: Dept. EEM-18.

Consult with Narda for all your ultrasonic requirements. The SonBlaster catalog line of ultrasonic cleaning equipment ranges from 35 watts to 2.5 KW, and includes transducerized tanks as well as immersible transducers which can be adapted to any size or shape tank you may now be using. If ultrasonics can be applied to help improve your process, Narda will recommend the finest, most dependable equipment available for immediate delivery from stock—and at the lowest price in the industry ($175 up)!

For custom-designed cleaning systems, write to our Industrial Process Division; for information on chemical processing applications, write to our Chemical and Physical Process Division; both at the address below.

the narda ultrasonics corporation

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Subsidiary of The Narda Microwave Corporation

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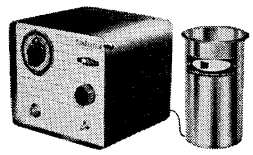
Narda SonBlasters offer the most complete line of lowest-cost mass-produced ultrasonic cleaners!

Narda's mass-production techniques assure you the most complete line of ultrasonic cleaners at the lowest prices in the industry! From the smallest 35-watt to the amazing 2500-watt unit with a tank capacity of 75 gallons, Narda's SonBlasters are available **now**—off-the-shelf—for immediate delivery. And with a full 2-year warranty besides!

What do **you** want to clean? Transistors, semi-conductors, other electronic, automotive, missile and avionic components, instruments, timing mechanisms—Narda's SonBlasters clean 'most any mechanical, electrical or horological part or assembly you can think of—and clean faster, better and cheaper.

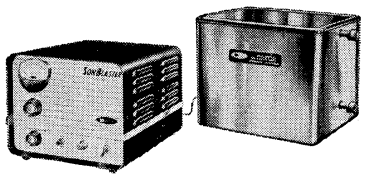
No matter what you need in ultrasonic cleaning equipment, you'll find Narda's complete line of production-size units have the quality, power, performance, capacity and appearance of cleaners selling up to three times their price! Write for more details **now** and we'll include a free questionnaire to help determine the precise model you need. Address: Dept. EEM-19.



Generator G-202 **35 watts**
Transducerized Tank NT-202 **Capacity: ⅜ gallon**

An amazingly efficient, yet inexpensive, ultrasonic cleaner. Duty cycle timer permits operator to turn the unit on, set it, and leave; the SonBlaster will turn off automatically at the end of the cycle. Four choices of timers—from 0-15 min. to 0-120 min. Also available without timer at slightly lower cost (G-201).

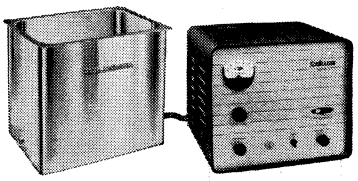
$220



Generator G-601 **60 watts**
Transducerized Tank NT-602 **Capacity: 1 gallon**

A more powerful production-type unit, with a special circuit and selector switch permitting operator to alternate between two tanks, when items being cleaned require different solutions or a two-step process.

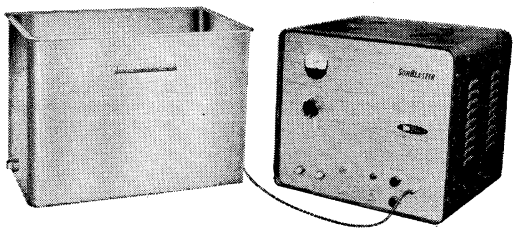
$350



Transducerized Tank NT-1505 **Capacity: 5 gallons**
Generator G-1501 **200 watts**

The lowest price in the industry for a tank of this capacity and activity. Generator also will operate 2, 3 or 4 submersible transducers at one time, with just a turn of the load selector switch on the front panel.

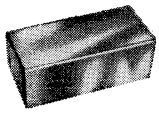
$695



Transducerized Tank NT-5001 **Capacity: 10 gallons**
Generator G-5001 **500 watts**

Generator features standby switch for longer life and load selector switch on the front panel to operate up to 8 submersible transducers or 8 NT-602 or 2 NT-1505 transducerized tanks at one time. Larger tanks available on special order.

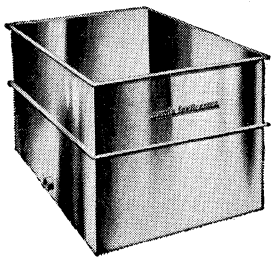
$1325



Submersible Transducer NT-605

Heli arc welded stainless case, hermetically sealed for safe, leak-proof immersion. Radiating face: 27 sq. in. Effective plane of radiation: 40-50 sq. in. (approximately 10" x 5"). Effective cavitation of volumes up to 1200 cu. in. at 24 in. tank height (5 gal.) and 2400 cu. in. at 48 in. tank height (10 gal.). Bulkhead electrical fitting on back allows all wiring connections to be made on outside of tank. For use in any arrangement or location in any shape tank you desire to use. Also available—model NT-604, identical with NT-605, except for pipe thread instead of bulkhead fitting, permitting electrical connections inside of tank.

$130

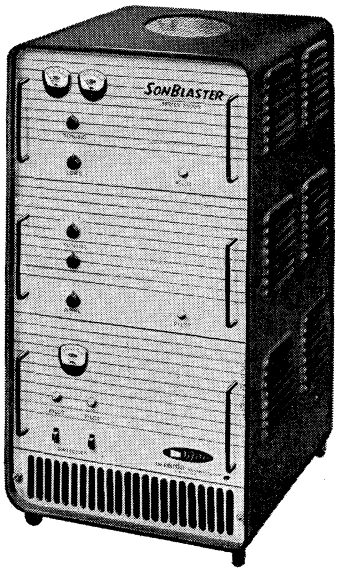


Transducerized Tank NT-25001
Capacity: 75 gallons

Powerful unit drives the largest mass-produced industrial-size transducerized ultrasonic cleaning tank made! Also energizes up to 40 Narda 60-watt submersible transducers (NT-604 or -605). Capable of energizing tanks measuring up to 15 square feet of area by 2' or 3' high.

$4360

Generator G-25001
2500 watts



Consult with Narda for all your ultrasonic requirements. The SonBlaster catalog line of ultrasonic cleaning equipment ranges from 35 watts to 2.5 KW, and includes transducerized tanks as well as immersible transducers which can be adapted to any size or shape tank you may now be using. If ultrasonics can be applied to help improve your process, Narda will recommend the finest, most dependable equipment available—and at the lowest price in the industry!

For custom-designed cleaning systems, write to our Industrial Process Division; for information on chemical processing applications, write to our Chemical and Physical Process Division; both at the address below.

the narda ultrasonics corporation

625 MAIN STREET, WESTBURY, L. I., N. Y.
Subsidiary of The Narda Microwave Corporation

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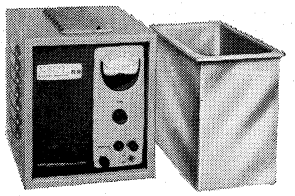
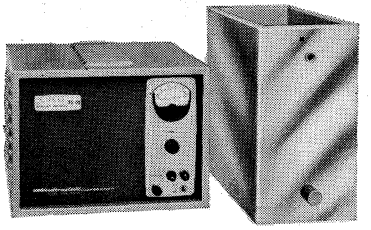
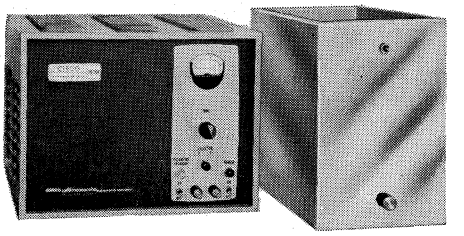
CIRCOSONIC ®



Model BC 60
Capacity - 1 gal.
output - 60 watts



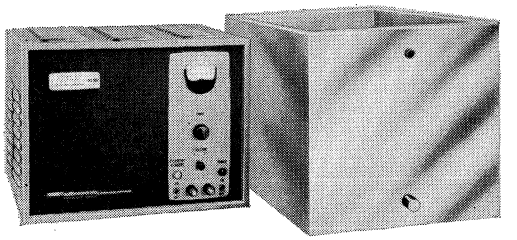
Model BC 125
Capacity - 2 gal.
output - 125 watts



Model BC 250
Capacity - 5 gal.
output - 250 watts

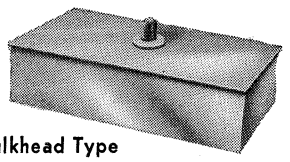
ultrasonic
multi-purpose cleaners

by the most experienced company in the application of ultrasonic energy for metal cleaning.

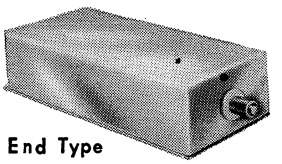


Model BC 500
Capacity - 12 gal.
output - 500 watts

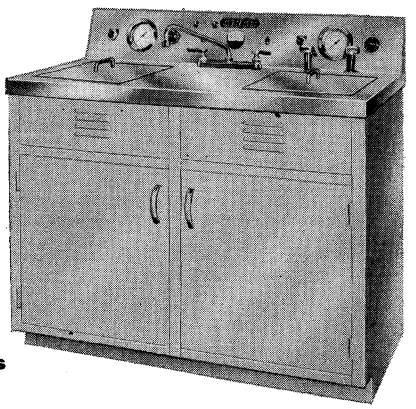
Immersible Transducers



Bulkhead Type



End Type



White Room Cleaning Units

Model BC 1000
Capacity - 25 gal.
output - 1000 watts

THE CIRCOSONIC POWER CONCEPT

The magic word "ultrasonics" alone is not enough. To accomplish the results for American industry, sufficient driving **Power** must be applied to a **Precisely Designed Transducer** at the correct **Frequency** — consistently. This concept of **Power** ultrasonics is embodied in **Circosonic.** Only **Circo** meets these requirements, combined with trouble free continuous operation and economical purchase cost.

Solid stainless steel is used in cleaner tank manufacture making them suitable for all type liquids. Controls are conveniently placed and identified for ease of operation by unskilled personnel.

From the first ultrasonic cleaning machine publicly operated at the National Metal Congress at Philadelphia in 1952, to the new **BC** Series, **Circo** has consistently demonstrated its leadership in the design and application of ultrasonic energy.

Commercial units in operation range from small laboratory models to huge conveyorized automatic units, handling up to 20,000 lbs. metal parts per hour. **Circo** engineers will be pleased to offer technical assistance and recommend specific units to fit your needs.

Send for our new booklet "Tips on Ultrasonic Cleaning."

CIRCO ultrasonic CORPORATION

Specialists in ultrasonic energy
51 TERMINAL AVENUE, CLARK NEW JERSEY

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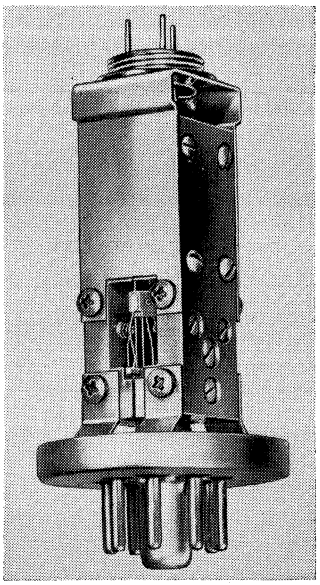
JAMES

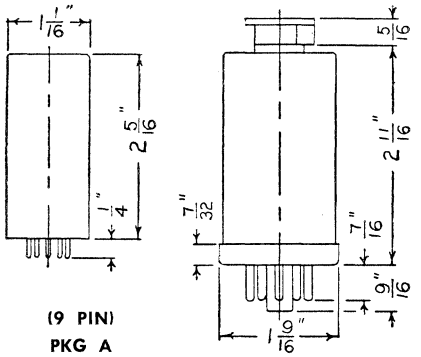
CHOPPERS • VIBRATORS • TRANSFORMERS

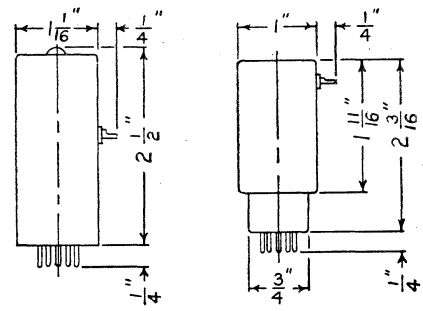


INSTRUMENT CHOPPERS

JAMES manufactures a complete line of choppers for industrial and military application with unique features.

- Double pole, double throw models with single reed mechanism.
- Center pivot design insensitive to outside shock and vibration.
- 0 to 500 cps. wide driving characteristics of the JAMES lift off contact mechanism.
- Break before make and make before break contact adjustments available at all driving frequencies.
- Low residual noise through unique Co-Netic shielding.
- Octal, 9 pin, 7 pin and wire in models to meet every application need.





TYPICAL JAMES CHOPPER MODELS

MODEL	NOMINAL FREQ.	CLOSURES CKT 1	CLOSURES CKT 2	PKG.	COVER
C-1201	60	BBM	BBM	A	HS
C-1202	60	MBB	MBB	A	HS
C-1203	60	MBB	BBM	A	HS
C-1210	400	BBM	BBM	A	HS
C-1211	400	MBB	MBB	A	HS
C-1204	60	BBM	BBM	B	R
C-1205	60	MBB	MBB	B	R
C-1281	60	BBM	NONE	B	R
C-1282	60	MBB	NONE	B	R
C-1275	400	BBM	BBM	B	R
C-1276	400	MBB	MBB	B	R
C-1968	60	BBM	BBM	I	R
C-1969	60	MBB	MBB	I	R
C-1970	400	BBM	BBM	I	R
C-1971	400	MBB	MBB	I	R
C-2305	60	BBM	NONE	S	HS
C-2307	400	BBM	NONE	S	HS

R — REMOVABLE HS — HERMETICALLY SEALED
MBB — 55% CLOSURE BBM — 45% CLOSURE

JAMES also manufactures to customer specifications, all types of transformers for industrial and military application. Technical inquiries concerning the application of JAMES products are solicited.

JAMES VIBRAPOWR COMPANY • CHICAGO, ILLINOIS

4050 North Rockwell Street • Telephone COrnelia 7-6333 • TWX CG-1722

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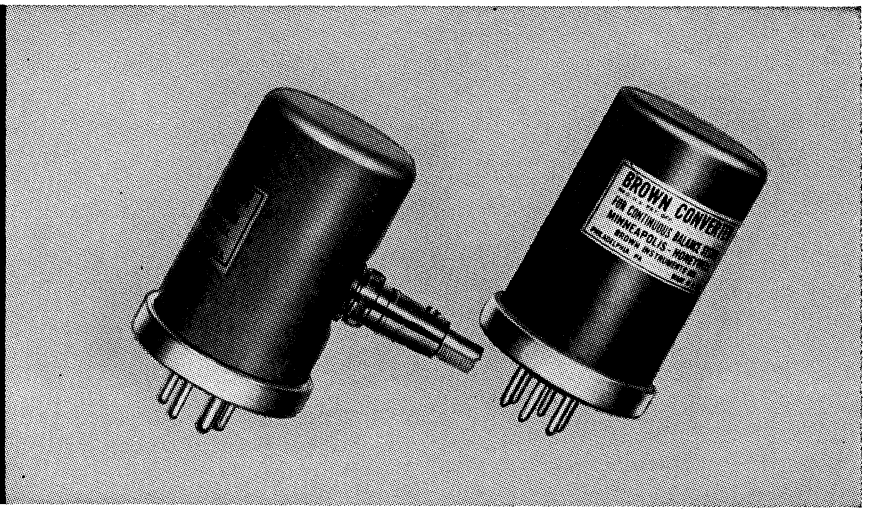
BROWN CONVERTERS

put stable performance in your measuring and servo loops



These synchronously-driven choppers handle d-c signals as small as 10^{-8} volt. SPDT switching action. Sensitive, stable performance. Ideal for computers, servomechanisms, balancing circuits. Available with special features such as fungus proofing, grounded housing, mica-filled base, various contact percentages. Weight: 10 ounces. Prices from $36.

Driving coils in 60-50, 40 and 25-cycle converters are energized by 6.3 volt a-c. 400-cycle converters use 18 volts. Other specifications on chart at right.

MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.

ELECTRICAL CHARACTERISTICS

Part No.	354210-2	354210-3	354210-1	354210-4	355081
Modulation Frequency	20-30 cycles	40-45 cycles	50-65 cycles	50-65 cycles	360-440 cycles
Switching Action (SPDT)	(Make-before-break) Each contact closed 55% of each cycle (±2%) Other actions, as specified			(Break-before-make). Each contact closed 47% of each cycle	Each contact closed 57% of each cycle (±7%)
Driving Coil Requirements	6.3 v, 60 ma at rated frequency				18 v, 94 ma at rated frequency
Contact Rating	100 microwatts at 6 v max.; 1.0 ma max.				
Electrostatic Stray Pickup	2×10^{-8} volts per ohm of input circuit impedance				2×10^{-10}
Electromagnetic Stray Pickup	Less than 2×10^{-6} volts, constant to within 2×10^{-7}				2×10^{-5} volts constant to 2×10^{-6}
Phase Shift	Output voltage lags driving phase by 17° ±5°				Lags driving phase by 45° to 50°
Symmetry	Within 2%				Within 7%
Shielding	Frame and coil shield, grounded through pin No. 2				Shell and coil shield, grounded through pin No. 2
Load Characteristics	Resistive or Inductive				
Vibration Resistance	Output voltage varies less than 2% with rates of vibration from 0 to 10g				
Weight	10 oz.				8.5 oz.
Special Features	Specify SS-8816-A for anti-fungus treated, vibration resistant wiring, hermetically sealed case. Also available with side plug for exciter coil connection.				All 400-cycle converters are treated as shown at left

Honeywell

H HONEYWELL *First in Control*

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NOW

FOR THE FIRST TIME A PRACTICAL FILING SYSTEM FOR NEW PRODUCT INFORMATION

for full details refer to the inside back cover

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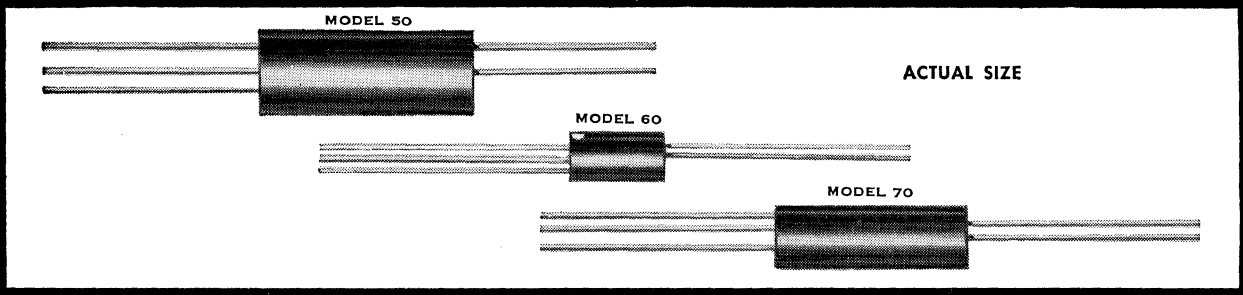
SOLID STATE ELECTRONIC CHOPPERS



microminiature	lightweight	low power	high speed	rugged	indefinitely long life
non-mechanical	inertialess	low level	high efficiency	linear	temperature stable

The transistor chopper (or modulator) is a solidly encapsulated unit designed to alternately connect and disconnect a load from a signal source. It may also be used as a demodulator to convert an a.c. signal to d.c. It is capable of linearly switching or chopping voltages over a wide dynamic range which extends down to a fraction of a millivolt and up to 10 volts or more. Unlike mechanical choppers which can only be designed to operate over a narrow and comparatively low frequency range due to mechanical limitations, this transistorized chopper is an inertialess device that can be driven from d.c. to hundreds of kilocycles.

The switching circuitry used operates the transistors in a manner which provides stability and freedom from drift over a wide temperature range. Only carefully selected and matched transistors are utilized.

The noise figure of the transistor chopper is competitive with mechanical choppers for many uses. Furthermore, the noise level will not increase with usage.

These units are practically immune to the effects of shock and vibration making them ideal for military, space vehicle and portable applications; or where power conservation, miniaturization and elimination of maintenance are a necessity. The transistor chopper has an inherently long life and is not subject to contact bounce, wear, pitting or burning.

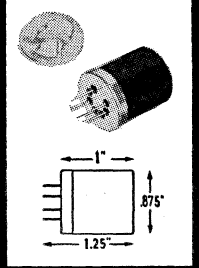
CHOPPER SPECIFICATIONS

MODEL:	50	60	70
Type:	Germanium	Germanium	Silicon
Temperature Range:	−55°C, to +85°C	−55°C to +90°C	−55°C to +130°C
Sq. Wave Drive Volt.:	1 to 10v. p-p	1 to 15 v. p-p	5 to 20 v. p-p
DC Input Voltage:	to 12 v	to 15 v	to 20 v
Chopping Freq.:	DC to 20 kcps	DC to 25 kcps	DC to 40 kcps
Alpha Cutoff Freq.:	900 kilocycles	One megacycle	5 megacycles
Temperature Drift:	.04% per °C	.02% per °C	.03% per °C
Random Noise:	25 μv rms	10 μv rms	50 μv rms
Weight:	3 grams	1 gram	2 grams
Price:	$29.00	$48.00	$143.00

Model T-78 Matched Microminiature Transformer for Chopper Drive: 1/2" x 7/16" x 7/16" $10.00

SILICON TRANSISTOR SINUSOIDAL OSCILLATOR

25 cps to 100 kcps



MODEL S-100

These microminiature encapsulated units provide a sine wave signal source. Stability as a function of supply voltage and temperature are emphasized together with rugged reliability. Only 3 connections are required (28v. at 1ma, ground and the output). All standard IRIG telemetering band frequencies are available. Variation of specifications for frequency, amplitude, impedance, power, distortion, supply voltage, temperature range, stability, connectors, form factor, etc., can be supplied on special order.

SPECIFICATIONS

OUTPUT AMPLITUDE: Greater than 2 volts RMS for load impedance greater than 680K ohms.
OUTPUT IMPEDANCE: Nominal 20K ohms. For minimum loading use load impedance greater than 680K ohms.
DISTORTION: Less than 3% total.
SUPPLY REQUIREMENTS: +28 volts. 2 milliampere nominal.
TEMPERATURE STABILITY: Less than .03% frequency drift per °C from −25°C to +85°C.
SUPPLY STABILITY: Less than .2% frequency drift per volt from +23 volts to +33 volts.
SHOCK SENSITIVITY: Imperceptible shock sensitivity at 500 g's, 11 milliseconds.
VIBRATION SENSITIVITY: Imperceptible vibration sensitivity at 35 g's, 0-2500 cps.
ACCELERATION SENSITIVITY: Imperceptible acceleration sensitivity at 700 g's.
SIZE AND WEIGHT: Variable, depending on frequency of operation. Nominal 1.25" x .875" dia., 1 ounce.

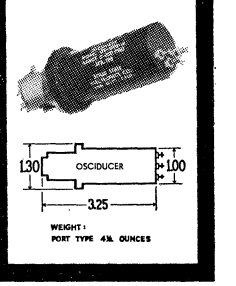
SILICON TRANSISTOR *OSCIDUCER

A PRESSURE-TO-FREQUENCY CONVERTOR FOR FM-FM TELEMETERING

* COMBINATION OSCILLATOR-TRANSDUCER

MODEL OS-1000

The osciducer combines a temperature stable silicon transistor oscillator and a variable inductance diaphragm-type pressure transducer to provide a complete in-line instrumentation package for the measurement of pressure. Commonly used wiring between oscillator and transducer has been eliminated. Only 3 connections are required (28 volts at 2ma, ground and the output). For convenience the oscillator and the transducer may be mounted separately.



SPECIFICATIONS

OUTPUT AMPLITUDE: Approximately 3 V RMS or greater.
OUTPUT IMPEDANCE: Nominal 2.5 K Ohms. Emitter follower output.
CENTER FREQUENCY: IRIG or RDB Channels 5 (1300 cps) to 18 (70,000 cps) (other channels on special order)
FREQUENCY DEVIATION: ±7.5% or ±15% center frequency nominal.
DISTORTION: Less than 3% total distortion.
SUPPLY REQUIREMENTS: +28 Volts, 2 milliamperes (±1 Volt variation causes less than .15% frequency drift.)
ZERO CHANGE WITH TEMPERATURE: Less than .05% of bandwidth per degree C from −20°C to +100°C.
SENSITIVITY CHANGE WITH TEMPERATURE: Less than .05% of bandwidth per degree C from −20°C to +100°C.
PRESSURE RANGES AVAILABLE: 5 PSI to 5000 PSI differential, absolute or gage. Transducers are diaphragm type. Port hole or flush types available.

WRITE FOR BULLETINS DESCRIBING ABOVE UNITS

SOLID STATE ELECTRONICS CO.

DEPT. E • 8158 ORION AVE. • VAN NUYS, CALIF.
STATE 2-6059

research, development, engineering specialists in solid state electronic devices, instruments, systems

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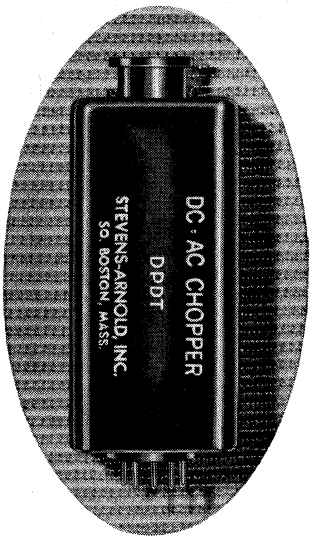


DC-AC CHOPPERS

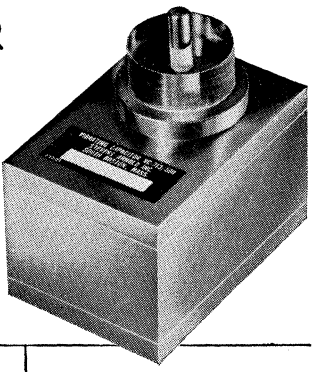
For 50/60/94/120 Cycle Use

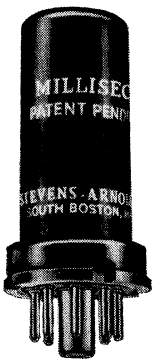
There are twenty-two miniature types, both single and double pole, built to rigid commercial specifications with the emphasis on long life, low noise level, and extreme reliability. Please write for Catalog 515.

MICROVOLT MODULATORS

VIBRATING CAPACITOR

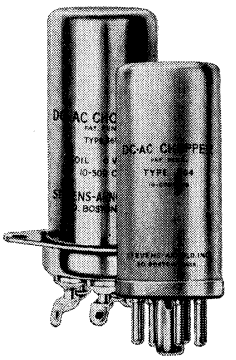
A vibrating-reed type capacitance modulator used to measure currents as low as 10^{-16} amperes. Drift never exceeds ±0.2 millivolts per day, noncumulative. Thus it is ideal where stable performance without recalibration is required for periods of a month or more. Write for Catalog 523.





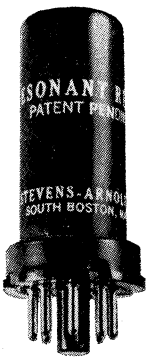
ULTRA HIGH SPEED RELAYS

Operating time 200 microseconds. Mount in any position. Will cover the range of —65°C to +85°C factory sealed. Please write for Catalog 337.



0-500 CYCLE DC-AC CHOPPERS

Liberal factors of safety. Before any Chopper is shipped, it is tested twice over the range of —65°C to +85°C to give double proof of stamina. Please write for Catalog 280.



RESONANT RELAYS

Permit remote control by radio or carrier through frequency discrimination. Relays operate only when energized at rated frequencies and reject all others. Please write for Catalog 335.

STEVENS-ARNOLD

INCORPORATED

7 ELKINS STREET, SOUTH BOSTON 27, MASS. 13

Order from Local Electronic Parts Distributors or Write for List.

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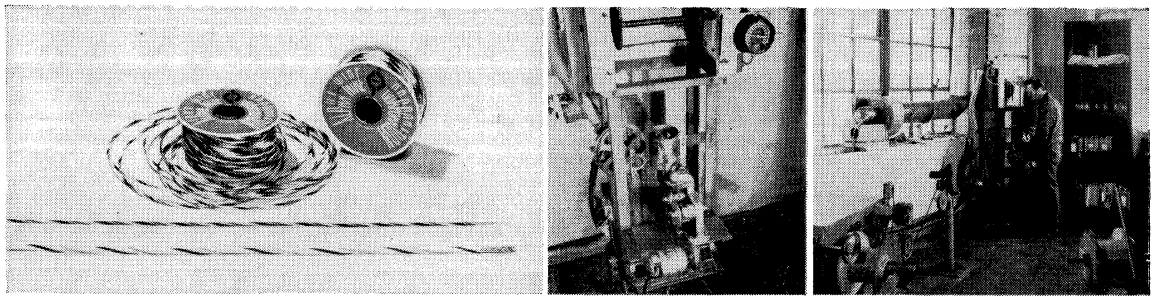
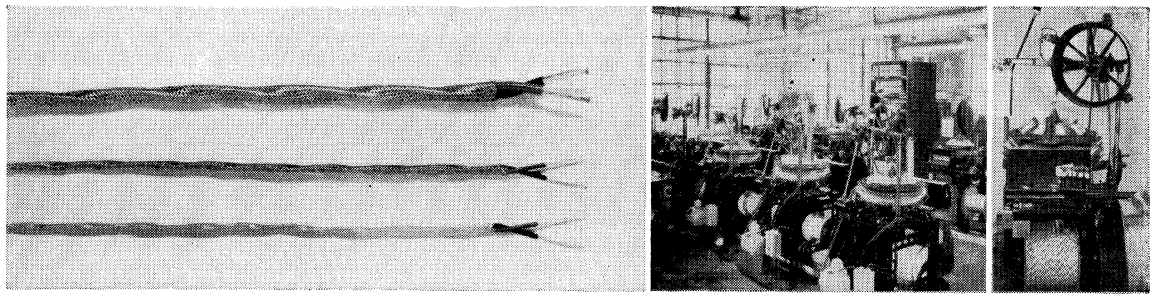
ALPHA electronics WIRE

EVERYTHING IN WIRE PROCESSING BY ALPHA



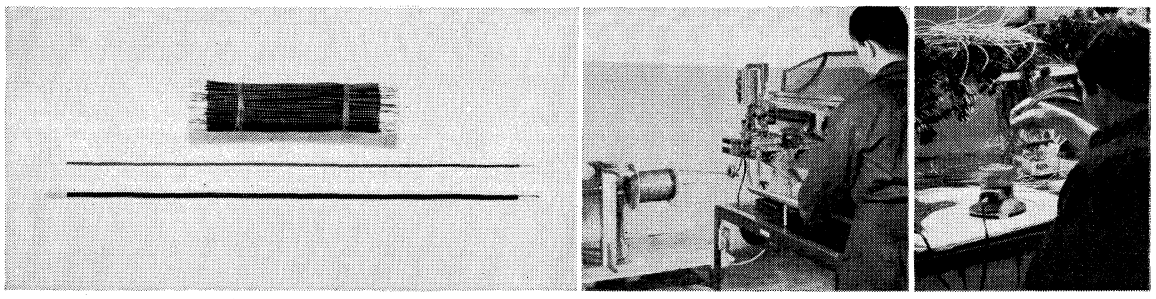
STRIPING

■ Spiral striping of colors permit the engineering of an almost unrestricted number of combinations. The use of specially compounded inks applied to vinyl and nylon insulation are dried in our engineered heating tower. This insures the fusing of the color coding to the insulation resulting in an indelible stripe. As many as three different color combinations of spiral stripes can be applied at one time, resulting in over 40,000 possible color combinations.



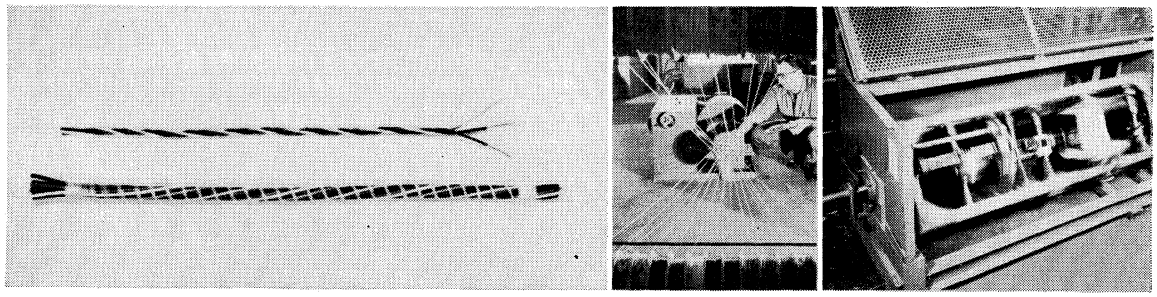
BRAIDING & SHIELDING

■ Braided and spiral bare, tinned or silver plated copper shields can be fabricated over the single conductor hook-up wire and multi-color conductor cables listed in this catalog.
■ Alpha's Textile braided coverings offer a wide variety of color combinations for easy identification, strength, durability and appearance. Materials like cotton, rayon, dacron, celanese, and glass may be used.



CUTTING, STRIPPING & TINNING

■ Automatic cutting, stripping and hot tin dipping of wire to any desired length is available. Precision equipment measures the amount of insulation to be stripped and the exact length of the wire to extremely precise tolerances.
■ Our facilities for marking and numbering can be ordered in conjunction with specifications for wire to be cut and stripped. As a result, you can specify the exact length of wire cut and stripped with a series of numbers or letters at the ends of the wire for identification.



CABLING

■ Over 2,000 single-conductor items listed in this catalog can be engineered into multi-conductor cables. Alpha's cabling facilities will produce cables ranging from 2 conductors to 200 conductors, depending upon the outside diameter of each individual conductor. Specific color sequences and the precise number of twists per foot can be manufactured to exact engineering specifications.

See YELLOW SECTION for local offices, telephones, etc.

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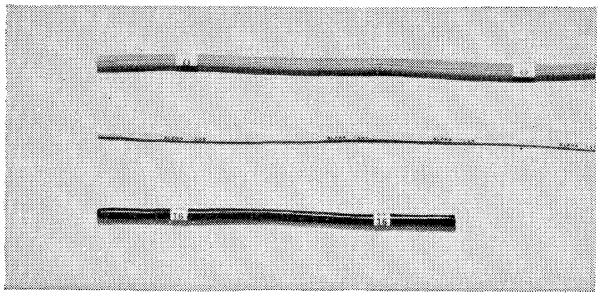
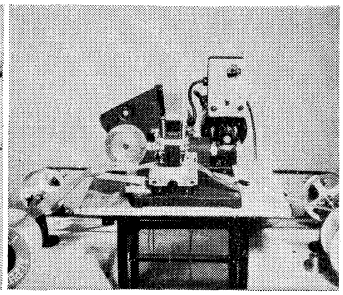
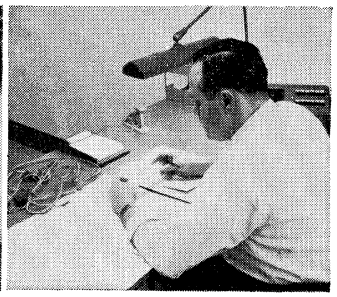
ALPHA electronics WIRE

EVERYTHING IN WIRE PROCESSING BY ALPHA

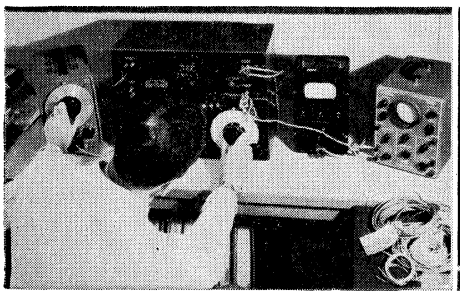
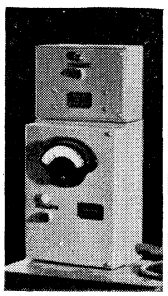
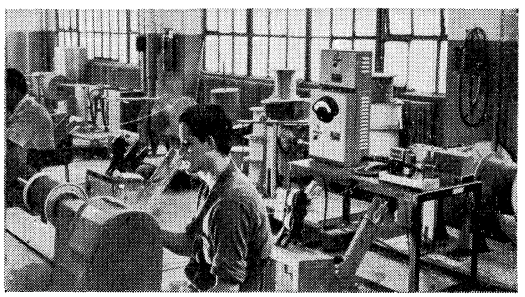
■For positive identification, a series of letters and numbers—or a combination of both—can be made a permanent part of the insulation and jacket of our various wire and cable and tubing. This marking and numbering can be applied to plastic, nylon, Teflon and braided coverings. This coding can also be achieved by the use of identification markers. Your trade name can be shown on the wire and cable you purchase from Alpha. Our facilities for marking and numbering can be ordered in conjunction with specifications for wire to be cut and stripped.

MARKING & NUMBERING



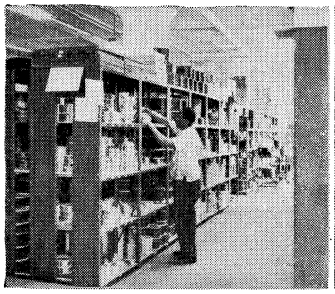
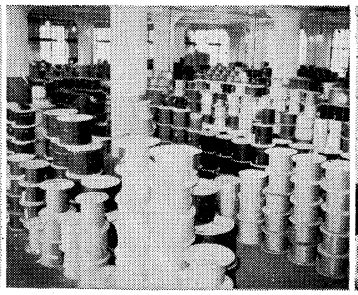
■Our engineering staff is at your disposal to aid in the development of wire and cable and tubing specifically for your products of experimental prototypes.
Alpha's creative engineers have comprehensive know-how in the fields of insulation, chemistry and physics as well as manufacturing processes.
Designing wire and cable to do the right job at the right price is an Alpha tradition for over 35 years.

ENGINEERING DEPT.

■Automatic quality control checks are made to insure such factors as:
■Continuity ■Stranding ■Insulation resistance
■Capacitance ■Dissipation Factor
■Uniformity of outside diameter ■Consistency of color
■Clarity of striping ■General overall appearance

QUALITY CONTROL

■Alpha's warehouse facilities for storing your wire and components for special jobs enables you to save costly labor hours in procurement, inventory control, and production planning. Facilities for expediting shipments within hours to any point in the United States are maintained for your further convenience.

WAREHOUSE & SHIPPING

See YELLOW SECTION for local offices, telephones, etc.

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ALPHA electronics WIRE

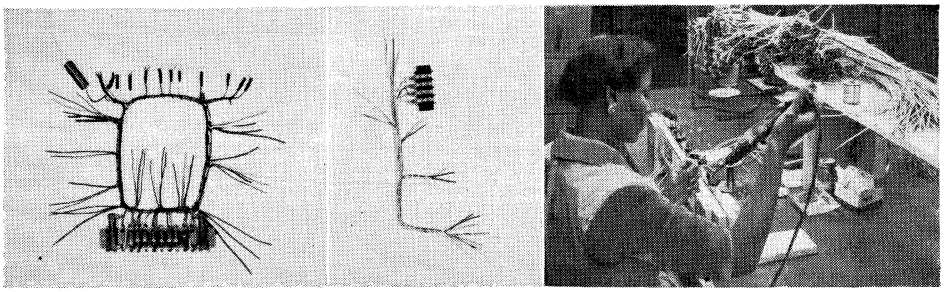
EVERYTHING IN WIRE PROCESSING BY ALPHA

WIRE AND CABLE HARNESSES AND ASSEMBLIES

■ This department devotes itself primarily to manufacturing and sub-contracting commercial and military type harnesses and general wire and cable assemblies. It not only evaluates your special job in terms of cost and time, but if necessary, will accurately expedite all phases up to, and including, the purchasing and attachment of components to your specifications. Complete harnesses and wire and cable assemblies can be fabricated most efficiently at a considerable saving to you. At the same time this department can use the other facilities of Alpha should the need arise. Short and long runs as well as prototype assemblies are handled by specialists who contribute their time and skill to each project. All of the engineering know-how and stringent quality control requirements that Alpha has experienced in 35 years of business come into play in the manufacture of your harnesses.

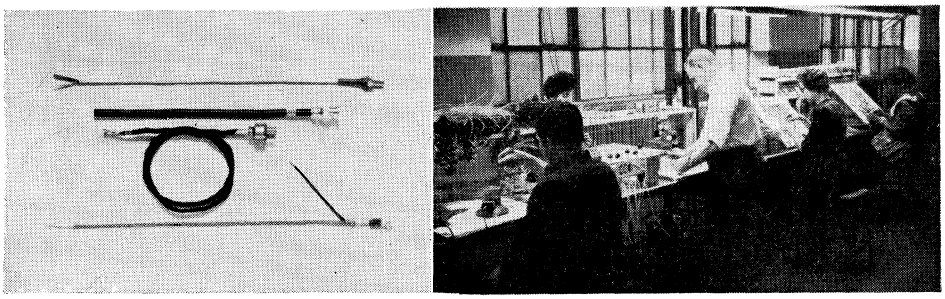
HARNESSING

■ Manufacturing of military and commercial type harnesses is intricate work and should only be produced by experienced personnel such as employed by Alpha. Modern equipment and methods are used not only to produce a high quality product but also to effect considerable savings of time and money.



TERMINATED HARNESSING

■ Terminated harnessing, which combines harnesses with all types of sub-assemblies such as plugs, terminal boards, connectors etc.; need special handling and technical know-how so as to produce a high quality product at lowest cost. Alpha maintains a large inventory of various connectors and terminals thereby passing on to you the basic advantages of quantity discounts and ready availablity.



WIRE & CABLE ASSEMBLIES

■ Alpha has engineered and produced thousands of wire and cable constructions for over 35 years. This extensive background in the wire industry enables us to combine this knowledge with our production know-how to produce highest quality Wire and Cable Assemblies.

See YELLOW SECTION for local offices, telephones, etc.

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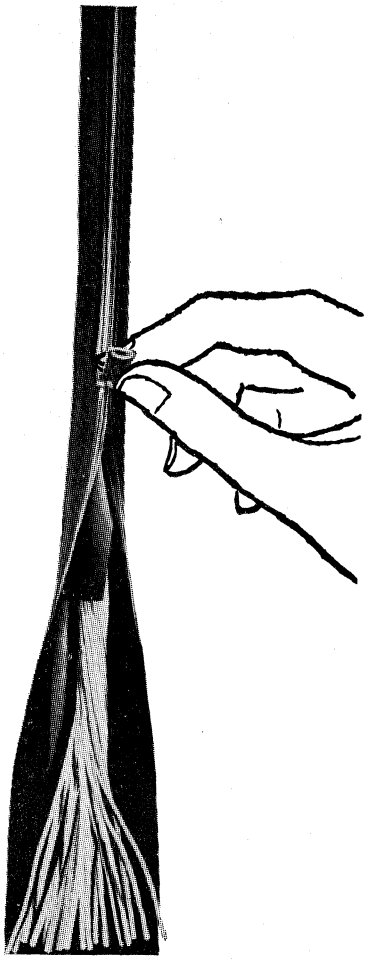
ALPHA electronics WIRE

New freedom in design, production and repair with

ALPHLEX® ZIPPER TUBING!



Alphlex Zipper Tubing is the **modern** way to harness, cable and protect wire. Just zip to close—and zip to re-open! If you wish, permanent seal. Saves you time, labor, money. Strong, flexible, durable. Versatility unlimited.

WRITE FOR FREE CATALOG Z-2.

SPECIFICATIONS

ZIP-31: polyvinyl sheet made from MIL-I-631C materials. All-purpose type, for general applications to 105°C.

ZIP-44: polyvinyl sheet made from MIL-I-7444A materials. Extremely flexible; for aircraft and low-temperature uses to —67°C.

ZIP-50: "sandwich" of aluminum foil laminated between 2 sheets of polyvinyl. For 100% RF shielding applications to 105°C.

ZIP-90: polyvinyl bonded to woven fiberglass sheet per MIL-I-3190A. For rough usage, abrasion resistance, and high-temperature uses to 130°C.

IN STOCK SIZES: from ¼" I.D. to 4" I.D.

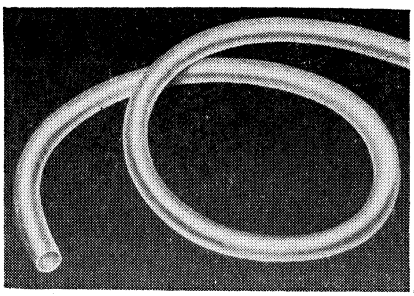
ZIPPER SPECIFICATIONS FOR ALL ABOVE TYPES

Zipped shut, but unsealed, Alphlex Zipper Tubing has a lateral pull strength of approximately 42.7 pounds per inch at normal room temperature. Sealed, the lateral pull strength is approximately 59.8 pounds. Extra heavy duty Zipper Tubing with substantial additional strength available on special order.

ALPHA electronics WIRE

ALPHLEX® TUBING AND SLEEVING

PVC-105 PLASTIC TUBING



The universal insulating tubing for all electronic needs — is designed and manufactured specifically for electronic, aircraft and electrical applications involving temperatures as high as 105° C. It conforms to specification MIL-I-631C and is approved by the Underwriters' Laboratories for 105° C uses. It displays high resistance to the agents of heat, oil, chemicals, corrosion, fungi and even abrasion with no loss in tensile strength, non-flammability — or flexibility.

Other Alphlex Plastic Tubings (also meeting Spec MIL-I-631C) are:

PVC-80:	slightly more flexible than PVC-105; suitable for applications up to 80° C.
PVC-60:	very flexible tubing with unusual resistance to brittleness at low temperatures.
PLE-70:	polyethylene tubing excellent for high frequency applications.
PVC-744:	plastic tubing per Spec. MIL-1-7444A

The ALPHLEX line of Insulated Tubing and Sleeving also includes the following:

Alphlex SRF-200:	Silicone Rubber Coated Fiberglass Tubing: finest in class H insulation. Stable to 400° F. Meets Specification MIL-I-3190.
Alphlex SFS-400:	Silicone Impregnated Fiberglass Sleeving: an excellent class H insulation impregnated with silicone varnish resin. Stable to 400° F. Meets Spec MIL-I-3190.
Alphlex PIF-130:	Flexible Plastic Impregnated Fiberglass Tubing and Sleeving: a fine class B insulation that meets Spec MIL-I-3190.
Alphlex HTF-1200:	High Temperature Fiberglass Sleeving: Stable to 1200° F. Special construction 1/16" wall thickness and double wall construction can be furnished.
Alphlex VTS-135:	Impregnated Varnished Tubing and Sleeving: Quality cotton, rayon or fiberglass base. Meets Spec MIL-I-3190. Can be furnished in heavy wall construction.
Alphlex TFT-250:	Extruded Teflon tubing for extremely high and low temperature applications (—90° C to +250° C).

Write for complete catalog. Consult our Engineering Dept. for your individual needs.

See YELLOW SECTION for local offices, telephones, etc.

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ALPHA electronics WIRE

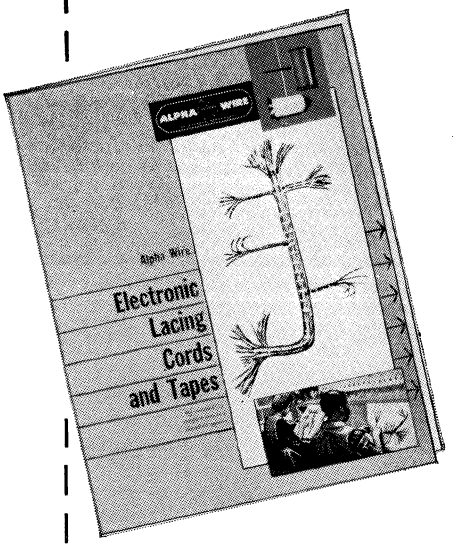
complete line of synthetic

LACING CORDS

Complete Inventory • Immediate Delivery

- Fungus-proof
- Strong
- Ties easily, fast, tight
- Knots don't slip
- Both round and flat-braided types
- Materials used are nylon, dacron, fiberglass
- Round types have diameters of .017" to .050" and tensile strength of 10 to 70 lbs.
- Flat-braided types have widths of 1/16" to 1/4" tensile strength of 30 to 250 lbs.
- Finishes available are: micro-crystalline wax (MW); synthetic rubber (SR); teflon (T); thermo-plastic synthetic resin (AM); and synthetic rubber-like resin (GE)
- Conforms to Spec MIL-T-713A
- There's an Alpha Lacing Cord for your every need
- Manufactured to highest standards by

THE HEMINWAY & BARTLETT MFG. CO.



Write for free Catalog LC-1

EVERYTHING IN ELECTRONIC WIRE by

ALPHA electronics WIRE

4,000 wire items IN STOCK . . . more than ever the industry's greatest inventory

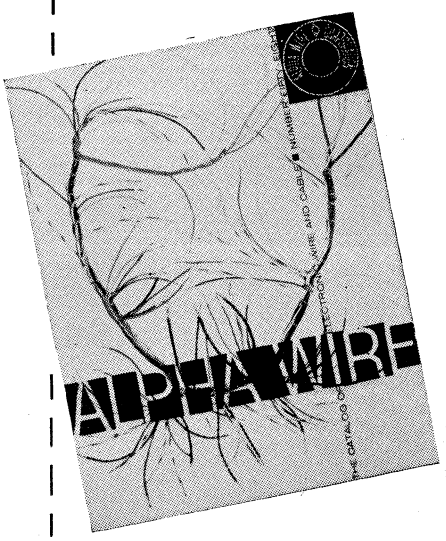
Aerial Wire
Antenna Wire
Bus-Bar
Cord Sets
Hi-Voltage Wire
High Temperature Wire
Microphone Cables — Shielded
Multi-Conductor Cable — Shielded
Multi-Conductor Flexible Cable
Neoprene Jacketed Cable
Service Cord — Rubber Sheathed
Shielded Cable
Shielding and Bonding—Tinned Copper
Speaker Cable — Shielded
Sub-Miniature Wire
Teflon Wire and Multi-Conductor Cable
Test Lead Wire
Tinned Copper Wire
Tubing: Plastic, Teflon, Textile, Zipper
Sleeving

MILITARY SPECIFICATIONS

MIL-W-5086A Aircraft Wire
MIL-C-7078A Aircraft Wire
MIL-W-16878C Hook-up Wire
- Type B
- Type C
- Type D
- Type E Teflon Insulation
- Type EE Teflon Insulation
- Type FF Silicone Rubber
- Type N Nylon

MIL-W-76A Hook-up Wire
- Type LW
- Type MW
- Type HW

MIL-W-13169 Test Lead Wire
MIL-W-13074 Bronze Wire
MIL-W-13276 Bronze Wire
MIL-W-3861 Tinned Copper
MIL-W-583A Magnet Wire
MIL-I-3190A Insulating Tubing
MIL-I-631C Insulating Tubing
MIL-I-7444A Insulating Tubing



See Alpha's 21-page listing in the latest RADIO MASTER, or write for free Alpha Catalog EEM.

ALPHA WIRE CORPORATION
200 Varick Street, New York 14, N. Y.
ALgonquin 5-5400 TWX: NY-1-1152
See YELLOW SECTION for local offices, telephones, etc.

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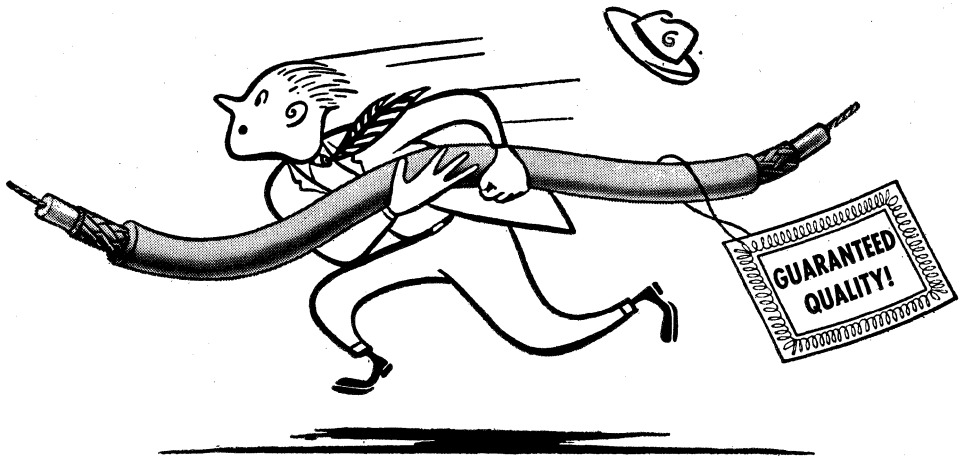
IN A HURRY FOR TEFLON* INSULATED High Temperature Wire & Cable?



YOU GET IT FASTER FROM Super-Temp

*DuPont's TFE Resin

Wire or Cable	Primary Insulation	Colors MIL-Std-104	Operating Temperature	Jackets	Remarks
Cables-Class H	Teflon, Extruded or Tape Wrapped	Solid & Striped	—90°C — +260°C	1. Teflon 2. Impregnated Glass	Any combinations of conductors and shielding required.
Cables-Class A	Teflon, Extruded or Tape Wrapped	Solid & Striped	—54°C — +105°C	Nylon Braid Nylon Ext. PVC	Any combinations of conductors and shielding required.
Cables-Coaxial	Teflon, Extruded	Jackets Only Solid & Striped	—90°C — +260°C	Teflon, Kel-F, Impregnated Glass	Conforms to MIL-C-17B and MIL-C-8721.
Magnet Wire	Teflon Film	Solid Only	—90°C — +260°C	——	Conforms to MIL-W-19583, Type III.
	Silicone or Isonel Film	Natural	to 155°C	——	Conforms to MIL-W-19583, Type II.
High Temperature Hook-up Wire	Teflon, Extruded or Tape Wrapped	Solid & Striped	—90°C — +260°C	——	Conforms to MIL-W-16878, Types E & EE or other special specifications as required.
Thin Wall Hook-up Wire	Teflon, Extruded or Tape Wrapped	Solid & Striped	—90°C — +260°C	——	Operating voltage 300 v.rms.
Airframe Wire	Teflon Tape Plus Impregnated Glass	Solid Only	—60°C — +205°C	——	Conforms to MIL-W-7139A.
Sub Miniature Hook-up Wire	Teflon Film	Solid Only	—90°C — +260°C	——	Double quad coating for small diameter at 300 v.rms.
Hook-up Wire	Polyvinyl Chloride	Solid & Striped	—55°C — +105°C	——	MIL-W-16878, Types B, C & D. Plain or with Nylon coating.

Super-Temp also offers the following insulating materials to the electronic industry and producers of wires and cables:

TEFLON TAPES Extruded, both sintered and unsintered, in widths from 1/8" to 3" and thickness from .003" to .010". MIL-Std-104 colors. Impregnated glass fiber, natural or colored.

TEFLON TUBING Tape wrapped for extra flexibility. MIL-Std-104 colors, solid or striped. Extruded spaghetti solid MIL-Std-104 colors. Braided impregnated glass fiber in solid colors.

BONDING TREATMENT Super-Temp can treat the surface of Teflon Magnet Wire, Cables and Hook-up Wires to increase their bondability for potting and encapsulating.

FREE! Send For Valuable NEW 64 Page Catalog

New Developments
Mica Magnet Wire, with its outstanding thermal characteristics, is typical of the new products being made by Super-Temp. Many other new products are under test for higher temperatures and better performance.

American Super-Temperature Wires, Inc.

12 West Canal Street, Winooski, Vermont • Phone University 2-9636

General Sales Office: 195 Nassau Street, Princeton, N. J. • Phone Walnut 4-4450

Agents in Principal Electronic Manufacturing Areas

See YELLOW SECTION for local offices, telephones, etc.

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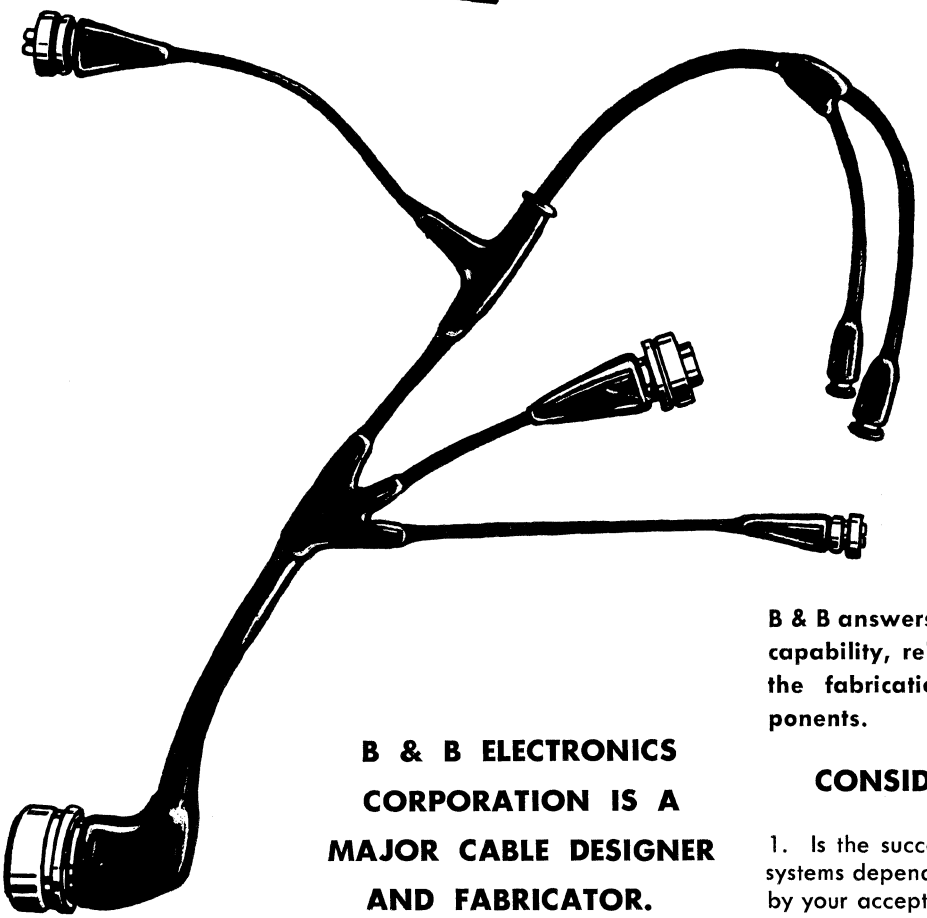
B&B

YOUR SOURCE FOR QUALITY CABLE & CABLE COMPONENTS



Test stand cable designed and fabricated by B & B Electronics Corp.

B & B answers industry's need for experience, capability, reliability and reproduceability in the fabrication of cable and cable components.

B & B ELECTRONICS CORPORATION IS A MAJOR CABLE DESIGNER AND FABRICATOR.

We are suppliers of multiconductor control cable, cable components, harness assemblies and electronic sub-assemblies to the leading contractors in the field of missile guidance, ground support, underwater and airborne control systems. Experience combined with modern facilities and latest techniques results in deliveries as scheduled of reliable material which can be accurately reproduced at any future period.

CONSIDER THESE QUESTIONS

1. Is the success of your interconnecting control systems dependent upon the *experience* employed by your accepted cable supplier?

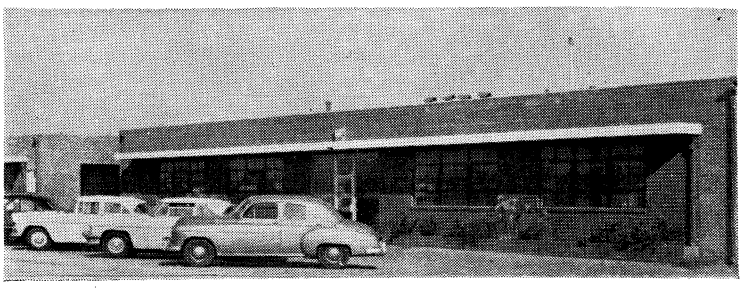
2. Is your delivery schedule of functional units dependent upon the *capability* of your selected source of cable components?

3. Is the reliability of these cables affected by the inclemencies of the season?

4. Are proper engineering records maintained to insure you of faultless *reproduceability*?

We can assure you of an unequivocal *YES* to the above questions. Why not give us a call *NOW*.

Phone: FAculty 1-1956. Write us for prompt action and assistance in solving your individual cable needs.



B&B **ELECTRONICS CORP.**

17360 Gramercy Place
Gardena 1, California
Phone: FAculty 1-1956

See YELLOW SECTION for Local Offices, Telephone, etc.

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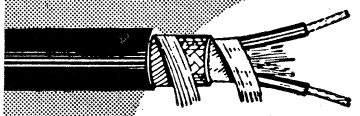
Birnbach

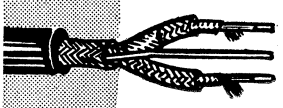
MFG. OF QUALITY PRODUCTS SINCE 1923

WIRE-CABLE-TUBING DIVISION

offers comprehensive—

JAN/MIL SPEC HOOK-UP WIRE





Bondable Teflon Hook-Up Wire Available.
Source Inspection Available.
MIL-W16878C, B, C, D, E, EE, F, FF
MIL-W-76A — JAN-C-76, SRIR, WL, MW, HW

MIL-W-12349A, MIL-W-5086A, MIL-W-7078A
MIL-W-13169, MIL-W-7139A, QQ-B-575 Shielding
QQ-B-341A Wire, MIL-W-3861, MIL-C-17B Cable
Lacing Cord per Spec. MIL-T-713A Nylon Cable Clamps

ALL NUMBERS AVAILABLE WITH SPECIAL BRAIDS, STRIPED TRACERS, MARKINGS, SHIELD AND JACKETS

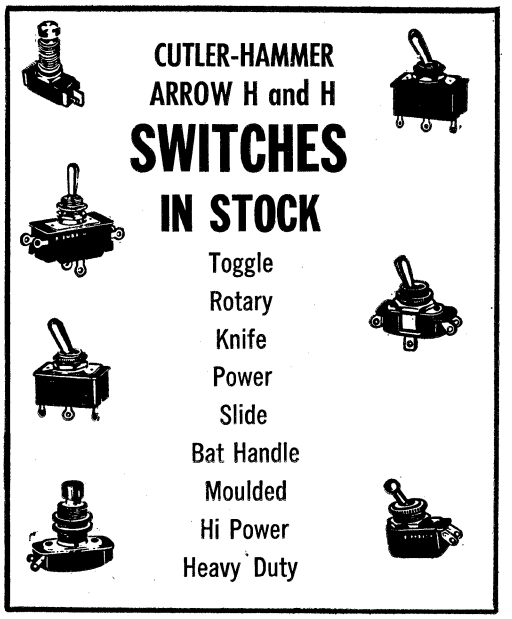
NEW! SPECIAL DEPARTMENT

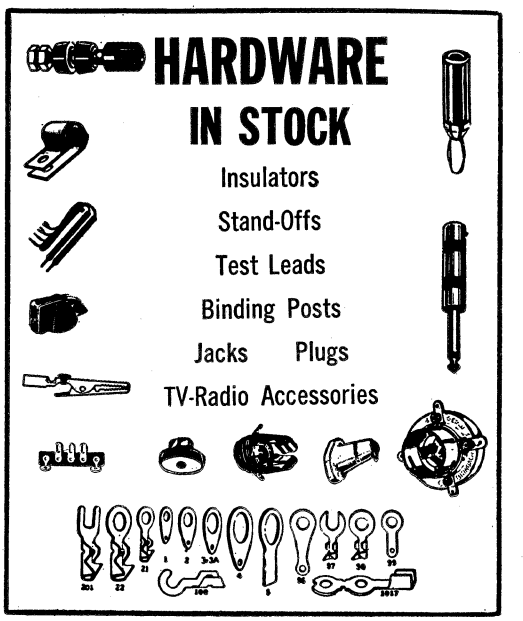
Save time, labor and money! Take advantage of our "in stock" warehouse stock to get FAST DELIVERY on a prototype run or quantity production.

For short or long runs — we cut, strip, tin, bundle, mark, number all hook-up wires including TEFLON*.

Special Multi-conductor cable made to your specific requirements available to order in addition to our "in stock" line listed in Radio Masters pages S1365 thru S1379.

* TEFLON - DuPont trademark for "TETRAFLUOROETHYLENE RESIN"





WRITE FOR CATALOG

For on-the-spot pick-up, your local distributor carries the complete Birnbach line.

BIRNBACH

BIRNBACH RADIO CO., INC.
WIRE-CABLE-TUBING DIVISION

145 HUDSON STREET
NEW YORK 13, N. Y.
FAX NEW YORK

Order from Local Electronic Parts Distributors or Write for List.

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WIRE-CABLE-TUBING DIVISION Birnbach

OFFERS

COMPLETE LINE OF WIRE AND CABLE FOR EVERY NEED

- PLASTIC MICROPHONE CABLE
  1 thru 6 conductors, Spiral and Braid Shields
- RUBBER MIKE and MULTI-CONDUCTOR CABLE
  1 thru 8 conductors, with or without shielding
- SHIELDED MULTI-CONDUCTOR CABLE
- SHIELDED TWISTED PAIRS
  SIZES AWG #28 thru #12
- MINIATURE, SUBMINIATURE MULTI-COND. CABLE
  Thermoplastic insulation
- RG/U COAXIAL TRANSMISSION CABLE JAN-C-17A, MIL-C-17B. Coaxial and Twin Conductor—All Types
- PLASTIC INTERCOMMUNICATING CABLES
  Twisted pairs, 1 pair thru 51 pairs #22 AWG
- SPECIAL PURPOSE CABLES
  Control cable, patch cord, audio, broadcast, P.A., Rotor
- FLEXIBLE PORTABLE CABLE 300 volt & 600 volt
  Single & Multi Cond. Per U.L. & MIL-C-3432 SPEC.
- SOUND SYSTEMS CABLE
- TEFLON* MINIATURE COAXIAL CABLES MIL-C-17B
- SHIELDED and JACKETED MULTI-CONDUCTOR TEFLON* CABLES
  Conforms to SPEC. MIL-W-16878B
  Available with Glass Braid, Nylon Braid, Silicone, Vinyl Jacket, Teflon Jacket

WE SOLICIT THE OPPORTUNITY TO QUOTE ON SPECIAL PURPOSE CABLES MADE TO YOUR EXACT SPECIFICATIONS.

BIRNBACH COILED RETRACTILE (KINKLESS) CORD AND CORD SETS

This series of Birnbach Coiled Kinkless Retractile Cords are permanently coiled into a spring-like shape without the use of metal springs or elastic bands. They have inherent "Recovery" properties. These Retractile cards extend approximately six times its retracted length, returning to its exact original shape and length when released. Always as long as you need them and no longer, they will not kink, tangle, trail, knot or dangle on the floor or bench and cause accidents.

COMPLETE SLEEVING AND TUBING LINE FOR ALL APPLICATIONS

BIRACO PLASTIC TUBING

Made of specially compounded grades and types of resins, high Dielectric strength, flexibility, non-flammability, heat stability, abrasion resistance, oil and chemical resistance, and aging. All conform to Spec. Mil I-631 C.

BIRACO 105—Recommended higher than normal operating temperatures, UL approved for 105°C applications. Made with non-migratory resinous type plasticizers exceptional oil resistance characteristics.

BIRACO 80—Slightly more flexible than BIRACO 105, suitable for temperatures to 80°C.

BIRACO 60—Aeronautical applications, very flexible with unusual resistance to brittleness at low temperatures.

BIRACO PLE-70—Polyethylene tubing. For high frequency applications, high insulation resistance, chemical inertness, moisture resistance, extreme flexibility over wide range of temperatures.

BIRACO EP-65—Meets Air Force spec. Mil-I-7444 specifically designed for sub-zero temperatures. Fungus resistant, excellent dielectric strength.

BIRACO EP-90—Meets Mil-I-7444A. Completely flame retardent, meets Mil-I-631B for category I tubing. Non-corrosive, fungus resistant, excellent at low temperature, excellent aging characteristics at elevated temperatures.

BIRFLON "TEFLON*" TUBING and SLEEVING

BIRFLON T-500—The ultimate, "TEFLON*" shows no sign of mechanic degradation, not combustible, unaffected by all known solvents and lubricants, flexible to —90°, temperature stability to 250°C, excellent tensile strength, fungus resistant.

BONDABLE TEFLON TUBING AVAILABLE TO ORDER

BIRFLEX TUBING and SLEEVING

VINYL COATED FIBERGLASS TUBING and SLEEVING

BIRFLEX 130—Class B grade. Combines best features of inorganic fiberglass base sleeving with heat resistant, flexible plastic insulation. Provides highest electrical properties, heat stability, flexibility and toughness. Meets MIL I-3190.

VARNISHED IMPREGNATED TUBING and SLEEVING

BIRFLEX 135—High quality Cotton, Rayon, or Fiberglass base thoroughly impregnated and coated with flexible, unusually tough insulating Varnish, can be flexed, twisted or abused with no effect to the dielectric strength. Meets MIL I-3190.

HIGH TEMPERATURE FIBERGLASS SLEEVING

BIRFLEX F-1200—Tightly braided 100% fiberglass temperatures to 1200°F. Provides mechanical strength consistent with the ultimate in flexibility. Treated to remove all organic matter, keeps glass braid fray resistant. Special construction to 1/16" double wall available. Can be colored for coding.

SILICONE RUBBER COATED FIBERGLASS TUBING

BIRFLEX 200—Best in Class H insulation. Uniformly coated with high abrasion resistant Silicone rubber, closely woven glass braid is annealed to remove all organic matter. To 400°F. Outstanding heat stability, dependable dielectric, flexibility and mechanical strength. Meets MIL I-3190.

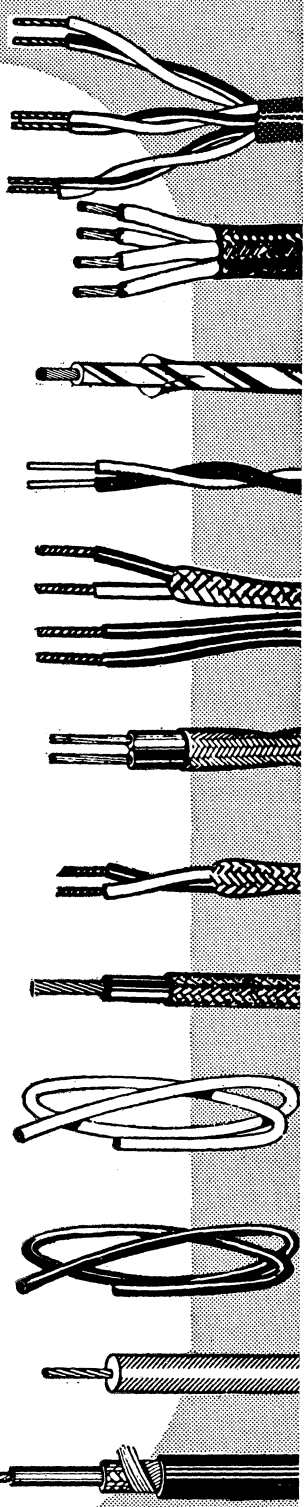
SILICONE IMPREGNATED FIBERGLASS SLEEVING

BIRFLEX 400—Class H insulation of closely woven glass braid, annealed and cleansed to remove all organic matter, impregnated with silicone varnish resins. Silicone resins thoroughly cured at high temperatures for physical and electrical properties previously unattainable. Temperatures to 400°F. Meets MIL I-3190.

"TEFLON"* IMPREGNATED FLEXIBLE FIBERGLASS SLEEVING

BIRFLEX 500—The newest fiberglass product offered by Birnbach, "TEFLON"* impregnated sleeving, Insoluble in all solvents, excellent abrasion resistance. Will not support combustion or fungus growth. High dielectric properties of "TEFLON"*.

* "TEFLON"—DuPont trademark for "TETRAFLUOROETHYLENE RESIN"



BIRNBACH RADIO CO., INC.
WIRE-CABLE-TUBING DIVISION

145 HUDSON STREET
NEW YORK 13, N. Y.
FAX NEW YORK

BIRNBACH

Order from Local Electronic Parts Distributors or Write for List.

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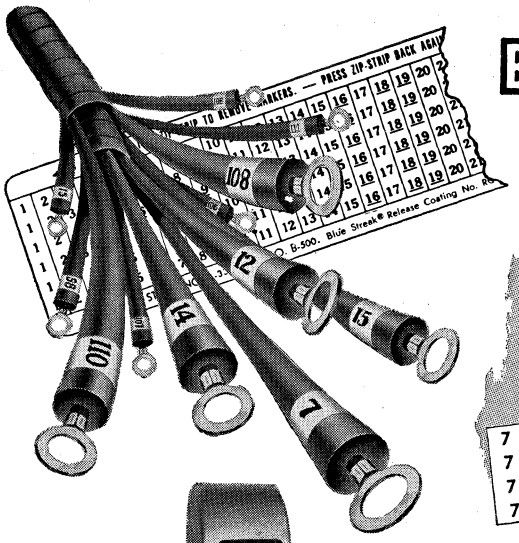
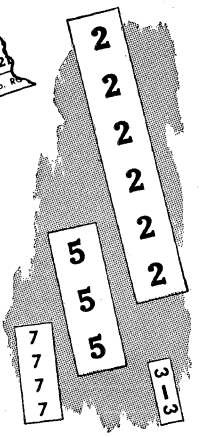
BRADY electronic product identification BRADY



BRADY SELF-STICKING WIRE MARKERS

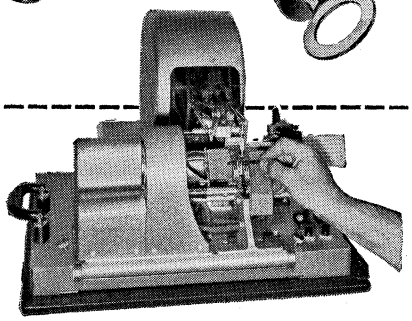


Positive "around-the-wire" identification for circuits, wires, harnesses, coils, terminals. Brady Perma-Code Wire Markers are self-sticking... apply easily, fast from Blue Streak® Dispenser Cards. Stick tight and stay stuck. Available in nine job-tested materials including oil-resistant all-vinyl, super-thin polyester film, oil-proof epoxy resin, flameproof aluminum foil, all-temperature vinyl cloth, thermosetting adhesive acetate cloth, high temperature glass cloth. In all, over 3,000 different stock markers conforming to NEMA and ASA wire identification standards. Available from Brady stocking distributors in 300 principle cities in the United States and Canada.

FOUR SIZES:

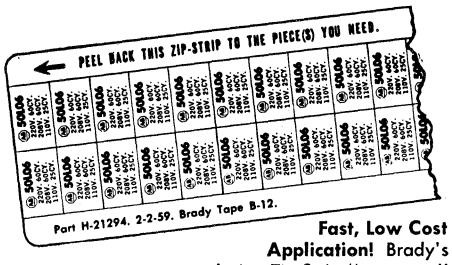
• 1-1/2" long for no. 10 gauge wires and larger. Costs less than 1/3¢ per marker. • 3/4" long for nos. 12, 14 and 16 gauge wires. Costs less than 1/6¢ per marker. • 1/2" long for no. 18 gauge wires and smaller. Costs less than 1/10¢ per marker. • 5/16" long — only 5/16" x 5/64" — for flagging sub-miniature components.

Specials in any size or material made to order. Write for Bulletin No. 130 and free *samples.*



BRADY MARKERMATIC

— automatic marking machine identifies wires, capacitors, resistors, components with pre-printed, self-sticking markers. Automatically wraps markers around circumference of objects at speeds *up to* 1000 per hour. Handles a wide variety of work without change in speed, feed or machine setup. Reduce application time — automate your production line.



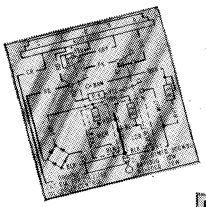
Fast, Low Cost Application! Brady's exclusive Zip-Strip "opens up" Blue Streak Dispenser Card . . . markers can be removed instantly, distortion-free.

BRADY SELF-STICKING QUICK-LABELS®

ANY WORDING, TRADE MARK, NUMBER OR SYMBOL MADE TO YOUR ORDER - IN ANY COLOR, SIZE, SHAPE. SELECT FROM 400 DIFFERENT MATERIALS!

Brady Quik-Label markers, labels, signs, seals, tags are mounted on handy Blue Streak® Dispenser Cards for fast, easy application. Stick and stay stuck to any clean surface without moistening. Available in a choice of colors and materials including glass cloth, acetate fibre, vinyl plastic, hi-heat acetate cloth, cotton cloth. Special design service assures fast delivery.

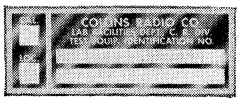
Send for Bulletin No. 132 covering 16 case histories and colorful illustrations on how to save money and improve product appearance with Brady Quik-Labels.



INSTRUCT

IDENTIFY

INFORM



BRADY SELF-BONDING NAME PLATES

PERMANENT IDENTIFICATION for trade marks, diagrams, serial numbers, instructions

QUIK-PLATES — Colors and legends fused into .003" anodized aluminum. Self-bonding — apply quickly, permanently without screws, rivets, pins. Stick tight for the life of your product. Quik-Plates are made to your order... you specify design, shape, color.

POLY-PLATES — metalized polyester film (Mylar).* Pressure sensitive, self-bonding. No fasteners, no heat or solvents required. Sub-surface printing protected by tough Mylar. Permanent. Custom design service.

Write for free *samples.*

* Du Pont's Registered Trademark.

W.H. BRADY CO. 710 W. Glendale Avenue, Milwaukee 9, Wis.
Telephone: EDgewood 2-8100 • Teletype: MI-240

W. H. BRADY CO. SALES OFFICES ARE LOCATED IN THE FOLLOWING CITIES:

Atlanta 5, Georgia
3230 Peachtree Road, N.E.
PHONE: CEdar 3-0136

Buffalo, New York
260 Delaware Avenue
PHONE: MOhawk 8792

Chicago 35, Illinois
1919 North Harlem
PHONE: NAtional 2-2731

Cincinnati 37, Ohio
Roselawn Center Bldg., Room B-1
1717 Section Road
PHONE: MElrose 1-8552

Cleveland 21, Ohio
2000 Warrensville Center Rd.
PHONE: EVergreen 2-5090

Ferndale 20, Michigan
416 West Woodland
PHONE: LIncoln 3-9350

Los Angeles 13, California
923 East Third Street
PHONE: MAdison 6-2896

Newark 2, New Jersey
449 Broad Street
PHONE: Humboldt 1-6330-1

Philadelphia 40, Pennsylvania
4401 Germantown Ave., Room 204
PHONE: GLadstone 7-0100

Waltham 54, Massachusetts
375 Moody Street
PHONE: TWinbrook 3-8390

Webster Groves, Missouri
519 Lee Avenue
PHONE: WOodland 2-8916

West Toronto, Ontario, Canada
1893 Davenport Road
PHONE: ROGER 2-2045

78

Manufacturers of: Quality Pressure-Sensitive Tape Products, Self-Bonding Nameplates, Automatic Machines for Dispensing Labels, Nameplates, Masks and Tape. — Est. 1914

See YELLOW SECTION for Local Offices, Telephone, etc.

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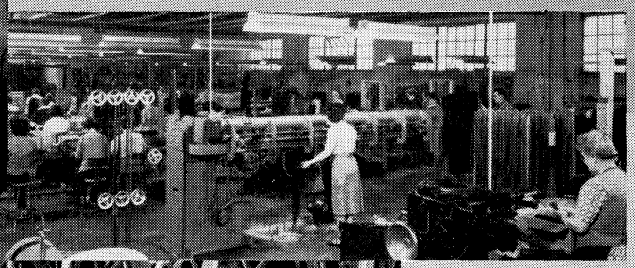
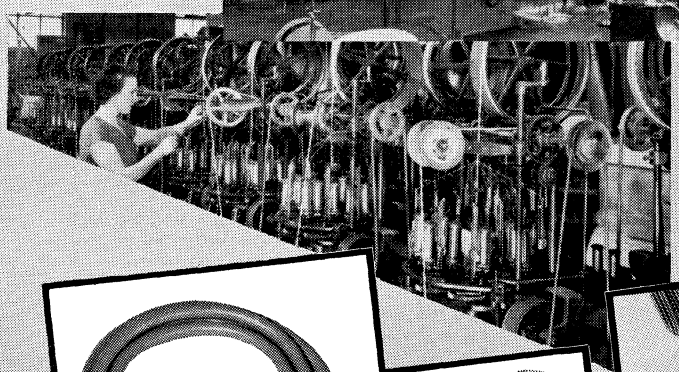
COLUMBIA WIRE

an eight letter word meaning

the ability to supply *all* your wire and cable needs . . . *IMMEDIATELY!*

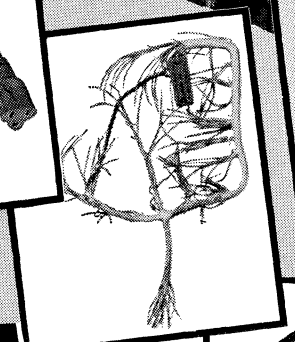
For over 20 years, COLUMBIA has been serving industry and has grown so that now we have the latest, most complete, and most modern equipment for the manufacture of special and standard wire harnesses, cord sets, leads, cables and other wire products.

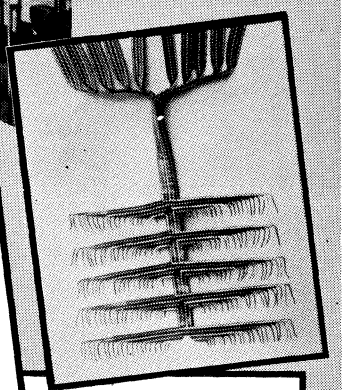




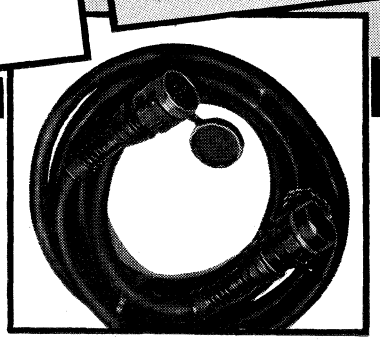
Our growth enables us to have on hand, *actually in stock,* tremendous quantities of electronic and electrical wire, cord and cable . . . U/L and C.S.A. approved. Whether you need one foot of miniature wire or a million feet of the large multi-conductor cable . . . for civilian applications or to meet rigid government specifications . . . COLUMBIA will expedite your order more rapidly and more courteously than you dreamed possible.

for wire . . . cord sets . . . . assemblies . . . let us make your sample and your production runs.





"Wire and Supply" is our middle name . . . find out why!



Columbia

WIRE & SUPPLY CO.

2850 Irving Park Road • Chicago 18, Illinois

See YELLOW SECTION for Local Offices, Telephone, etc.

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CONSOLIDATED

See our catalog pages in this year's edition of
The Radio-Electronic MASTER

ELECTRONIC WIRES AND CABLES

FOR EVERY ELECTRONIC NEED . . .

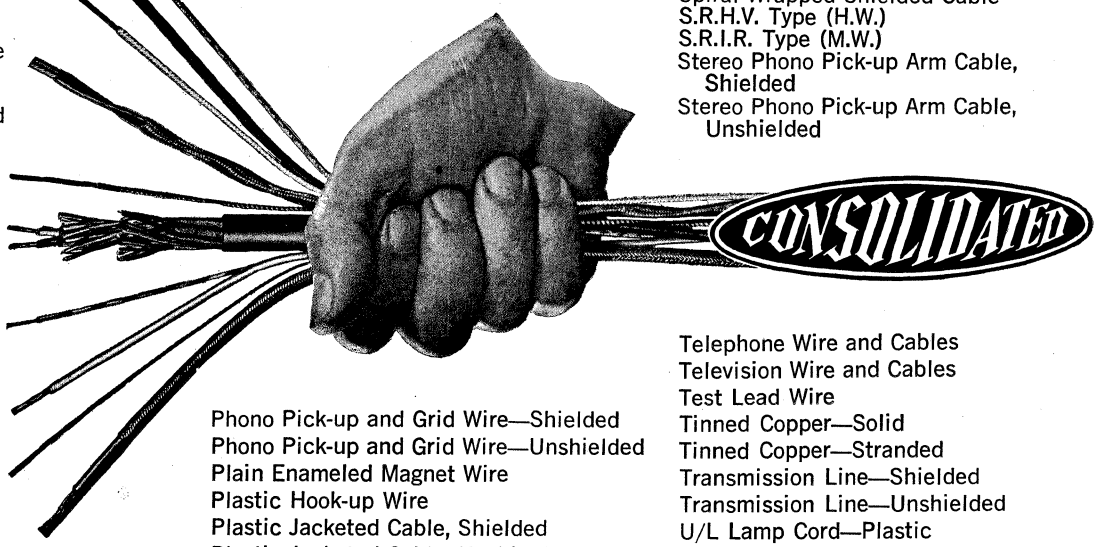
CONSOLIDATED OFFERS THE PROPER WIRE OR CABLE

- **Over 80 Different Types**
- **As Many As 40 Sizes of a Type**
- **Endless Combinations of Insulation, Shielding, etc.**
- **For an Infinite Variety of Applications**

Aerial Wire
Air Conditioner Cable
Annunciator Wire
Audio Cable
Automotive Cable
Bare Copper Wire
Bonding Strap
Braided Copper
Broadcast Studio Cable
Bronze Wire
Bus Bar Wire
Cathode Ray Tube Cable
Coaxial Cable
Copper—Bare
Copper—Braided Tinned
Copper—Solid Tinned
Copper—Stranded Bare
Copper—Stranded Tinned
Cord—Power, Service
Cord Sets
Direct Burial Cable
Electrical Cordage
Heavy Formvar Magnet Wire
Hi-Fi Interconnecting Cable
Hi-Temp Wire
Hi Voltage Wire
Hook-up Wire
- General Purpose
- Plastic
- Cotton
- Glass
- Nylon

Ignition Wire
Inter-Communication Cable
Juke Box Speaker Cable
Lamp Cord
Lead Covered Communication Cable

Lead Sheathed Cable
Magnet Wire
Microphone Cable—Plastic
Microphone Cable—Rubber
Military Specification
Multi-Conductor Cable—Shielded
Multi-Conductor Cable—Unshielded
Neoprene Cable



Phono Pick-up and Grid Wire—Shielded
Phono Pick-up and Grid Wire—Unshielded
Plain Enameled Magnet Wire
Plastic Hook-up Wire
Plastic Jacketed Cable, Shielded
Plastic Jacketed Cable, Unshielded
R.G. Coaxial Cables
Resistance Wire
Rubber Covered Cable, Shielded
Rubber Covered Cable, Unshielded

Service Cord
Shielded Cable
Shielding—Braided Copper
Shielded—Hook-up Wire
Shielded Microphone Cable
Shielded Multi-Conductor Cable
Speaker Cable, Shielded
Speaker Cable, Unshielded
Spiral Wrapped Shielded Cable
S.R.H.V. Type (H.W.)
S.R.I.R. Type (M.W.)
Stereo Phono Pick-up Arm Cable, Shielded
Stereo Phono Pick-up Arm Cable, Unshielded

Telephone Wire and Cables
Television Wire and Cables
Test Lead Wire
Tinned Copper—Solid
Tinned Copper—Stranded
Transmission Line—Shielded
Transmission Line—Unshielded
U/L Lamp Cord—Plastic
U/L Lamp Cord— Rubber
U/L Service Cord—Neoprene
U/L Service Cord—Rubber
Underground—Plastic Covered Cable
Underground—Lead Covered Cable

Rome Hi-Temp* . . . A SUPERIOR RUBBER INSULATED HOOK-UP WIRE FOR LONG SERVICE AT TEMPERATURES UP TO 75° C.

Rome Synthinol* . . . A THERMO-PLASTIC INSULATED HOOK-UP WIRE APPROVED FOR 80°, 90° & 105° C. OPERATING TEMPERATURE.

RoTran* . . . TRANSMISSION LINE FOR TELEVISION, FREQUENCY MODULATION, AND OTHER HIGH FREQUENCY ANTENNA SYSTEMS.

WRITE FOR CONSOLIDATED'S NEW CATALOG —

INFORMATION ON SPECIAL ITEMS AS WELL AS BASIC VARIETIES FROM WHICH YOU CAN SELECT DIFFERENT COMBINATIONS OF CHARACTERISTICS TO MEET YOUR EXACT REQUIREMENTS

CONSOLIDATED WIRE AND ASSOCIATED COMPANIES

1635 S. CLINTON ST. · CABLE ADDRESS: "CONCO" · CHICAGO 16, ILLINOIS

Order from Local Electronic Parts Distributor or Write for List.

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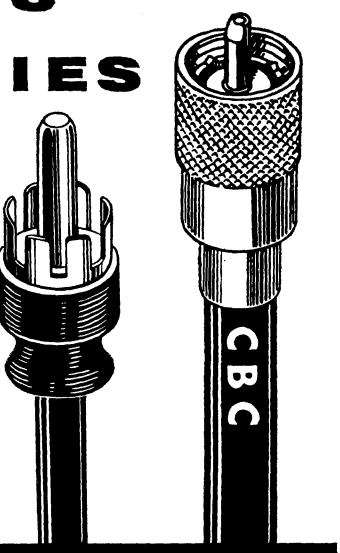
MOLDED CABLES AND CABLE ASSEMBLIES HI-FI and STEREO



COMPLETE . . . up to the "Micro"-second engineering and production facilities . . . including a COMPLETE PLASTICS MOLDING OPERATION assuring you of quality cables every time! Be it for Hi-Fl or GUIDED MISSILES . . . from start to finish all C.B.C. cables and cable assemblies are produced under rigid quality control, to your specifications. Off the shelf delivery on stock items.

NEW, NOW . . . **C.B.C. NOW HAS COMPLETE PLASTICS MOLDING FACILITIES. WE DO INJECTION MOLDING FOR THE ELECTRONICS INDUSTRY. WE WILL ALSO DESIGN AND FABRICATE MOLDS TO YOUR SPECIFICATIONS.**

GET ESTIMATES NOW ON OUR NEW CUSTOM INJECTION MOLDING SERVICE.

"C. B. C. IS HELPING MOLD THE ELECTRONICS INDUSTRY"

C. B. C. ELECTRONICS CO., INC. • 2601 N. HOWARD STREET, PHILA. 33, PA.

TRADE NAME DIRECTORY
aids in locating information

ABOGLAS - Natvar Corp
ACCRA-CORE - Misco Precision Casting
ACCUTRON - The Sheffield Corp
ACCWIRE - Accurate Insulated Wire Co
ACE - Arro Expansion Bolt Co
ACE - Ace Engrg & Machine Co Inc
ACEPOT - Ace Electronic Assoc

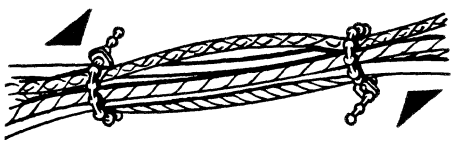
Many times you recall a product only by trade name. This special directory immediately discloses the name of the manufacturer.

REFER TO END OF THE YELLOW SECTION

Tell Them You Saw It In **eem**

For Better, Faster Cables & Harnesses

G-C CABLE TIES

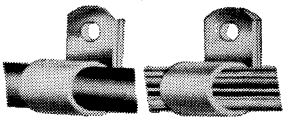


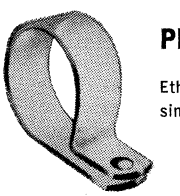
Lace wires in place with these handy Cable Ties. Make cable up to 1¼" dia. Tough polyethylene 4" long, has 45 lb. breaking point. Vial of 40. No. 9362-1 (Red); No. 9362-4 (Yellow); No. 9362-6 (Blue).

G-C CABLE CLAMPS

NYLON

Lightweight, tough, chemically resistant. Excellent shock resistance from 300° F. to —60°F. Available in 9 sizes.





PLASTIC

Ethyl cellulose plastic, with similar qualities to Nylon but lower cost. Temps. 185°F. to —40°F. 15 sizes.

SEND FOR your copy of the G-C catalog giving full details on these products and thousands more.

GENERAL CEMENT MFG. CO.

Division of Textron Inc.

Western Plant: Los Angeles 18, Calif. **MAIN PLANT:** ROCKFORD, ILLINOIS, U.S.A.

SEE YOUR ELECTRONIC PARTS DISTRIBUTOR FOR GENERAL CEMENT PRODUCTS

Order from Local Electronic Parts Distributor or Write for List.

HITEMP

Specialists in High Temperature Mil-Spec Wires and Cables

MIL-C-17B
MIL-W-76A
MIL-W-5086A

NAS-702
NAS-703

MIL-W-7139A
MIL-W-16878C
MIL-W-19583

CERAMIC FILM INSULATED WIRE—"CERAMATEMP" A flexible wire for operation at 1000°F. Available in sizes 20 to 36 AWG in single and heavy thicknesses.

TEFLON MAGNET WIRE—"TEMPRITE" Sizes 14 to 50 AWG, single, heavy, triple, or quadruple thicknesses, conforming to MIL-W-19583 (NAVY). Heavy triple and quadruple coatings. Available in 8 solid colors to conform with MIL Std. 104.

SPECIAL TEFLON MAGNET WIRE—"TEMPRITE X" Same characteristics and sizes as regular Temprite, but specially processed for severe abrasion applications.

MODIFIED RESIN ENAMEL MAGNET WIRE—"THERMESTER-L" Sizes 14 to 46 AWG inclusive. Used for temperatures from —54°C to +155°C. Available in single or heavy thicknesses. Conforms to MIL-W-19583 (NAVY) except for temperature rating.

SILICONE MAGNET WIRE—"THERMALON" Sizes 14 to 42 AWG Incl. Used for temperatures from —54°C to +150°C. Made in single or heavy thicknesses. Conforms to MIL-W-19583 (NAVY).

MINIATURE EXTRUDED TEFLON HOOK-UP WIRE—"MX AND MXR" Available in sizes 22 to 32 AWG with standard or reinforced conductor. This special 300 volt thin wall insulated wire is a boon to miniaturization.

TEFLON HOOK-UP WIRE — "TEMPRENE" Fused Teflon tape insulated wire on sizes 8 to 32 AWG. Two or three color striped combinations, plus 10 solid colors. Conforms to MIL-W-16878C (E and EE).

TEFLON EXTRUDED HOOK-UP WIRE—"TEMPREX" Sizes 10 to 32 AWG, in both striped and solid colors. Conforms to MIL-W-16878C (E and EE).

SUB-MINIATURE TEFLON LEAD WIRE—"DQT" Solid copper conductors with Teflon film insulation rated at 300 volts. Available in sizes 20 to 32 AWG, and in 8 solid colors.

TEFLON EXTRUDED TUBING—"TEMPREX TUBING" Sizes 2 to 30. Fourteen solid colors.

VINYL, NYLON AND 100X Extruded HOOK-UP WIRES AND JACKETED CABLES To all applicable military specifications. Sizes 4 to 32 AWG.

TEFLON FIBER LACING TAPE "NEBROC TF" All-Teflon lacing tape, exhibits excellent thermal and mechanical properties. An ideal tape for Class H assemblies.

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TEFLON INSULATED LEAD WIRE—"TEMPCLAD" Low cost 300 Volt Teflon insulated lead wire with an outer covering of Teflon impregnated glass fiber braid. Sizes 10 to 28 AWG in 8 solid colors.

100% SHIELDED WIRES Seamless tube of solid metal (copper, nickel, stainless steel) formed over single or multiple insulated wires to afford 100% shielding for RF or radiation applications.

SHIELDED AND JACKETED MINIATURE CABLES Consist of Temprene or Temprex Conductors, shielded and jacketed for high temperature operation. Jackets available in fiberglass braids, teflon or silicone saturated, fused teflon tape, or vinyl insulation.

RIBBON CABLE ASSEMBLIES — "TEMPBRAID" 100% Teflon, flexible, flat ribbon multi-conductor cables. Available in from 2 to 50 conductors in sizes 12 to 32 AWG. Maximum width 3" wide.

SHIELDED RIBBON CABLES—"METALBRAID" Flexible, shielded, tinned or silver plated copper flat multi-conductor cables. Same dimensions as Tempbraid.

MINIATURE LOW NOISE COAXIAL CABLES Available in 50, 75 and 95 ohm impedances and attenuations of 29, 21 and 17 db/100 ft. respectively, at 400 mc.

MINIATURE LOW CAPACITANCE COAXIAL CABLES Available in 8.5 or 10.5 mmfd./ft. capacitance ratings.

MINIATURE COAXIAL CABLES Consist of 50, 70 and 93 ohm cables, shielded and jacketed for applications up to +250°C. QPL approved for conformance to MIL-C-17B.

HEATER CABLES Teflon insulated for 600 volt operation. Size 12 to 26 AWG.

HIGH TEMPERATURE AIRCRAFT WIRE For 600 volt service at 400°F. Conforms to MIL-W-7139A (AER). Available in sizes 6 to 22 AWG, in 6 solid colors.

TEFLON MARKING FLUID Teflon printing ink available in black. Can be used for printing codes, etc., on Teflon.

SURFACE TREATED TEFLON WIRES Adherence of varnishes and compounds on Teflon hook-up and magnet wires now practical. Available in 10 solid colors. Conforms with MIL Std. 104.

REINFORCED STANDARD CONDUCTORS — "HIGH STRENGTH" Mechanically improved conductors Teflon insulated to meet all requirements of MIL-W-16878C. Available in sizes 24 to 32 AWG.

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solved by INSO

PROBLEM:

PINHOLES: *No pinholes in any length of Inso wire.*

SHORT LENGTHS: *Inso can deliver continuous lengths up to 2,000 feet with no breaks, no splices.*

SPACE: *Inso gives you as much as 100% space advantage.*

WEIGHT: *Inso gives you as much as 35% weight saving.*

DRESSING: *Shape Inso once and it stays put — any position, any form.*

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. . . And our precision-fusing process insures the constant quality of Inso Teflon insulated wire.

Electrical Testing Laboratories, Inc. Report 367495 certifies that Inso 4 mil wall wire passes all MIL spec. tests for conventional 8 to 12 mil wall Type "E" wire.

In production — Immediate delivery — All colors, solid and striped

- 6 mil wall Type "E" (MIL-W-16878C) . . . passes ALL spec. requirements (with a thinner wall). *600 volt RMS, 2.2 KV test.*
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- Shielded and jacketed construction with no embedment of braid.
- Special cables engineered to your specific environmental and space requirements.

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MINIATURE TYPE "E" HOOK-UP WIRE (MIL-W-16878C)
Insulation: 6 mil (0.006") wall Fused-Film TEFLON
600 Volts RMS service; dielectric strength 2.2 KV; AC spark test 3.0 KV

INSO PART NO.	AWG. and Stranding	Diam. over Insulation (nominal)	Weight in lbs. per M ft.
6E-26	26 (19 x 38)	0.033"	1.47
6E-24	24 (19 x 36)	0.038"	2.20
6E-22	22 (19 x 34)	0.0445"	3.18
6E-20	20 (19 x 32)	0.0527"	5.10
6E-18	18 (19 x 30)	0.063"	7.40
6E-16	16 (26 x 30)	0.0745"	10.00
6E-14	14 (37 x 29)	0.0921"	17.10

SUB-MINIATURE TYPE "EE" HOOK-UP WIRE (MIL-W-16878C)
Insulation: 8 mil (0.008") wall Fused-Film TEFLON
1,000 Volts RMS service; dielectric strength 3.0 KV; AC spark test 4.0 KV

INSO PART NO.	AWG. and Stranding	Diam. over Insulation (nominal)	Weight in lbs. per M ft.
8EE-26	26 (19 x 38)	0.038"	1.65
8EE-24	24 (19 x 36)	0.043"	2.45
8EE-22	22 (19 x 34)	0.0495"	3.60
8EE-20	20 (19 x 32)	0.0577"	5.55
8EE-18	18 (19 x 30)	0.068"	7.94
8EE-16	16 (26 x 30)	0.0795"	10.74
8EE-14	14 (37 x 29)	0.0971"	18.01
8EE-12	12 (19 x 25)	0.1075"	23.35
8EE-10	10 (37 x 26)	0.1293"	36.64

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WIRE AND CABLE DIVISION
A subsidiary of Adam Consolidated Industries, Inc.

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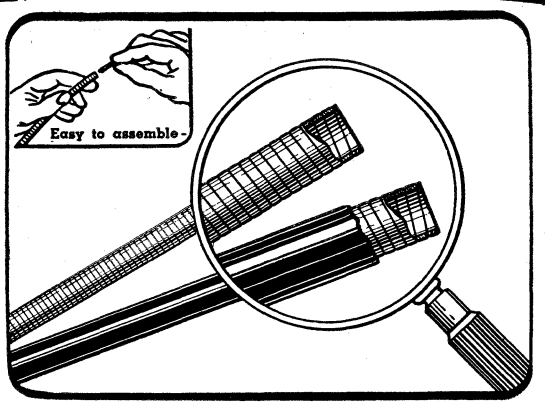
WIRE SHIELDING



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Inside Diameter	Approx. Wt./M. Ft.	BRIGHT TINNED Price 1000 Ft.	BRIGHT TINNED Cat. No. Tinned Steel	VINYL—COVERED Price 1000 Ft.	VINYL—COVERED Cat. No. Tinned Steel
.080"	14 Lb.	$34.50	M 80-14x25 LT	$70.00	M 80-14x25 LTP
.100"	19 Lb.	33.00	M100-16x40 LT	69.00	M100-16x40 LTP
.120"	20 Lb.	33.00	M120-14x45 LT	69.00	M120-14x45 LTP
.120"	30 Lb.	37.00	M120-20x35 LT	73.50	M120-20x35 LTP
.200"	33 Lb	38.00	M200-14x45 LT	80.50	M200-14x45 LTP
.200"	50 Lb.	40.50	M200-20x65 LT	83.00	M200-20x65 LTP
.250"	60 Lb.	45.00	M250-20x65 LT	92.00	M250-20x65 LTP
.270"	65 Lb.	48.50	M270-20x65 LT	98.00	M270-20x65 LTP

- Economical — cut and slide over your conductor — use only where needed.
- Permits use of your favorite hook-up wire —keep your present wire sizes, dialectrics, color coding,
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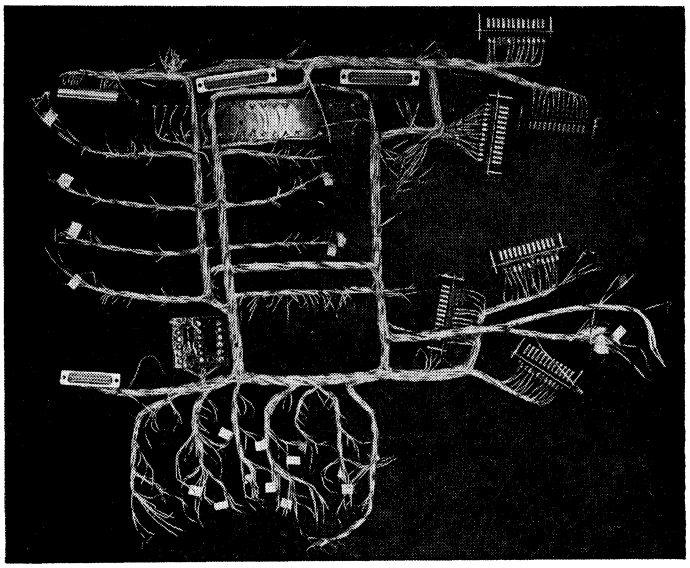

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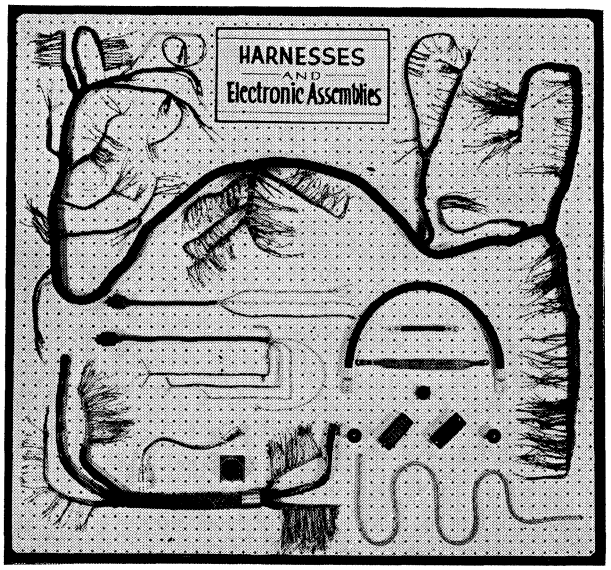

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Write for Bulletins 5677 and 5876

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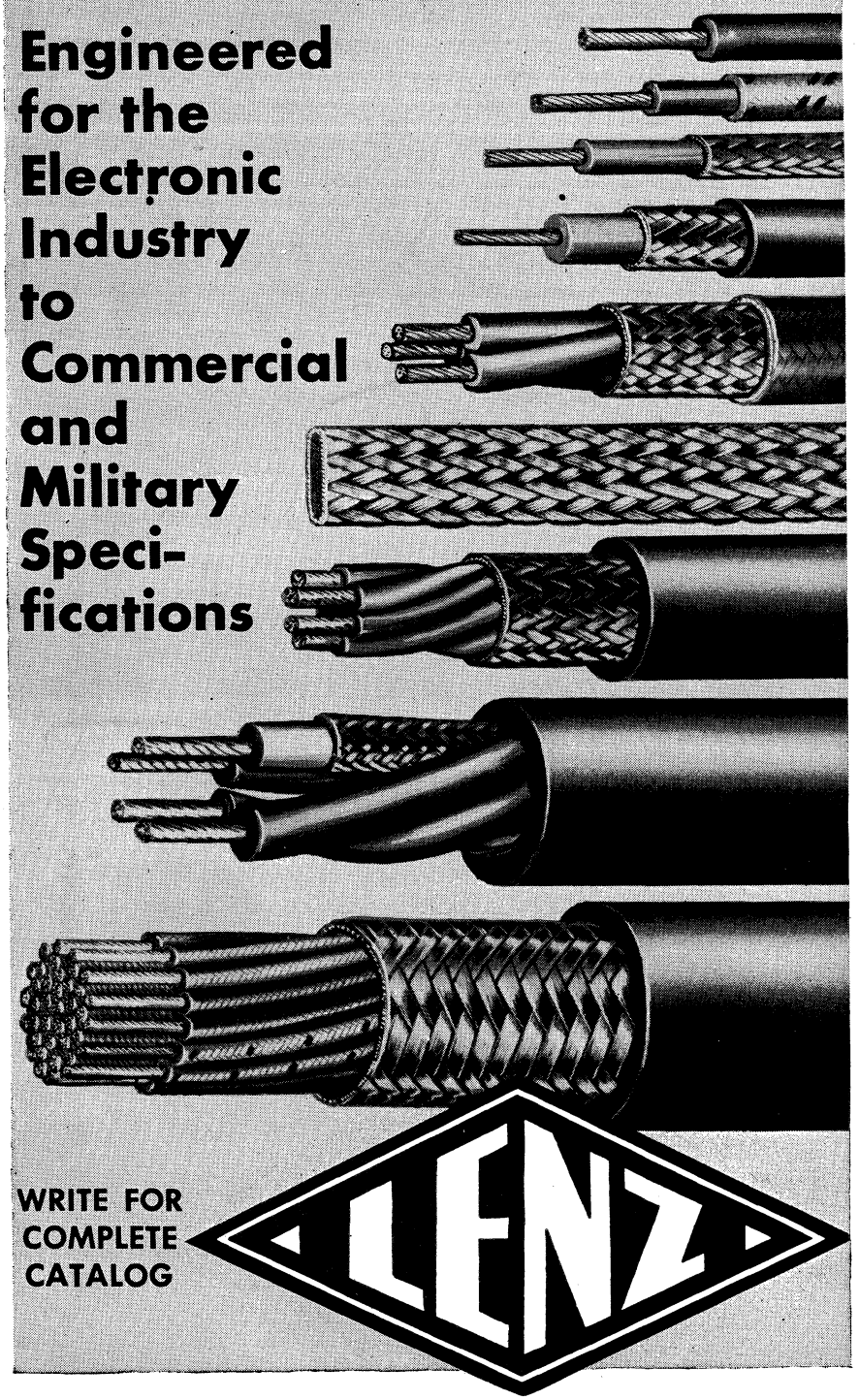
Engineered for the Electronic Industry to Commercial and Military Specifications



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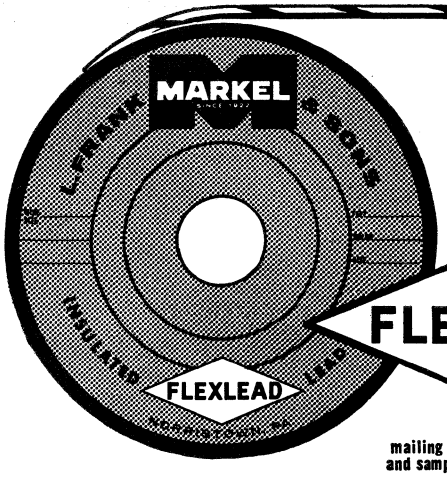

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Markel FLEXLEAD is the superior high temperature lead wire with insulation of extruded Teflon over stranded conductors of silver-plated copper wire. Specify FLEXLEAD for applications requiring excellent electrical, chemical and thermal characteristics (—90°C to 250°C).

FLEXLEAD

TYPE E 600 volt rating; spark tested at 3000 volts. Conforms to MIL-W-16878C, Type E, specifications.

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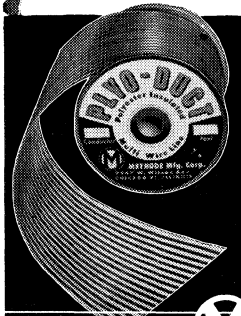

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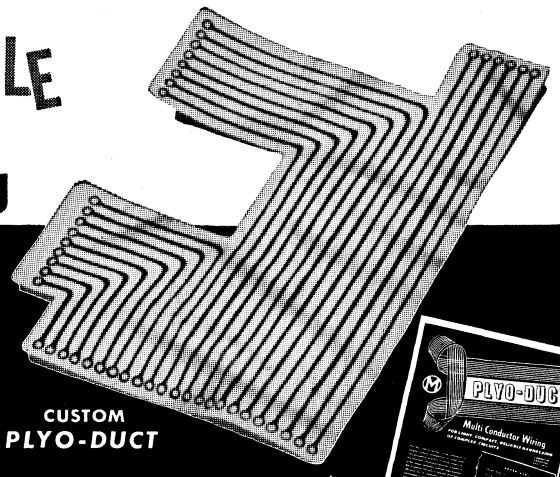

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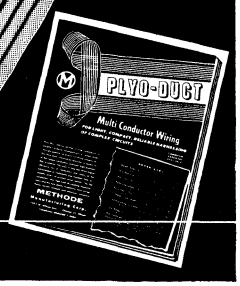

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- Excellent frequency response
- Uniform electrical properties over wide temperature variations
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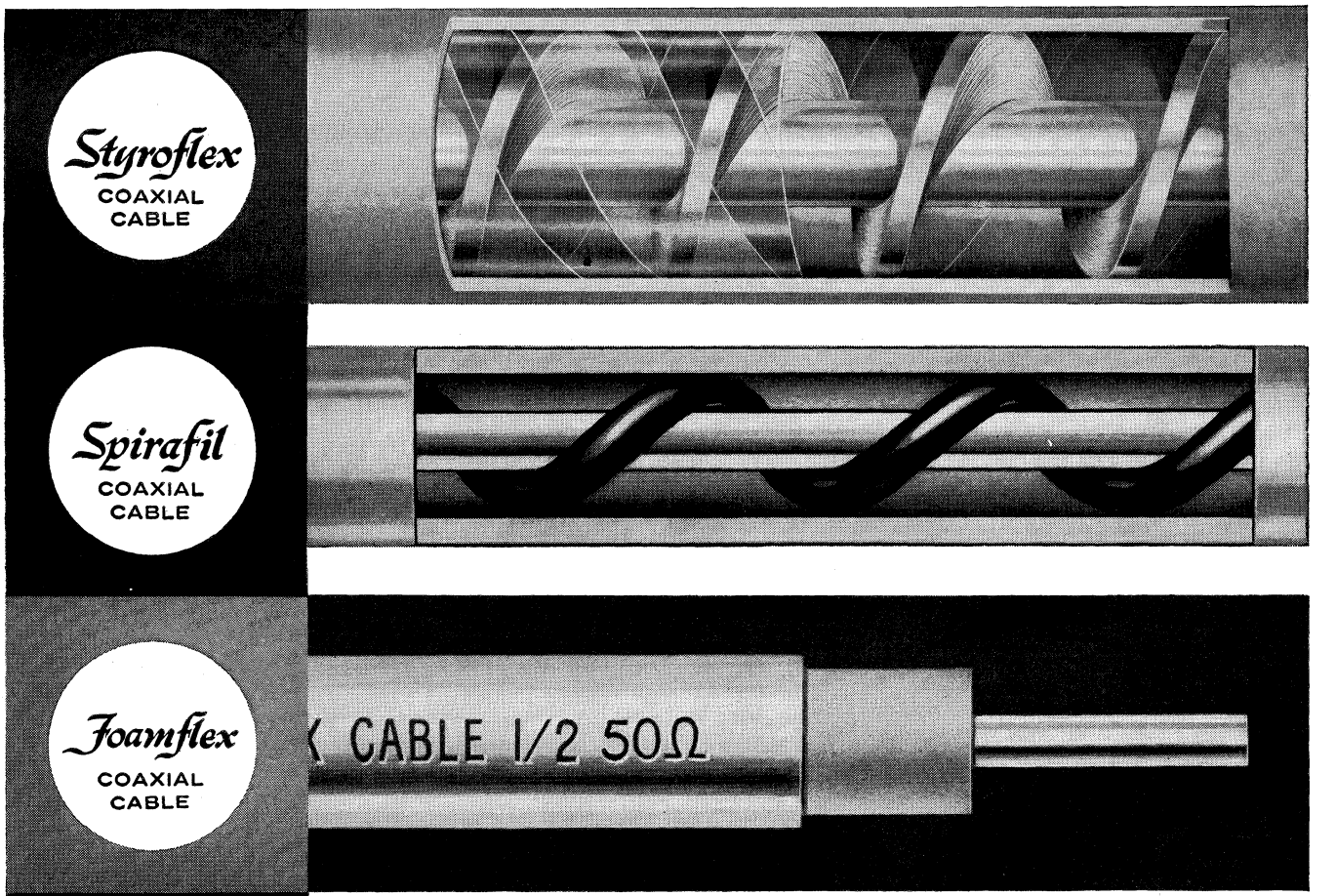

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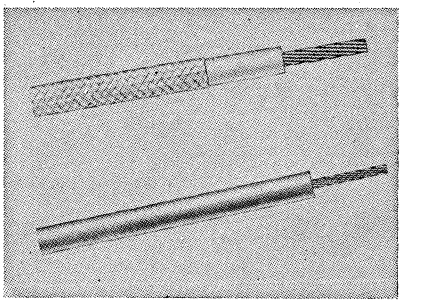

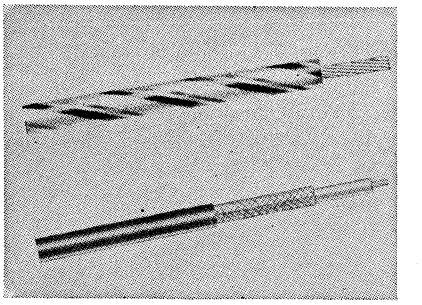

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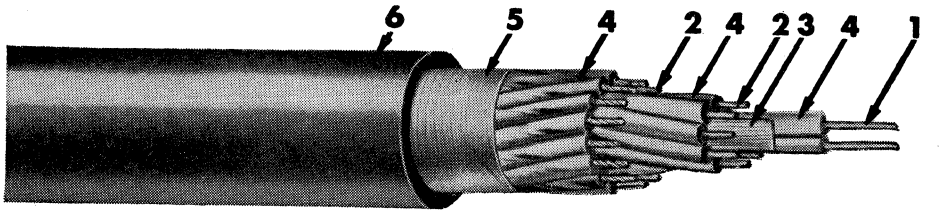

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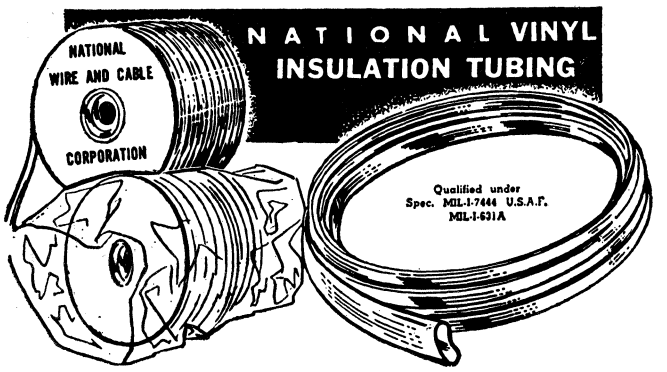

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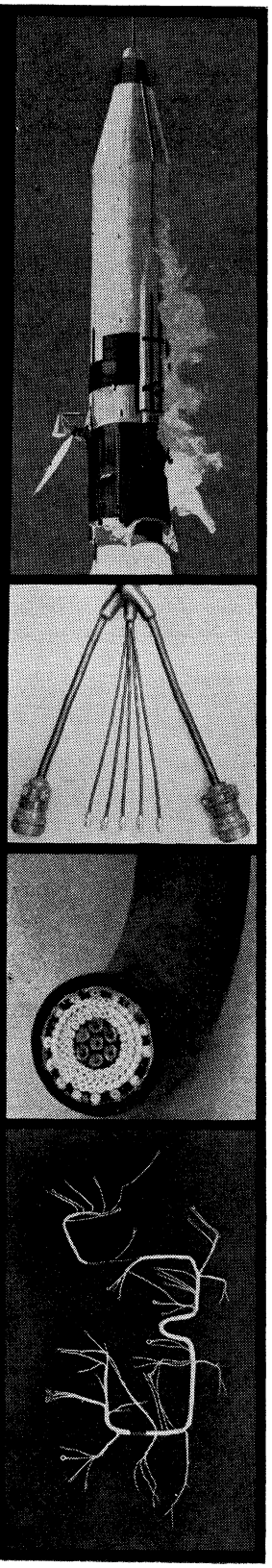

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Underwriters Laboratory—80°; 90°; 105°
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MULTI PAIR RURAL DISTRIBUTION WIRE

TRAFFIC CONTROL CABLES
(Specs IMSA 19 & 20)

POWER CONTROL CABLES
(Specs IPCEA & IMSA)
(Thermoplastic Insulation & Jacket)

AIRPORT LIGHTING CABLE

COMMUNITY TV COAXIAL CABLE

PLASTOID Corporation

Synkote Insulated Wire and Cable is "Manufactured by the mile-tested by the inch"

Plant: HAMBURG, N. J. • Offices: Long Island City, N. Y.

HOOK-UP WIRE
MIL-W-76A

Specification MIL-W-76A supersedes JAN-C-76.

This broader classification covers wider hook up applications for electronic devices and instruments; aircraft radio and radar transmitters and receivers.

Temperature rating —40° C +80° C. Synkote insulation offers high dielectric strength, flexibility at high and low temperatures and is impervious to acids and alkalis.

Type MW

(Medium Wall)

Tinned Copper Conductor
Voltage Rating: 1000 volts
Tempertaure Rating: —40°C +80°C
Put-Up 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8411	24 Solid	.052"	2.5
PP8412	24/7x32	.057"	2.75
PP8413	22 Solid	.057"	3.25
PP8414	22/7x30	.063"	3.5
PP8415	20 Solid	.064"	4.5
PP8416	20/7x28	.069"	5.25
PP8417	18 Solid	.072"	6.5
PP8418	18/16x30	.077"	6.75
PP8419	16 Solid	.083"	9.75
PP8420	16/19x29	.089"	10.0
PP8421	14 Solid	.096"	15.0
PP8422	14/19x27	.103"	15.0
PP8423	12/19x25	.122"	22.5

Type MW-J

(Medium Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-Up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8411-J	24 Solid	.064"	3.0
PP8412-J	24/7x32	.069"	3.25
PP8413-J	22 Solid	.069"	4.0
PP8414-J	22/7x30	.075"	4.5
PP8415-J	20 Solid	.076"	5.25
PP8416-J	20/7x28	.083"	5.5
PP8417-J	18 Solid	.086"	7.25
PP8418-J	18/16x30	.091"	8.0
PP8419-J	16 Solid	.097"	11.0
PP8420-J	16/19x29	.101"	11.25
PP8421-J	14 Solid	.110"	16.25
PP8422-J	14/19x27	.117"	16.25
PP8423-J	12/19x25	.138"	24.0

Type MW-B

(Medium Wall—Braided)

Tinned copper conductor
Overall fungus resistant glass braid and flame-proof lacquer
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-Up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8411-B	24 Solid	.065"	4.0
PP8412-B	24/7x32	.070"	4.25
PP8413-B	22 Solid	.077"	4.75
PP8414-B	22/7x30	.077"	5.25
PP8415-B	20 Solid	.077"	6.25
PP8416-B	20/7x28	.083"	7.0
PP8417-B	18 Solid	.085"	8.5
PP8418-B	18/16x30	.090"	8.5
PP8419-B	16 Solid	.096"	11.75
PP8420-B	16/19x29	.109"	13.0
PP8421-B	14 Solid	.109"	17.0
PP8422-B	14/19x27	.116"	17.0
PP8423-B	12/19x25	.135"	25.0

*Larger Packaging Available

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SPECIFY SYNKOTE FOR SURE PERFORMANCE

MIL-W-76A

Type MW-S

(Medium Wall—Shielded)

Tinned copper conductor
Overall tinned copper shield
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +80°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8411-S	24 Solid	.072"	5.25
PP8412-S	24/7x32	.077"	5.75
PP8413-S	22 Solid	.077"	6.25
PP8414-S	22/7x30	.083"	7.25
PP8415-S	20 Solid	.084"	8.25
PP8416-S	20/7x28	.089"	9.0
PP8417-S	18 Solid	.092"	10.5
PP8418-S	18/16x30	.097"	11.25
PP8419-S	16 Solid	.103"	14.5
PP8420-S	16/19x29	.110"	15.5
PP8421-S	14 Solid	.116"	20.0
PP8422-S	14/19x27	.123"	21.25
PP8423-S	12/19x25	.142"	29.25

Type MW-JS

(Medium Wall—Jacketed and Shielded)

Tinned copper conductor
Extruded Nylon Jacket
Overall Tinned Copper Shield
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8411-JS	24 Solid	.084"	6.5
PP8412-JS	24/7x32	.089"	7.0
PP8413-JS	22 Solid	.089"	7.5
PP8414-JS	22/7x30	.095"	8.5
PP8415-JS	20 Solid	.095"	9.25
PP8416-JS	20/7x28	.103"	10.5
PP8417-JS	18 Solid	.106"	12.0
PP8418-JS	18/16x30	.111"	12.75
PP8419-JS	16 Solid	.117"	17.0
PP8420-JS	16/19x29	.121"	17.5
PP8421-JS	14 Solid	.130"	22.25
PP8422-JS	14/19x27	.137"	22.75
PP8423-JS	12/19x25	.158"	32.0

Type HW

(Heavy Wall)

Tinned Copper Conductor
Voltage Rating: 2500 volts—22 to 16 sizes
600 volts—14 to 6
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8424	22 Solid	.087"	5.25
PP8425	22/7x30	.093"	5.75
PP8426	20 Solid	.094"	6.75
PP8427	20/7x28	.100"	7.0
PP8428	18 Solid	.102"	8.75
PP8429	18/16x30	.107"	9.5
PP8430	16 Solid	.113"	12.75
PP8431	16/19x29	.117"	13.5
PP8432	14 Solid	.154"	22.0
PP8433	14/19x27	.161"	22.25
PP8434	12/19x25	.180"	30.25
PP8435	10/37x26	.202"	44.5
PP8436	8/133x29	.263"	73.0
PP8437	6/133x27	.300"	108.0

Type HW-J

(Heavy Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 2500 volts—24 to 16 sizes
600 volts—14 to 6
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8424-J	22 Solid	.101"	6.5
PP8425-J	22/7x30	.107"	7.0
PP8426-J	20 Solid	.108"	8.0
PP8427-J	20/7x28	.113"	8.5
PP8428-J	18 Solid	.116"	10.0
PP8429-J	18/16x30	.121"	11.0
PP8430-J	16 Solid	.127"	14.25
PP8431-J	16/19x29	.131"	15.0
PP8432-J	14 Solid	.170"	24.0
PP8433-J	14/19x27	.177"	24.5
PP8434-J	12/19x25	.196"	33.5
PP8435-J	10/37x26	.224"	48.5
PP8436-J	8/133x29	.288"	79.0
PP8437-J	6/133x27	.326"	116.0

MIL-W-76A

Type LW

(Light Wall)

Tinned Copper Conductor
Voltage Rating: 300 volts
Temperature Rating: —40°C +80°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8401	28 Solid	.033"	1.0
PP8402	28/7x36	.035"	1.0
PP8403	26 Solid	.036"	1.25
PP8404	26/7x34	.039"	1.75
PP8405	24 Solid	.040"	1.75
PP8406	24/7x32	.044"	2.0
PP8407	22 Solid	.046"	2.5
PP8408	22/7x30	.051"	3.0
PP8409	20 Solid	.052"	4.0
PP8410	20/7x28	.058"	4.5

Type LW-J

(Light Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 300 volts
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8401-J	28 Solid	.039"	1.0
PP8402-J	28/7x36	.041"	1.25
PP8403-J	26 Solid	.042"	1.5
PP8404-J	26/7x34	.047"	1.75
PP8405-J	24 Solid	.048"	2.0
PP8406-J	24/7x32	.052"	2.5
PP8407-J	22 Solid	.054"	3.0
PP8408-J	22/7x30	.059"	3.5
PP8409-J	22 Solid	.060"	4.5
PP8410-J	20/7x28	.066"	5.0

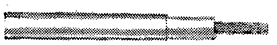
MIL-W-16878-B (Navy)

Type B

"Syntherm" electrical high temp. hook-up wire conforms to Navy spec. MIL-W-16878-B. For the internal wiring of meters, panels and electronic equipment.

Tinned Copper Conductor
Base Color: White. Helical striping for color coding.
Voltage Rating: 600 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8551	30/7x38	.031"	.75
PP8552	28/7x36	.034"	1.0
PP8553	26/7x34	.038"	1.5
PP8554	24/7x32	.043"	2.0
PP8555	22/7x30	.050"	3.0
PP8555-19	22/19x34	.050"	3.25
PP8556	20/7x28	.057"	4.5
PP8556-19	20/19x32	.057"	4.75
PP8557	18/7x26	.067"	7.0
PP8557-19	18/19x20	.067"	7.5
PP8558	16/19x29	.076"	9.0



Type B-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Base Color: White. Helical striping for color coding.
Voltage Rating: 600 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

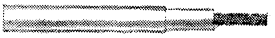
Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8551-J	30/7x38	.036"	1.0
PP8552-J	28/7x36	.039"	1.25
PP8553-J	26/7x34	.043"	1.75
PP8554-J	24/7x32	.048"	2.25
PP8555-J	22/7x30	.054"	3.25
PP8555-19-J	22/19x34	.054"	3.5
PP8556-J	20/7x28	.062"	4.75
PP8556-19-J	20/19x32	.062"	5.0
PP8557-J	18/7x26	.073"	7.5
PP8557-19-J	18/19x30	.073"	8.0
PP8558-J	16/19x29	.082"	9.75

MIL-W-16878-B (Navy)

Type C

Tinned Copper Conductor
Base Color: White. Helical striping for color coding.
Voltage Rating: 1000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8559	24/7x32	.057"	2.75
PP8560	22/7x30	.063"	3.75
PP8560-19	22/19x34	.063"	4.0
PP8561	20/7x28	.071"	5.25
PP8561-19	20/19x32	.071"	5.5
PP8562	18/7x26	.081"	7.5
PP8562-19	18/19x30	.081"	8.0
PP8563	16/19x29	.090"	10.0
PP8564	14/19x27	.104"	15.0



Type C-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Base Color: White. Helical striping for color coding.
Voltage Rating: 1000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8559-J	24/7x32	.062"	3.25
PP8560-J	22/7x30	.068"	4.0
PP8560-19J	22/19x34	.068"	4.25
PP8561-J	20/7x28	.077"	6.0
PP8561-19J	20/19x32	.077"	6.25
PP8562-J	18/7x26	.087"	8.5
PP8562-19J	18/19x30	.087"	9.0
PP8563-J	16/19x29	.097"	10.75
PP8564-J	14/19x27	.112"	15.5

Type D

Tinned Copper Conductor
Voltage Rating: 3000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8565	24/7x32	.078"	4.0
PP8566	22/7x30	.084"	5.0
PP8566-19	22/19x34	.084"	5.25
PP8567	20/7x28	.092"	6.75
PP8567-19	20/19x32	.092"	7.0
PP8568	18/7x26	.102"	9.25
PP8568-19	18/19x30	.102"	9.5
PP8569	16/19x29	.111"	12.25
PP8570	14/19x27	.125"	17.0
PP8571	12/19x25	.159"	27.0
PP8572	10/41x26	.178"	42.0
PP7573	8/133x29	.244"	71.0
PP8574	6/133x27	.288"	110.0

Type D-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 3000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

Plastoid Part	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
PP8565-J	24/7x32	.084"	4.5
PP8566-J	22/7x30	.090"	5.5
PP8566-19	22/19x34	.090"	5.75
PP8567-J	20/7x28	.099"	7.5
PP8567-19J	20/19x32	.099"	7.75
PP8568-J	18/7x26	.110"	10.0
PP8568-19J	18/19x30	.110"	10.5
PP8569-J	16/19x29	.119"	13.0
PP8570-J	14/19x27	.134"	18.25
PP8571-J	12/19x25	.170"	29.0
PP8572-J	10/41x26	.190"	45.0
PP8573-J	8/133x29	.260"	75.0
PP8574-J	6/133x27	.305"	115.0

MIL-W-16878-B (Navy)

Type E-Extruded Teflon

600 Volts
Temperature Rating +200°C
1. Silver coated copper conductor.
2. Extruded teflon insulation — ten solid color per spec. Also with contrasting helical color coding in single and double combinations.
3. May be supplied in single or multiple conductor cables with or without shields—consisting of silver coated, tinned or bare copper as required.

Plastoid Part	Spec. Designation	AWG Size & Stranding	Max. O.D.	Approx. Wt. #/M'
PP12003	E-26	26/7x34	.043"	2.0
PP12004	E-24	24/7x32	.048"	3.0
PP12024	E-24	24/19x36	.048"	3.0
PP12005	E-22	22/7x30	.054"	4.0
PP12025	E-22	22/19x34	.054"	4.0
PP12006	E-20	20/7x28	.062"	5.5
PP12026	E-20	20/10x32	.062"	5.5
PP12027	E-18	18/19x30	.074"	8.0
PP12008	E-16	16/19x29	.087"	11.0
PP12009	E-14	14/19x27	.101"	15.0

Type EE-Extruded Teflon

1000 Volts
Temperature Rating +200°C
1. Silver coated copper conductor.
2. Extruded teflon insulation — ten solid colors per spec. Also with contrasting helical color coding in single and double combinations.
3. May be supplied in single or multiple conductor cables with or without shields — consisting of silver coated, tinned or bare copper as required.

Plastoid Part	Spec. Designation	AWG Size & Stranding	Max. O.D.	Approx. Wt. #/M'
PP12015	EE-26	26/7x34	.053"	2.5
PP12016	EE-24	24/7x32	.058"	3.5
PP12028	EE-24	24/19x36	.058"	3.5
PP12017	EE-22	22/7x30	.064"	5.0
PP12029	EE-22	22/19x34	.064"	5.0
PP12018	EE-20	20/7x8	.072"	6.5
PP12030	EE-20	20/19x32	.072"	6.5
PP12031	EE-18	18/19x30	.084"	10.0
PP12020	EE-16	16/19x29	.095"	13.5
PP12021	EE-14	14/19x27	.113"	18.0

MIL-W-7139A

Extruded Teflon

Voltage Rating 600
Temperature Rating 400°F
Conforms to Dept. of Navy Bureau of Aeronautics requirements.
1. Silver Coated Copper Conductor
2. Teflon Insulation
3. Glass Braid 4. Dacron Braid

Mil. Part No.	Plastoid Part No.	AWG Size & Stranding	Diel. O.D.	Nom. O.D.
RM-22	PP12,051	22/19x.0063	.059	.088
RM-20	PP12,052	20/19x.0079	.068	.098
RM-18	PP12,053	18/19x.0100	.080	.110
RM-16	PP12,054	16/19x.0113	.088	.118
RM-14	PP12,055	14/19x.0142	.108	.138
RM-12	PP12,056	12/19x.0179	.132	.162

Outer Covering Conforms with Para. 3.2.3 MIL-W-7139A

MORE

Synkote

CABLES ON FOLLOWING PAGES

*Larger Packaging Available

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OVER 100 DIFFERENT COAXIAL CABLES TO CHOOSE FROM!

Many approved types ... many in stock

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RG TYPE COAXIAL CABLE Teflon* Dielectric

Military Number RG-/u	Plastoid Part Number	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts	Nom Imp. Ohms	Armor O.D.	Jacket Outer	Jacket Inner	Teflon Tape Outer	Teflon Tape Inner	Shields Outer	Shields Inner	Dielect. O.D.	Center Cond.
87A	4690										SC	SC	.285	7x .0312SC
											SC	SC	.285	7x .0312SC
												C	.620	1x .190C
												C	.620	1x .190C

RG TYPE COAXIAL CABLE–Polyethylene Dielectric

Military Number RG-/u	Plastoid Part Number	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts RMS	Nominal Imp. Ohms	Armor O.D.	Jacket O.D.	Type Jacket	Shields Outer	Shields Inner	Dielect. O.D.	Center Cond.	Applicable Spec.
54A	4640	65.9	26.5	3000	58.0		.250	III		TC	.178	7x .0152C	JAN-C-17A
55	4641	65.9	28.5	1900	53.5		.206	III	TC	TC	.116	1x .0320C	JAN-C-17A
55A	4684	65.9	30.5	1900	50.0		.216	IIa	SC	SC	.116	1x .0355SC	MIL-C-17B
58	4644	65.9	28.5	1900	53.5		.195	I		TC	.116	1x .0320C	JAN-C-17A
58A	4645	65.9	28.5	1900	52.0		.195	I		TC	.116	19x .0066TC	JAN-C-17A
58B	4646	65.9	28.5	1900	53.5		.195	IIa		TC	.116	1x .0320C	MIL-C-17B
58C	4647	65.9	30.5	1900	50.0		.195	IIa		TC	.116	19x .0071TC	MIL-C-17B
59	423	65.9	21.0	2300	73.0		.242	I		C			
59A	4649	65.9	20.5	2300	75.0		.242	IIa		C			
62	4650	84.0	13.5	750	93.0		.242	I		C			
62A	4651	84.0	13.5	750	93.0		.242	IIa		C			
63	4652	84.0	10.0	1000	125.0		.405	I		C			
63B	4653	84.0	10.0	1000	125.0		.405	IIa		C			
71	4654	84.0	13.5	750	93.0								

Military Number RG-/u	Plastoid Part Number	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts RMS	Nominal Imp. Ohms	Armor O.D.	Jacket O.D.	Type Jacket	Shields Outer	Shields Inner	Dielect. O.D.
5	4600	65.9	28.5	3000	52.5		.332	I	C	C	.185
5A	4601	65.9	29.0	3000	50.0		.328	II	SC	SC	.185
5B	4602	65.9	29.0	3000	50.0		.328	IIa	SC	SC	.185
6	4603	65.9	20.0	2700	76.0		.332	II	SC	SC	
6A	4604	65.9	20.0	2700	76.0		.332	IIa	SC	SC	
7	4605	84.0	12.5	* 1000	97.0		.370	I		C	
							.405	I		C	
							.405	IIa		C	

For years we have been meeting the requirements of U. S. government agencies for both defense and peacetime needs, as well as supplying major aircraft, missile, electronic controls, computer manufacturers and the communication field.

These vital industries rely on Synkote to supply sure-performing, long-lasting, high quality wire and cable of every type and description and meeting the most rigid specifications. Our varied coaxial constructions are an indication of our versatility.

Our engineers are always available to discuss your special requirements.

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PLASTOID Corporation

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SPECIFY **SYNKOTE** FOR SURE PERFORMANCE

TEFLON* MINIATURE COAXIAL CABLE

DESCRIPTION: Plastoid "Teflon" miniature coaxial cables are about ¼ the outside diameter of comparable RG types, yet provide the same impedance characteristics as standard types. In three widely used impedance ranges (50, 70 and 93 ohms) these "Teflon" miniature cables exhibit stable characteristics when operated up to 200°C and can be used successfully in confined areas and where high ambient temperatures are present. These miniature coaxial cables may be applied with any desired outer coating, and will withstand temperatures up to 250°C, when supplied with an impregnated fiber glass jacket.

CONSTRUCTION: Both conductor and braid usually employ silver plated wire. Standard jacket material is "Teflon". Any desired jacketing such as Nylon, Fiberglass, Teflon Coated Fiberglass, KEL-F or other suitable jackets are available to meet unique conditions and specifications.

APPLICATIONS: Plastoid "Teflon" miniature coaxial cables are the ultimate in space conservation as compared to standard RG types. Because of their rugged construction, they are an important contribution to such varied applications as aircraft and guided missiles, plants or laboratories where instrument hook-ups are subjected to chemical corrosion or abrasive treatment.

DESIGN FEATURES: Plastoid "Teflon" miniature coaxial cables have many advantages, a few of which are: Miniature size with some impedance as comparable RG types; ability to withstand high temperature and corrosive or abrasive conditions; high voltage characteristics and excellent flexibility at temperatures as low as −65°C. The uniform OD of these light weight cables makes it possible to use the same size connector for each of the three impedance ranges.

TYPICAL CONSTRUCTION

PP15,251

PP15,256

PP15,254

Plastoid Part Number	Imp. Ohms	Conductor	Diel.	Braid	Jacket* O.D.	Jacket Type	Cap. Mmfd. /ft.	V.P. %
12,270	50	1x.0385 SC	.109	Silver Copper Double	.167	Glass Braid, Silicone Saturant	29.0	70
15,251	50	1x.011 SCW	.035	Silver Copper	.063	Nylon	29.0	70
15,252	50	7x.010 SCW	.095	Silver Copper	.125	Nylon	29.0	70
15,253	50	1x.012 SCW	.036	Silver Copper	.064	Nylon	29.0	70
12,310	70	7x.004 SCW	.060	Silver Copper	.095	Glass Braid, Silicone Saturant	21.0	70
15,254	70	7x.0063 SCW	.095	Silver Copper	.125	Nylon	21.0	70
4,692	70	7x.004 SCW	.070	Silver Copper	.105	Glass Braid, Teflon Saturant	21.0	70
15,255	70	1x.011 SCW	.056	Silver Copper	.084	Nylon	21.0	70
12,221	93	7x.004 SCW	.103	Silver Copper	.131	Nylon	16.0	70
12,341	93	7x.004 SB	.104	Silver Copper	.138	Fused Teflon Tape	16.0	70
15,256	93	7x.004 SCW	.095	Silver Copper	.125	Nylon	16.0	70
12,279	94	1x.011 NCW	.096	Silver Copper	.118	Nylon	15.3	70
12,282	94	1x.011 SCW	.096	Silver Copper	.122	Nylon	15.3	70
12,280	94	1x.011 SCW	.095	Silver Copper	.140	Nylon Braid over PVC	15.3	70
15,257	94	1x.011 SCW	.095	Silver Copper	.140	Nylon over PVC	15.3	70

LEGEND Center Conductor:

SCW — Silver Coated Copperweld
SC — Silver Coated Copper
SB — Silver Coated Berrylium
NCW — Nickel Coated Copperweld

*Jacket may be altered to meet any special requirements.

*duPont's trade name for Polytetrafluoroethylene

AIRCRAFT WIRE

MIL-W-5086A—Type 1

Dated June 18, 1957
Superseding MIL-W-5086—Nov. 30, 1950)

600 Volts Temp. Rating—55°C + 105°C
Synkote insulated electrical aircraft wire conforms to Mil. Spec. MIL-W-5086-A

1. Constructional Details
   (a) Concentric stranded tinned copper cond.
   (b) Synthetic resin insulation (105°C)
   (c) Extruded clear nylon jacket
2. Standard Packaging
   AN-22 & AN-20 5,000′ non-returnable reel
   AN-18 & AN-16 3,000′ non-returnable reel
   AN-14 & AN-12 2,000′ non-returnable reel
3. Available with tinned copper shield and/or extruded nylon jacket over shield. Identified as Type 1 or Type 2 per spec. MIL-C-7078A
4. Standard Color: White
5. May be furnished in multiple cond. combinations—color coded as required.

Spec. Desig.	AWG Size Stranding	Nom. O.D.	Approx. Wt. #/M′
AN-22	22/19x34	.068″	4.5
AN-20	20/19x32	.078″	6.5
AN-18	18/19x30	.088″	8.5
AN-16	16/19x29	.098″	10.5
AN-14	14/19x27	.117″	16.5
AN-12	12/19/25	.137″	24.5

For larger sizes, see listing under MIL-W-5086A—Type 2

MIL-C-7078A—Type 1

(Type 1 per MIL-W-5086A with overall shield)

600 Volts Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded tinned copper cond.
   (b) Synthetic resin insulation (105°C)
   (c) Extruded clear nylon Jacket
   (d) Overall tinned copper shield
2. Stranded Put-Up 1000′/spool or reel. Larger packaging available.
3. This construction may be furnished with an overall extruded nylon jacket-recognized as Type 2 per spec. MIL-C-7078A.

Spec. Desig.	AWG Size Stranding	Nom. O.D.	Approx. Wt. #/M′
AN-22	22/19x34	.088″	10.0
AN-20	20/19x32	.098″	12.5
AN-18	18/19x30	.108″	15.5
AN-16	16/19x29	.118″	18.5
AN-14	14/19x27	.137″	25.0
AN-12	14/19x25	.157″	34.5

MIL-W-5086A—Type 2

(Dated June 18, 1957
Superseding MIL-W-5086—Nov. 30, 1950)

600 Volts Temp. Rating—55°C + 105°C

1. Constructional Detail
   (a) Concentric stranded or rope-lay stranded tinned copper cond. as required by spec.
   (b) Synthetic resin insulation (105°C)
   (c) Glass braid—saturated.
   (d) Extruded clear nylon jacket sizes AN-22 thru AN-12; braided nylon, impregnated with nylon lacquer sizes AN-10 thru AN 4/0.
2. Standard Packaging
   AN-22 & AN-20 5000′ non-returnable reel
   AN-18 & AN-16 3000′ non-returnable reel
   AN-14 & AN-12 2000′ non-returnable reel
   AN-10 1000′ non-returnable reel
   AN-8 thru AN-1 500′ or 1000′ non-returnable reel
   AN-0 thru AN-4/0 500′ non-returnable reel
3. Available with tinned copper shield in all sizes. Also with extruded nylon jacket over shield in sizes AN-22 through AN-12 per spec. MIL-C-7078A—Type 1 or Type 2 as required.
4. Standard Color: White
5. May be furnished in multiple cond. combinations—Color coded as required.

Spec. Desig.	AWG Size Stranding	Nom. O.D.	Approx. Wt. #/M′
AN-22	22/19x34	.075″	5.0
AN-20	20/19x32	.085″	7.0
AN-18	18/19x30	.095″	9.5
AN-16	16/19x29	.105″	12.0
AN-14	14/19x27	.125″	18.5
AN-12	12/19x25	.143″	26.0
AN-10	10/49/27	.189″	44.0
AN-8	8/133x29	.240″	70.0
AN-6	6/133x27	.293″	110.0
AN-4	4/133x25	.355″	165.0
AN-2	2/665/30	.425″	250.0
AN-1	1/817x30	.470″	305.0
AN-1/0	0/1045x30	.525″	400.0
AN-2/0	00/1330x30	.590″	500.0
AN-3/0	000/1665x30	.650″	620.0
AN-4/0	0000/2109x30	.720″	785.0

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SPECIFY SYNKOTE FOR SURE PERFORMANCE

AIRCRAFT WIRE

MIL-C-7078A—Type 2

(Type 2 per MIL-W-5086A with overall shield)

600 Volts
Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
   (b) Synthetic resin insulation (105°C)
   (c) Glass braid—saturated
   (d) Extruded clear nylon jacket sizes AN-22 thru AN-12; braided nylon impregnated with nylon lacquer sizes AN-10, AN-8 and AN-6.
   (e) Overall tinned copper shield.
2. Standard put-up 1000'/ spool or reel. Larger packing available.
3. May be furnished with extruded nylon jacket over shield in sizes AN-22 thru AN-12. Recognized as Type 2 per spec. MIL-C-7078A.

Spec. Desig.	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
AN-22	22/19x34	.095"	10.5
AN-20	20/19x32	.105"	13.0
AN-18	18/19x30	.115"	17.5
AN-16	16/19x29	.125"	21.0
AN-14	14/19x27	.145"	28.5
AN-12	12/19x25	.163"	37.5
AN-10	10/49x27	.210"	57.0
AN-8	8/133x29	.260"	91.5
AN-6	6/133x27	.313"	128.5

MIL-W-5086A—Type 3

(Dated June 18, 1957 superseding MIL-W-5086—Nov. 30, 1950)

600 Volts
Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
   (b) Synthetic resin insulation
   (c) Glass braid saturated
   (d) Secondary synthetic resin insulation
   (e) Extruded clear nylon jacket sizes AN-22 thru AN-12; braided nylon impregnated with nylon lacquer sizes AN-10 thru AN 4/0.
2. Standard Package
   AN-22 and AN-20
   5000' non-returnable reel
   AN-18 and AN-16
   3000' non-returnable reel
   AN-14 and AN-12
   2000' non-returnable reel
   AN 10
   1000' non-returnable reel
   AN-8 thru AN-1
   500' non-returnable reel
   AN-0 thru AN-4/0
   500' non-returnable reel
3. Available with tinned copper shield in all sizes. Also with extruded nylon jacket over shield in sizes AN-22 thru AN-12 per spec. MIL-C-7078A—Type 1 or Type 2 as required.
4. Standard Color: White
5. May be furnished in multiple combination cond. — color coded as required.

Spec. Desig.	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
AN-22	22/19x34	.085"	6.0
AN-20	20/19/32	.095"	7.5
AN-18	18/19x30	.110"	11.0
AN-16	16/19x29	.125"	14.0
AN-14	14/19x27	.143"	20.0
AN-12	12/19x25	.163"	28.5
AN-10	10/49x27	.193"	44.0
AN-8	8/133x29	.248"	70.0
AN-6	6/133x27	.303"	113.0
AN-4	4/133x25	.360"	170.0
AN-2	2/665x30	.435"	250.0
AN-1	1/817x30	.485"	310.0
AN-1/0	0/1045x30	.535"	400.0
AN-2/0	00/1330x30	.595"	500.0
AN-3/0	000/1665x30	.665"	620.0
AN-4/0	0000/2109x30	.735"	785.0

AIRCRAFT WIRE

MIL-C-7078A—Type 3

(Type 3 per MIL-W-5086A with overall shield)

600 Volts
Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded or rope lay stranded tinned cond. as required per spec.
   (b) Synthetic resin insulation (105°C)
   (c) Glass braid—saturated
   (d) Secondary synthetic resin insulation (105°C)
   (e) Extruded clear nylon jacket AN-22 thru AN-12. Braided nylon impregnated with nylon lacquer, sizes AN-10, AN-8 and AN-6.
   (f) Overall tinned copper shield.
2. Standard put-up 1000'/spool or reel. Larger packaging available.
3. May be furnished with overall extruded nylon jacket over shield in sizes AN-22 thru AN-12. Recognized as Type 2 per spec. MIL-C-7078A.

Spec. Desig.	AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
AN-22	22/19x34	.110"	13.0
AN-20	20/19x32	.115"	14.5
AN-18	18/19x30	.122"	19.0
AN-16	16/19x29	.135"	24.0
AN-14	14/19x27	.165"	30.0
AN-12	12/19x25	.185"	42.0
AN-10	10/105x30	.213"	59.5
AN-8	8/133x.0113	.270"	92.5
AN-6	6/133x.0142	.323"	133.0

MIL-W-5274A (USAF)

Synkote insulated aircraft wire to conform to Mil. spec. MIL-W-5274A (USAF). All wires under this classification are approved constructions and are made in strict compliance with the applicable spec.

Type 1—Class A

Tinned copper conductor
Overall extruded nylon jacket
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating:—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
22/19x34	.085"	5.0
20/19x32	.090"	6.75
18/19x30	.105"	9.5
16/19x29	.125"	13.5
14/19x27	.145"	19.0
12/19x25	.165"	27.0

Type 1—Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
Extruded nylon jacket
Overall tinned copper shield
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating:—54°C + 100°C
Put-Up: 1,000 Ft. spool
Large packaging available

AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
22/19x34	.105"	11.0
20/19x32	.110"	15.0
18/19x30	.125"	17.0
16/19x29	.145"	22.5
14/19x27	.165"	28.5
12/19x25	.185"	38.0

AIRCRAFT WIRE

Type 2—Class A

Tinned copper conductor
Fungus resistant glass fiber braid
Overall Extruded nylon jacket
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating:—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
22/19x34	.087"	5.5
20/19x32	.096"	7.5
18/19x30	.110"	10.5
16/19x29	.125"	13.5
14/19x27	.145"	18.5
12/19x25	.165	27.0

Type 2—Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
Fungus resistant glass fiber braid
Extruded nylon jacket
Overall tinned copper shield
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating:—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
22/19x34	.107"	12.0
20/19x32	.116"	14.0
18/19x30	.130"	18.0
16/19x29	.145"	22.5
14/19x27	.165"	28.0
12/19x25	.185"	37.5

Type 3—Class A

Tinned copper conductor
Fungus resistant glass fiber braid
Overall Extruded nylon jacket
Color Code: Light Red
Voltage Rating: 3000 Volts
Temp. Rating:—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
22/19x34	.087"	5.5
20/19x32	.096"	7.5
18/19x30	.109"	10.0
16/19x29	.124"	13.5
14/19x27	.143"	18.75
12/19x25	.157"	27.0

Type 3—Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
Fungus resistant glass fiber braid
Extruded nylon jacket
Overall tinned copper shield
Color Code: Light Red
Voltage Rating: 3000 Volts
Temp. Rating:—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

AWG Size & Stranding	Nom. O.D.	Approx. Wt. #/M'
22/19x34	.107"	12.0
20/19x32	.116"	14.0
18/19x30	.130"	18.0
16/19x29	.145"	22.5
14/19x27	.165"	28.0
12/19x25	.180"	37.5

MIL-W-7072 A Aluminum

Synkote insulated aluminum aircraft wire manufactured to conform to Mil. spec. MIL-W-7072A.

Type 1

Aluminum conductor
Fungus resistant glass fiber braid
Flame proof saturant and lacquer
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating:—55°C + 100°C
Put-Up: 500 ft and 1,000 ft. spool

AWG Size & Spec. Desig.	Cond. Stranding	Nom. O.D.	Approx. Wt. #/M
AL-8	41x24	.240"	31.0
AL-6	7x10x24	.308"	52.0
AL-4	7x15x24	.366"	71.0
AL-2	7x24x24	.440"	101.0
AL-1	7x30x24	.488"	124.0
AL-1/0	19x14x24	5.44"	150.0
AL-2/0	19x18x24	5.95"	190.0
AL-3/0	19x22x24	.664"	225.0
AL-4/0	19x28x24	.724"	275.0

Type 2

Aluminum conductor
Fungus resistant glass fiber braid
Flame proof saturant nylon braid
Flame proof saturant and lacquer
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating:—55°C + 100°C
Put-Up:
Sizes 8 thru 2 —1,000 ft. spool
Sizes 1 thru 4/0— 500 ft. spool

AWG Size & Spec. Desig.	Cond. Stranding	Nom. O.D.	Approx. Wt. #/M
AL-8	41x24	.248"	32.0
AL-6	7x10x24	.312"	52.0
AL-4	7x15x24	.372"	74.0
AL-2	7x24x24	.444"	104.0
AL-1	7x30x24	.492"	128.0
AL-1/0	19x14x24	.550"	155.0
AL-2/0	19x18x24	.600"	195.0
AL-3/0	19x22x24	.668"	232.0
AL-4/0	19x28x24	.728"	283.0

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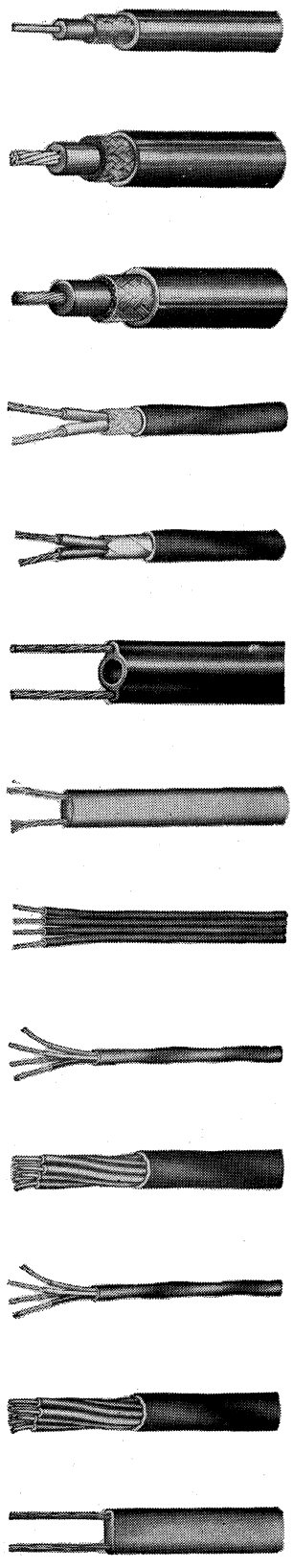

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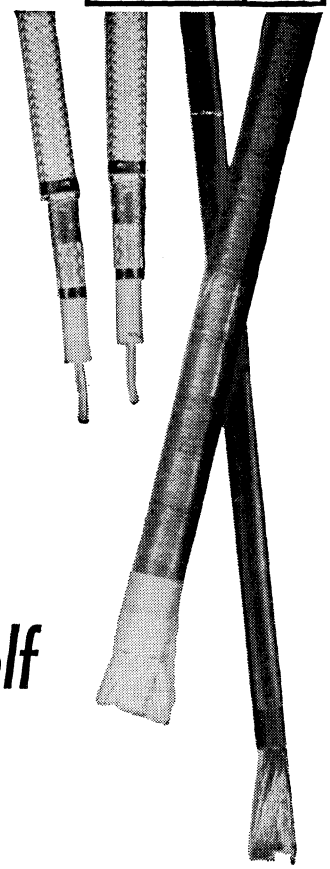

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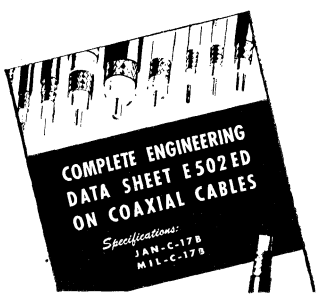

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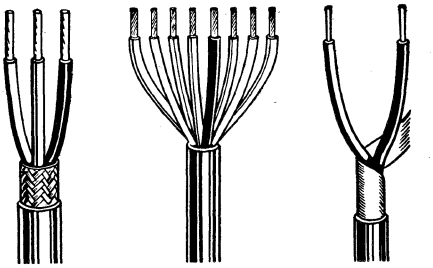
HICKORY BRAND
Electronic Wires and Cables
Plastic Insulated and Sheathed

INTERCOMMUNICATING and SOUND SYSTEM CABLES

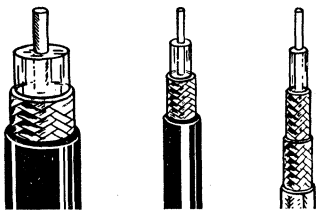
Cat. No.	No. Cond.	Cond. Type	Insulation	Dia. Over Jckt.	Length
8737	2 (shielded)	22 (7 x 30)	.015"	.160"	100'-500'-1000'
8759	2 (shielded)	20 (7 x 28)	.015"	.185"	100'-500'-1000'
8739	2 (shielded)	22 (solid)	.015"	.150"	100'-500'-1000'
8735	3 (shielded)	22 (7 x 30)	.015"	.189"	100'-500'-1000'
8734	3 (shielded)	22 (7 x 30)	.015"	.184"	100'-500'-1000'
8732	4 (2 shielded)	22 (7 x 30)	.015"	——	100'-500'-1000'
8738	2 (shielded)	22 (solid)	.015"	.130"	100'-500'-1000'
8758	2 (shielded)	20 (7 x 28)	.015"	.165"	100'-500'-1000'
8740	1 pair	22 (solid)	.015"	.134"	100'-500'-1000'
8741	2 pair	22 (solid)	.015"	.185"	100'-500'-1000'
8742	3 pair	22 (solid)	.015"	.220"	100'-500'-1000'
8743	6 pair	22 (solid)	.010"	.265"	100'-500'-1000'
8744	9 pair	22 (solid)	.010"	.320"	100'-500'-1000'
8753	11 pair	22 (solid)	.010"	.360"	100'-500'-1000'
8745	16 pair	22 (solid)	.010"	.390"	required
8746	26 pair	22 (solid)	.010"	.510"	100'-500'-1000'
8751	22 pair +4	24-18 (solid)	.010"	.580"	100'-500'
8752	33 pair +4	24-18 (solid)	.010"	.640"	100'-500'
8754	51 pair +4	24-18 (solid)	.010"	.740"	100'-500'
8442	2 cond	22 (7 x 30)	.010"	.130"	100'-500'
8443	3 cond	22 (7 x 30)	.010"	.140"	100'-500'
8444	4 cond	22 (7 x 30)	.010"	.158"	100'-500'
8445	5 cond.	22 (7 x 30)	.010"	.170"	100'-500'
8446	6 cond.	(4)22 (7 x 30) (2)18 (16 x 30)	.010" .018"	.212"	100'-500'
8447	7 cond.	(5)22 (7 x 30) (2)18 (16 x 30)	.010" .018"	.230"	100'-500'
8448	8 cond.	(6)22 (7 x 30) (2)18 (16 x 30)	.010" .018"	.235"	100'-500'
8449	9 cond.	(7)22 (7 x 30) (2)18 (16 x 30)	.010" .018"	.245"	100'-500'
8747	6 pair	22 (7 x 30)	.010"	.310"	100'-500'
8748	9 pair	22 (7 x 30)	.010"	.355"	100'-500'
8749	16 pair	22 (7 x 30)	.010"	.460"	100'-500'
8750	26 pair	22 (7 x 30)	.010"	.555"	100'-500'



No. 8735 No. 8448 No. 8739

Special vinyl compounds assure high insulation resistance, best electrical and physical properties. Precision short lay cabling maintains conductor balance, provides quiet circuit, free from cross talk. Free stripping vinyl outer jacket is waterproof and weather resistant. Quick termination, positive color coding and small diameter insure maximum economy in all installations. For balanced intercommunication systems, annunciators, telephones, control circuit cable, electronic computer cable, multiple speaker cable and signal systems.

COAXIAL CABLES



RG 8A/U RG 59A/U RG-14A/U

Polyethylene is used for conductor insulation and assures maximum operating efficiency. Shielding braid is single or double copper, single tinned copper or double silver, depending on type of cable. Dielectric material is polyethylene. These cables are especially adaptable to applications requiring high, very high and ultra-high frequencies. Typical examples of RG/U Cables are shown. Because of the constantly changing requirements for this type of cable, it is suggested that the factory be contacted for any cables not listed.

Army-Navy Type No.	Dielect. Ins. Dia. In.	Nom. Imped. Ohms	Attenuation DB/100 Ft. 400 MC	Attenuation DB/100 Ft. 3000	Nom. Overall Dia. In.	REMARKS
RG-8/U	.285	50	5.5	19	.405	Med. size, small power, trans.
RG-8A/U	.285	50	5.5	19	.405	Non-contaminating jacket
RG-9A/U	.285	50	5.5	19	.420	
RG-9B/U	.285	50	5.5	19	.475	Non-contaminating jacket
RG-10A/U	.285	50	5.5	19	.475	Armored RG-8A/U
RG-11/U	.285	75	5.2	18.5	.405	Med. size flexible
RG-11A/U	.285	75	5.2	18.5	.405	Non-contaminating jacket
RG-12A/U	.285	75	5.2	18.5	.475	Armored RG-11A/U
RG-13A/U	.285	75	5.2	18.5	.425	Video receiver cable
RG-14A/U	.370	50	4.3	14	.545	Med. size, med. power, trans.
RG-17/U	.680	50	2.5	11	.870	Med. and high power trans.
RG-17A/U	.680	50	2.5	11	.870	Non-contaminating jacket
RG-18/U	.680	50	2.5	11	.870	Armored RG-17/U
RG-18A/U	.680	50	2.5	11	.870	Armored RG-17A/U
RG-55/U	.116	50	11.7	40	.216	
RG-55A/U	.116	50	11.7	40	.216	Non-contaminating jacket
RG-58/U	.116	50	14	50	.195	Gen. purp. sm. sz. receiv.
RG-58A/U	.116	50	14	50	.195	Stranded RG-58/U
RG-58C/U	.116	50	14	50	.195	Non-contaminating jacket
RG-59A/U	.146	75	9	30	.242	Gen. purp. sm. sz. video
RG-74A/U	.370	50	4.3	14	.545	Armored RG-14A/U
RG-108A/U	.079 ea. cond	—50 ohms impedance			.235	Twisted pair video
RG-122/U	.096	50	18		.160	Gen. purpose, sm. sz.

ALSO AVAILABLE

are Hickory Brand Public Address and Sound System Cables, Hook-up and Lead Wires, Microphone Cable, Shielding and Bonding Cable, and Flexible Tubing.

HICKORY BRAND ELECTRONIC WIRES and CABLES are manufactured by SUPERIOR CABLE CORP., HICKORY, N. C.

See YELLOW SECTION for local offices, telephones, etc.

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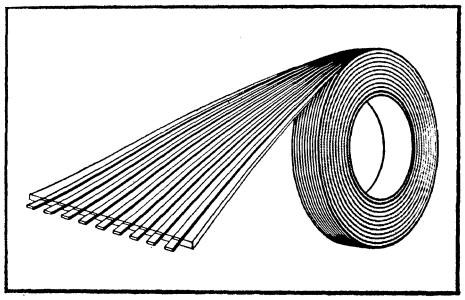

New...Tape Cable*

THIN **LIGHT** **FLEXIBLE** **TOUGH**

A MAJOR ADVANCE IN INTER-WIRING

TAPE CABLE is a flat, multi-conductor, coplanar electrical cable for this Space Age. Flat hair-thin copper conductors are prepositioned and imbedded in transparent polyester. Lightness, strength, flexibility and electrical characteristics are outstanding.

Present uses are main wiring in computers, telephone equipment, airborne devices, missiles, gate cables, book packaging of printed boards, sliding drawer cable, and scanning head cable.

Pre-positioned conductors in TAPE CABLE can save up to 90% of labor costs in wiring because:

1. All conductors are stripped simultaneously.
2. Positioning one conductor automatically positions all conductors.
3. All connections can be dip soldered in one operation.
4. Wiring errors are eliminated.

New *Selectacon technique permits automated harness assembly. Write for Engineering Bulletin #9.**

Commercial and military grade connectors are in stock at or available from AMP, Bendix-Scintilla, Elco and Industrial Hardware. These permit terminations to printed wiring, conventional round wire and cable, wire wrap, taper pins and taper tabs, and crimp or solder terminals.

TECHNICAL DATA FOR TYPE 1M3 TAPE CABLE

PHYSICAL CHARACTERISTICS

- Conductor size ..... .0015" x .030", spaced .100" on centers
- Cable weight ..... < 1 oz. per conductor per 100 feet
- Cable thickness ..... .011" max.
- Cable width ..... Determined by number of conductors, N (.100") + .100"
- Flexibility ..... Can be creased without damage
- Temperature, full rating..... —200° to +85°C. (—328° to +185°F.)

Tape Cable is flexible in liquid helium (—269°C. or —451°F.)

ELECTRICAL CHARACTERISTICS

	RATING	BREAKDOWN
Dielectric Strength thru insulation	300 V AC RMS	3500 V AC RMS
Dielectric Strength betwn. conductors	600 V AC RMS	3500 V AC RMS
Continuous Current all conductors	1 AMP	> 3 AMPS
Continuous Current one conductor	2 AMPS	> 5 AMPS
Resistance/conductor ft.	.17 ohm	
Interconductor capacitance/ft.	< 5 mmf	

Tape Cable is available in 25, 100, 500 and 1000 foot rolls. Other conductor materials, sizes, and spacings are available.

PRICE LIST

1M3 standard Tape Cable

TYPE	NUMBER OF CONDUCTORS	PRICE 25 FT.	PRICE 100 FT.
1M3-9	9 conductor	$ 18.90	$ 56.70
1M3-14	14 conductor	29.40	88.20
1M3-17	17 conductor	37.40	112.20
1M3-21	21 conductor	47.90	142.80
1M3-27	27 conductor	65.70	197.10
1M3-30	30 conductor	76.00	228.00
1M3-36	36 conductor	97.20	291.60
1M3-40	40 conductor	110.60	332.00
1M3-50	50 conductor	153.30	460.00

All orders shipped with instruction manual.

F.O.B. Rochester, N. Y. Delivery from stock.

Detailed information, samples, and assistance available from Tape Cable Corp. representatives in all sections of the U.S.A.

*Tape Cable & Selectacon are Trade Marks of the Tape Cable Corp. Pats. Pend.

TAPE CABLE CORP. • 790 Linden Ave. • Rochester 10, N. Y.

Phone: LUdlow 6-0330 • TWX E RO 579

See YELLOW SECTION for Local Offices, Telephones, etc.

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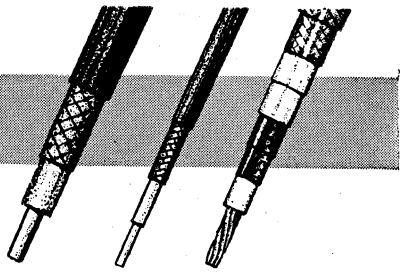
TIMES

COAXIAL CABLES



Times Wire & Cable Co., Inc. manufactures the full range of Coaxial Cables under the most rigid tolerances, to meet or surpass MIL C-17B specifications. (See listing).

MINIATURIZED. Miniaturized cables, with either polyethylene or Teflon dielectric, are available in a wide range that encompasses most all applications.

TEFLON. Teflon dielectric is used in those cables designed to operate efficiently in the 500° F range. These cables exhibit greater power handling capabilities than cables of equal size using polyethylene dielectric.

Special constructions which depart in design from standard are available upon request.

CHARACTERISTICS	POLYETHYLENE	TEFLON
Specific Gravity	.92	2.2
Water Absorption	.01%	0.00%
Cold-Brittleness	—94°F	—100°F
Dielectric Constant 60 cycles to 1 mc.	2.29	2.0
Power Factor 60 cycles to 1 mc.	.0005	.0002
Volume Resistivity, ohm—cm	10^{15}	10^{15}
Softening Temperature	220°F	500°F
Velocity of Propagation	65.9% (solid)	69.5%
(dielectric material)	84.0% (semi-solid)	

RG/U Number	Times' Number	Impedance	Capacity mmf/ft.	Dielectric Material	Center Conductor	Jacket Material	Shield	Over-All Diameter
4	SSD 4	50	30.0	Poly	20	B	CC	.226
5	SSD 5	52.5	28.5	Poly	16	B	CC	.332
5A	SSD 5A	50	29	Poly	16S	G	SS	.328
5B	SSD 5B	50	29.5	Poly	.053S	BLT	SS	.332
6	SSD 6	76	20	Poly	21 CW	G	SC	.332
6A	SSD 6A	75	20	Poly	21 CW	BLT	SC	.332
7	SSD 7	97	12.5	SS Poly	19	B	C	.370
8	SSD 8	52	29.5	Poly	7/21	B	C	.405
8A	SSD 8A	50	30.5	Poly	7/.0296	BLT	C	.405
9	SSD 9	51	30	Poly	7/21S	G	SC	.420
9A	SSD 9A	51	30	Poly	7/21S	G	SS	.420
9B	SSD 9B	50	30.5	Poly	7/.0296	BLT	SS	.420
10	SSD 10	52	29.5	Poly	7/21	G*	C	.475
10A	SSD 10A	50	30.5	Poly	7/.0296	BLT*	C	.475
11	SSD 11	75	20.5	Poly	7/26T	B	C	.405
11A	SSD 11A	75	20.5	Poly	7/26T	BLT	C	.405
12	SSD 12	75	20.5	Poly	7/26T	G*	C	.475
12A	SSD 12A	75	20.5	Poly	7/26T	BLT*	C	.475
13	SSD 13	75	20.5	Poly	7/26T	B	CC	.425
13A	SSD 13A	75	20.5	Poly	7/26T	BLT	CC	.425
14	SSD 14	52	29.5	Poly	10	G	CC	.545
14A	SSD 14A	52	29.5	Poly	10	BLT	CC	.545
15	SSD 15	76	20	Poly	15 CW	B	CC	.545
16	SSD 16	52	29.5	Poly	.125 C Tube	B	C	.630
17	SSDL 17	52	29.5	Poly	.188	G	C	.870
17A	SSDL 17A	52	29.5	Poly	.188	BLT	C	.870
17B	SSDL 17B	52	29.5	Poly	.188	BLT	SS	.940
18	SSDL 18	52	29.5	Poly	.188	G*	C	.945
18A	SSDL 18A	52	29.5	Poly	.188	BLT*	C	.945
19	SSDL 19	52	29.5	Poly	.250	G	C	1.120
19A	SSDL 19A	50	30.5	Poly	.260	BLT	C	1.120
20	SSDL 20	52	29.5	Poly	.250	G*	C	1.195
20A	SSDL 20A	50	30.5	Poly	.260	BLT*	C	1.195
21	SSD 21	53	29	Poly	16N	G	SS	.332
21A	SSD 21A	50	30	Poly	.053N	BLT	SS	.332
22	SSD 22	95	16	Poly	Two 7/.0152	B	T	.405
22A	SSD 22A	95	16	Poly	Two 7/.0152	G	TT	.420
22B	SSD 22B	95	16	Poly	Two 7/.0152	BLT	TT	.420
23	SSDL 23	125	12	Poly	Two 7/21	B	CC	.650 †x .945
23A	SSDL 23A	125	12	Poly	Two 7/21	BLT	CC	.650 †x .945
24	SSDL 24	125	12	Poly	Two 7/21	B*	CC	.735 †x1.034
24A	SSDL 24A	125	12	Poly	Two 7/21	BLT*	CC	.735 †x1.034
29	SSD 29	53.5	28.5	Poly	20	P	T	.184
34	SSD 34	71	21.5	Poly	7/21	B	C	.625
34A	SSD 34A	75	20.5	Poly	7/.0249	BLT	C	.630
35	SSDL 35	71	21.5	Poly	9	G*	C	.945
35A	SSDL 35A	71	21.5	Poly	9	BLT*	C	.945
36	SSDL 36	69	22	Poly	.162	B*	C	1.180
42	SSD 42	78	20	Poly	21N	G	SS	.342
54	SSD 54	58	27	Poly	7/26	B	C	.275
54A	SSD 54A	58	26.5	Poly	7/.0152	Poly	T	.250
55	SSD 55	53.5	28.5	Poly	20	Poly	TT	.206
55A	SSD 55A	50	29.5	Poly	0.35S	BLT	SS	.216
57	SSD 57	95	17	Poly	Two 7/21	B	T	.625
57A	SSD 57A	95	17	Poly	Two 7/21	BLT	T	.625
58	SSD 58	53.5	28.5	Poly	20	B	T	.195
58A	SSD 58A	50	29.5	Poly	19/.0071T	B	T	.195
58B	SSD 58B	53.5	28.5	Poly	20	BLT	T	.195
58C	SSD 58C	50	29.5	Poly	19/.0071T	BLT	T	.195
59	SSD 59	73	21	Poly	22 CW	B	C	.242
59A	SSD 59A	75	20.5	Poly	.023 CW	BLT	C	.242
62	SSDS 62	93	13.5	SS Poly	22 CW	B	C	.242
62A	SSDS 62A	93	13.5	SS Poly	22 CW	BLT	C	.242
62B	SSDS 62B	93	13.5	Poly	7/32 CW	BLT	C	.242
62C	SSTS 62C	93	13.5	SS Tef	22 CWS	FG	S	.242
63	SSDS 63	125	10	SS Poly	22 CW	B	C	.405
63A	SSD 63A	125	—	Poly	22 C	B	C	.405
63B	SSDS 63B	125	10	SS Poly	22 SW	BLT	C	.405
71	SSDS 71	93	13.5	SS Poly	22 CW	Poly	T or C	.250
71A	SSDS 71A	93	13.5	SS Poly	22 CW	BLT	T or C	.245
72	SSDS 72	150	—	SS Poly	22 CW	B	C	.630
73	SSD 73	25	—	Poly	20	none	CC	.275
74	SSD 74	52	29.5	Poly	10	G*	CC	.615
74A	SSD 74A	52	30.0	Poly	10	BLT*	CC	.615
79	SSDS 79	125	10	SS Poly	22 CW	B*	C	.475
79A	SSD 79A	125	—	Poly	22	B	C	.415
79B	SSDS 79B	125	10	SS Poly	22 CW	BLT*	C	.475
83	SSD 83	35	44	Poly	10	B	C	.405
86	SSD 86	205	—	Poly	Two 7/.0285	Poly	—	†∫ .650x } .300
87	SST 87	50	29.5	Tef.	7/21S	FG	SC	.425
87A	SST 87A	50	29.5	Tef.	7/.03125	FG	SS	.430
89	SSD 89	125	10	Poly	22 CW	B	C	.632
93	SST 93	50	29	Tef. Tape	19 Strands .200 Dia.	FG	C	.710
94	SST 94	50	29	Tef. Tape	19/23S	FG	CC	.445
94A	SST 94A	50	27	Tef. Tape	19/22S	FG	CC	.470
100	SSD 100	35	44	Poly	19/.0147	B	C	.242
108	SSD 108	78	24.5	Poly	Two 7/28T	B	T	.245
108A	SSD 108A	78	23.5	Poly	Two 7/28	BLT	T	.235
111	SSD 111	95	16	Poly	Two 7/.0152	G*	TT	.490
111A	SSD 111A	95	16	Poly	Two 7/.0152	BLT*	TT	.490
114	SSDS 114	185	6.5	SS Poly	33 CW	B	C	.405
114A	SSDS 114A	185	6.5	SS Poly	33 CW	BLT	C	.405
115	SST 115	50	29.5	Tef. Tape	7/21S	FG	SS	.375
115A	SST 115A	50	29.5	Tef. Tape	7/21S	FG	SS	.415
116	SST 116	50	29.5	Tef.	7/.0312S	FG*	SS	.475
119	SST 119	50	29	Tef.	.102	FG	CC	.465
120	SST 120	50	29	Tef.	.102	FG*	CC	.515
122	SSD 122	50	29.3	Poly	27/36T	B	T	.160
124	SST 124	73	20.3	Tef. Tape	22 CWT	FG	T	.240
125	SSDS 125	150	7.8	SS Poly	26 CW	BLT	C	.600
126	SST 126	50	29	Tef.	7/24K	FG	K	.280
130	SSD 130	95	17	Poly	Two 7/21	B	T	.625
131	SSD 131	95	17	Poly	Two 7/21	B*	T	.710
133	SSD 133	95	16.2	Poly	21	B	C	.405
140	SST 140	75	21	Tef.	.025 CWS	FG	S	.233
141	SST 141	50	28.5	Tef.	19 CWS	FG	S	.190
142	SST 142	50	28.5	Tef.	19 CWS	FG	SS	.206
143	SST 143	50	28.5	Tef.	15 CWS	FG	SS	.325
144	SST 144	75	20.5	Tef.	7/25 CWS	FG	S	.410
147	SSDL 147	52	29.5	Poly	.250	B*	C	1.937
148	SSDL 148	52	29.5	Poly	7/21	B*	C	.800
149	SSD 149	75	—	Poly	7/26T	B	C	.405
150	SSD 150	75	—	Poly	7/26T	B*	C	—
156	SSD 156	50	30	Poly	7/21T	BLT	TTT	.540
157	SSD 157	50	38	Poly	19/24T	BLT	TTT	.725
158	SSD 158	25	78	Poly	37/0284T	BLT	TTT	.725
159	SST 159	50	29.0	Tef. Tape	20S	FG	SS	.195
160	SSDL 160	125	12.0	Poly	Two 19/27T Two 19/27	B	C	1.055
161	SST 161	70	20	Tef.	7/38 SCB	BN	S	.090
164	SSDL 164	75	21.5	Poly	.1045	BLT	C	.870
165	SST 165	50	29.5	Tef.	7/.032S	FG	S	.410
166	SST 166	50	29.5	Tef.	7/.032S	FG	S	.460
174	SSD 174	50	30	Poly	7.0063 CW	B	T	.100
177	SSDL 177	50	30	Poly	.195	BLT	SS	.895
178	SST 178	50	27.9	Tef.	7/38S	Kel-F	S	.075
179	SST 179	70	—	Tef.	7/38S	Kel-F	S	.090
180	SST 180	93	14.5	Tef.	7/38S	Kel-F	S	.137
181	SST 181	125	12	Tef.	7/26	BLT	C	.640
187	SST 187	75	19.3	Tef.	7/38 CWS	Tef.	S	.110
188	SST 188	50	29.0	Tef.	7/.0067 CWS	Tef.	S	.110
195	SST 195	95	15.2	Tef.	7/38 CWS	Tef.	S	.155
196	SST 196	50	29.0	Tef.	7/38 CWS	Tef.	S	.080

LEGEND:

SSD—Regular cables with final O.D. of .779" or less.
SSDL—Regular cables with final O.D. of .800" or more.
SSDS—Cables with semi-solid dielectric.
SST—Regular cables with final O.D. of .799" or less and using Teflon plastic.

† Rectangular O.D. — both dimensions given.
C—Copper T—Tinned Copper S—Silver Plated Copper CW—Copperweld
CWS—Silver Coated Copperweld Poly—Polyethylene, Type A
SS Poly—Semi-solid Polyethylene B—Black G—Grey
BLT—Black, Low Temperature, Non-Contaminating FG—Fiber Glass
*—Armored Cable Tef.—Teflon

See YELLOW SECTION for Local Offices, Telephone, etc.

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TIMES SPECIAL PURPOSE CABLES

MULTIPLE CONDUCTOR. Telephone type (up to 91 pairs), Control Cables (from .150" to 1.50" in diameter) and Communications type (combination coaxial cables and twisted pairs) cables, utilizing polyethylene, vinyl, nylon or Teflon insulation, designed, built to individual specifications. Special low temperature cables to operate at —55°C to —75°C, also available.

LOW CAPACITANCE. Designed for Low Frequency Pulse Transmission, HF RF Coupling and Low Shunt Capacitance lead applications. Designed and built to any specifications in capacitance ranges of 6 mmf through 10 mmf per ft. Available with solid (cellular) or semi-solid polyethylene dielectric, and vinyl, polyethylene or nylon jackets, or Teflon dielectric and jacket for applications requiring higher temperatures and greater reliability. Nylon and Teflon jackets in 14 standard solid colors and over 300 color striping combinations. Miniaturized constructions of the full range of Low Capacitance cables, are available.

TRIAXIAL (TIMES' JT CABLES). Developed for wired TV transmission applications where extremely low radiation loss is demanded by FCC, and has wide application where low noise, low pick-up cables are required. Utilizes cellular polyethylene dielectric to achieve 40% lower attenuation, smaller size, lighter weight and greater tensile strength than regular RG type cables. Patented, non-contaminating, high molecular weight, weather proof, "Xelon" jacket has 20 year life anticipation. Standard JT cables have 75 ohm impedance, 50 ohm available upon request.

	Attenuation db/100' @ 100 mc	O.D. Inches
JT 200	0.79	.775
JT 201	1.44	.460
JT 202	2.65	.325
JT 203	2.20	.350

SINGLE CONDUCTOR HOOK-UP WIRES

MEDIUM TEMPERATURE. For electrical and electronic applications requiring U/L approval for use at 80°, 90°, 105°C. Solid or flexible conductors with vinyl insulation in 14 standard solid colors, or over 300 spirally striped color combinations, Nylon jackets, fiberglass, rayon, cotton braids and shielded versions available as required.

Types LW, HW, MW, FX and HF, rated at 60°C. manufactured to meet MIL-W-76A, and types B, C, D rated for 100°C. to meet MIL-W-16878B.

CONDUCTOR SILVER PLATED COPPER WIRE	600 VOLTS TYPES T, AT .01" NOM. WALL THICKNESS (CORRESPONDS TO TYPE E)		1,000 VOLTS, TYPES TT, ATT .015" NOM. WALL THICKNESS (CORRESPONDS TO TYPE EE)	
AWG.	Dia. Over Insulation (max.)	Times' Number	Dia. Over Insulation (max.)	Times' Number
32	.033"	T, AT 32	.043"	TT, ATT 32
30	.036"	T, AT 30	.046"	TT, ATT 30
28	.039"	T, AT 28	.049"	TT, ATT 28
26	.043"	T, AT 26	.053"	TT, ATT 26
24	.048"	T, AT 24	.058"	TT, ATT 24
22	.054"	T, AT 22	.064"	TT, ATT 22
20	.062"	T, AT 20	.072"	TT, ATT 20
18	.074"	T, AT 18	.084"	TT, ATT 18
16	.087"	T, AT 16	.095"	TT, ATT 16
14	.101"	T, AT 14	.113"	TT, ATT 14
12	.120"	T, AT 12	.132"	TT, ATT 12
10	.157"	T, AT 10	.169"	TT, ATT 10

HIGH TEMPERATURE (TIMES' SERIES T WIRES AND CABLES).

Teflon insulated hook-up wires manufactured to MIL-W-16878B specifications, in types E and EE. Extruded (Times' type T) or spirally wrapped and fused (type AT) Teflon insulations are available in 14 solid colors and over 300 spirally striped color combinations.

Shielded constructions (types TS, ATS) and jacketings of Teflon, Nylon, Kel-F and silicone impregnated glass braid over shields (types TSJ, ATSJ) available for complete range of wires.

Times also manufactures Teflon insulated hook-up wires to meet NAS-703 and MIL-W-7139.

Over 2,000 wire and cable constructions for electric, electronic and communications applications, available as standard and engineered products.

TIMES WIRE & CABLE CO., Inc.
400 Hall Avenue, Wallingford, Conn.
An affiliate of International Silver Co.

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Tensolite RELIABLE HIGH TEMPERATURE WIRE & CABLE

Tensolite facilities are devoted exclusively to the engineering and manufacturing of miniature plastic insulated wire and cable—featuring Teflon insulation for high temperature (—90 deg. C. to +250 deg. C.) applications. 100 percent inspections before, during and after manufacture, part of the most rigid quality control program in the industry, assures reliability of the finished product.

"TEFLON" INSULATED CABLE

From large sizes using 6 AWG wire down to subminiature cables with 36 AWG single conductors, Tensolite makes multi-conductor cables to your specifications. Tensolite cables utilize the maximum number of conductors in a minimum of area—saving weight and space. They're available as ribbon cable or in standard round configurations. For demanding applications, we recommend individual conductors of our FLEXOLON wire.

HOOK-UP WIRE

TYPE E-EE TO MIL-W-16878

FLEXOLON WIRE

A new concept in high temperature insulation developed by Tensolite's research and development laboratories. **FLEXOLON** wire provides the best properties of wrapped and extruded fluorocarbon insulation. Important features of this versatile hook-up and lead wire are:

- Solid colors and striped combinations.
- Most flexible of all hook-up wire construction.
- High temperature range of —90 deg. C. to +250 deg. C.
- Greatest miniaturization in MIL-SPEC hook-up wire (smallest hook-up wire in the world).
- High dielectric strength (far exceeds required 600 V and 1000 V ratings).
- Consistent concentricity.
- Superior cut-through resistance.

TENSOLON WIRE

Insulated with TFE fluorocarbon high temperature resin.

Choose from:

Spiral wrapped...with special cross-lapped construction and unlimited color coding; striping that meets commercial and military specifications.

Extruded...featuring an extruded homogeneous Teflon TFE resin (solid and inked stripe combinations).

TENSOLEX WIRE

Insulated with extruded vinyl plastic.

Types B and C meet **MIL-W-16878.** They are high temperature hook-up wires rated for continuous use from —55 deg. C. to +105 deg. C. with or without nylon jackets.

TENSOLEX WIRE

Types WL and SRIR are manufactured in accordance with the joint Army-Navy specification **JAN-C-76** (Qualification approval Certificates Nos. 13725 and 13606A).

Types LW and MW are general purpose hook-up wires specifically designed for radio, instrument, and military electronic applications. Designed to meet **MIL-W-76A,** they are recommended for use at temperatures up to 80 deg. C. in the internal wiring of electrical and electronic equipment.

TENSOLITE WRAPPED VINYL WIRE

Super-flexible wire designed for miniaturization applications at operating temperatures from —40 deg. C. to +60 deg. C.

AIRFRAME WIRE

TENSOLON AIRFRAME WIRE

Insulated with high-temperature resin, it is manufactured in compliance with **MIL-W-7139A.** Important features are:

- —90 deg. C. to +250 deg. C. temp. range.
- 600 Volt and prescribed overload operation.
- Rugged, abrasion resistant construction.
- Short-time operation in event of fire.
- High resistance to chemicals.
- Excellent flexibility.

COAXIAL CABLE

TENSOLON MINIATURE COAXIAL CABLE

Designed to meet **MIL-C-17B,** it is ideal for high frequency operation from —90 deg. C. to +250 deg. C. Insulation assures extremely low loss, high dielectric strength, and complete resistance to moisture and chemicals. A great variety of outer jackets permits the selection of cable well suited for many application requirements.

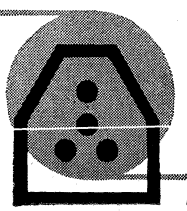
MAGNET WIRE

TUFFLON MAGNET WIRE

High temperature Teflon insulated magnet wire — designed to meet **MIL-W-19583** — is ideal for coils and windings requiring high temperature application. It is supplied in wall thicknesses ST, HT, TT and QT and AWG sizes 18 through 44.

OTHER PRODUCTS

Ignition Cable	Low Capacitance Cable	Wire Coated with Teflon 100X FEP Resin	Teflon Inks
Asbestos Wire to MIL-C-25038	Air Dielectric Cable	100% Shielded Wire	Bondable Wire
Antenna Wire	Low Noise Cable	Ribbon Cable Shielded and Unshielded	Etched Wire
Thermocouple Wire	Tempered Magnet Wire		High Flex Wire and Cable
	Double Quad Lead Wire		Nickel Plated Conductor



Tensolite INSULATED WIRE CO., INC.

West Main Street, Tarrytown, New York • Telephone: MEdford 1-2300

Pacific Division: 1516 N. Gardner Street, Los Angeles, California

FLEXOLON is a trademark of Tensolite Insulated Wire Co., Inc. • TEFLON is a registered trademark of the du Pont Company

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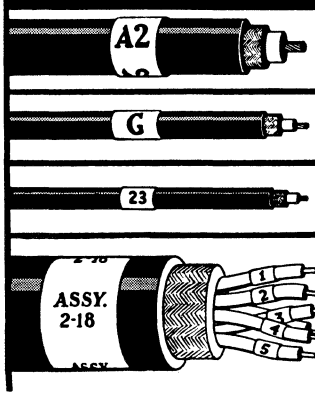
E-Z-CODE self-adhering WIRE MARKERS

POSITIVE IDENTIFICATION FOR MINIATURE WIRES • HARNESSES • CABLES • WIRES OF ANY SIZE



1½" long stock E-Z-CODES for wires ¼" O.D. and over.

¾" long stock E-Z-CODES for wires under ¼" O.D.

½" long stock E-Z-CODES for miniature wires under 5/32" O.D.

For marking cables and harnesses, E-Z-CODES are available in lengths over 1½".

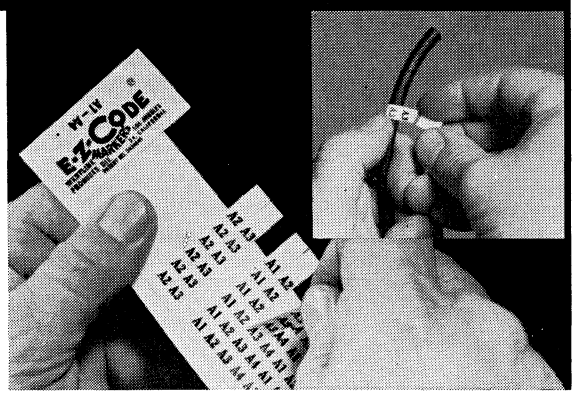
E-Z-CODES conform to NEMA Color Standards, ASA, National Machine Tool Builders specifications.

STOCK CODES — Black on White numbers, letters, sequence, combinations, etc.

COLOR CODES — Stocked in dual-identification colors **and** numbers.

STOCK MATERIALS — VARI-TEMP cloth (—300F° to plus 300°F) meets Mil-D-10369B for fungus resistance.

ALUMINUM-FOIL, a high-temperature tape.



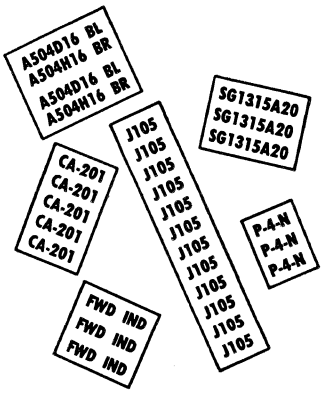
IMMEDIATE DELIVERY FROM DISTRIBUTOR'S STOCK

For your distributor, contact nearest Westline Sales office shown below

WITH E-Z-CODES . . . "YOU GRAB THE TAB — NOT THE ADHESIVE."

E-Z-CODE Markers with the patented release method are furnished on a Speed-Tab dispenser card that enables you to remove only one self-adhering marker at a time without disturbing or contaminating remaining markers on card. Assures clean, non-contaminated adhesive on marker when wrapping around wire for a more permanent adhesion.

SPECIAL WIRE MARKERS



also available SPECIAL MARKERS AND LABELS in any wording - size - shape - color - material on speed-tab dispenser cards. If the many thousands of stock items don't meet requirements —"specials will". Westline has the answer to your marking and labeling problems.

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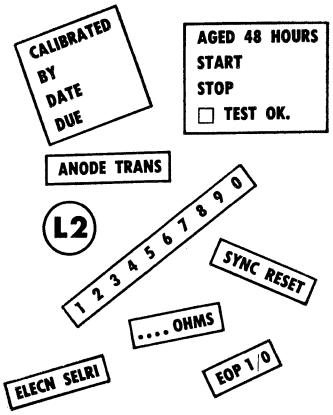

THOUSANDS OF STOCK ITEMS FOR IMMEDIATE SHIPMENT SPECIAL MARKERS MADE TO YOUR PARTICULAR SPECIFICATION

All E-Z-CODES give sure, foolproof, lasting identification to wires, cables, harnesses, pipes, miniature and sub-miniature wires and components, etc., and at insignificant cost. Available in many sizes, colors, shapes and materials, vari-temp cloth, aluminum-foil, glass-cloth, acetate, vinyl, cellophane, paper, etc.

Vari-temp cloth in stock or special orders meets Mil-D10369B for fungus resistance. Conforms to NEMA STANDARDS, ASA, MACHINE TOOL STANDARDS. FOREIGN INQUIRIES INVITED.

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MANUFACTURERS & SALES OFFICES DIRECTORY

The following is an alphabetical listing of more than 5,000 manufacturers supplying electronic equipment, components and services. Included are addresses, telephone numbers, key personnel and local sales offices. Manufacturers who have product information in the catalog section (white pages) are shown in **bold face type** with their respective page numbers.

Electronic Engineers Master is the industry's only annual containing complete listings of sales offices and/or sales representatives. Sales offices are arranged alphabetically by state under each manufacturer. Look for the city closest to you.

Please mention **eem** whenever you contact manufacturers or their local sales offices.

A-1 PRECISION PRODUCTS, (Page 600), 5454 W. Washington Blvd., Los Angeles, Calif., Tel: WEbster 1-8156; Sls. Mgr: R. A. Felburg; Pur. Agt: L. Jacobson
Sales Offices: ● **ARIZ., PHOENIX,** Moore, H. A. Sales, Box 7245; ● **CALIF., SAN FRAN., Howard,** G. M. & Assoc., 1301 Sixth St; **SAN DIEGO,** Setchell, James A., 301 W. G. St., **SANTA ANA,** Brust, Charles K., 2301 Olive St.; ● **CAN., MONTREAL,** Gould, E. S. Sales, 353 St. Nicholos St.; ● **COLO., DENVER,** Cox Sales, Box 4201; ● **ILL., CHI.,** Schenck, E. W., 7743 Oglesby Ave., **ELMHURST,** Cunningham, W. L. & Assoc., 435 Addison Ave.; ● **KAN., WICHITA,** Sandford Co., 211 Brown Bldg.; ● **MASS., LEXINGTON,** School Assoc., 11 Muzzy St.; ● **MICH., GRAND RAPIDS,** Schenck, E. W. Assoc., 2530 Maplewood St.; ● **MINN., MPLS.,** Warner, A. J. Co., 5022 29th Ave. S.; ● **N. Y., MT. VERNON,** Sonkin, David Assoc., 10 Fiske Pl., **ROCHESTER,** Young Assoc., 520 East Ave.; ● **OHIO, WESTERVILLE,** Schenck, E. W. Assoc., Box 112; ● **PA., HAVERTOWN,** Satterthwaite, W. F., 103 E. Township Line; ● **TEXAS, DALLAS,** Packard Assoc., Love Fld. Ter. Bldg.; ● **WASH., SEATTLE,** Martilla, A. H. Co., Adm. Bldg., Boeing Fld.

AA Metal Products, Inc., 154 Elliott St. — Box 716, Brattleboro, Vt.

AC Electronic Div., General Motors Corp., Flint, Mich.

AC Electronics, Inc., 11725 Mississippi Ave., Los Angeles, Calif., Tel: GRanite 8-4288; Sls. Mgr: E. L. Almo; Pur. Agt: H. T. Almo

A C Spark Plug Div., General Motors, 1925 E. Kenilworth Pl., Milwaukee,Wisc., Tel: BR. 3-1120; Sls. Mgr: M. B. Price; Pur. Agt: M. P. Lauret
Sales Offices: ● CALIF., LOS ANGELES, Doonan, Frank, 5670 E. Washington, RA 3-5171; ● D. C., WASHINGTON, Johnson, M. E., 1625 1 St. N. W., EX 3-1133; ● MICH., FLINT, MacArthur, Jack, 1300 N. Dort Hwy., CE 4-5611; ● OHIO, DAYTON, Collins, Bernard J., 34 N. Main St., BA 2-4627; ● TEXAS, DALLAS, Wheless, Harvey H., N. Central Express, EM 3-3482

A. C. Transformer Corp., 89 Madison St., Newark, N. J., Tel: MItchell 2-7454; Pres.: A. C. Greyson

A & D Electronics, Inc., Mt. Pascal Rd., Hackettstown, N. J., Tel: GArden 5-5716; Pur. Agt.: R. A. Dinzl

ADRE, 8980 W. Hawthorne La., Hales Corners, Wisc., Tel: GArden 5-0453; Sls. Mgr.: H. Steuer
Sales Offices: ● MINN., MINNEAPOLIS, Heyda, B., 6101 Auto Club Rd.; ● PA., SCRANTON, Richcraft Prod., 228 Franklin Ave.

A.G.A. Div. Elastic Stop Nut Corp. of America, 1027 Newark Ave., Elizabeth, N. J. Tel: ELizabeth 2-2900; Sls. Mgr.: W. A. Feitner; Pur. Agt.: R. E. Joubert
Sales Offices: ● CALIF., LOS ANGELES, Clapp, R. B., Co., 314 Omar Ave., MU 9135; SAN DIEGO, Henberger, John C., 3536 Crown Point Dr., HU 8-0317; SAN FRANCISCO, McCarthy-Hood & Assoc., 1485 Bayshore Blvd., JU 6-1860; ● CAN., TORONTO, Gasaccumulator Co., 12 Gower St., PL 5-5297; ● COLO., DENVER, Mountain States Mach. Co., 1526 Blake St., CH 4-7421; ● D. C., WASHINGTON, Day, Irving M., Co., 723 Mills Bldg., ST 3-2982; ● FLA., W. BRADENTON, Whitaker, A. K., 1315 21st St., BR 6-2905; ● ILL., CHICAGO, Newman-Krause Co., 5451 W. Lawrence Ave., PE 6-6777; ● IND., ANGOLA, Law Instrument Co., Box 95, Tel: 217; ● LA., NEW ORLEANS, Bornemann, Walter E., 4719 Cartier Ave,. FA 2504; ● MASS., BOSTON, Elect. Apparatus Co., 1200 Soldiers Fld. Rd., ST 2-7440; ● MICH., DETROIT, Hill, Buryl R., Co., 15425 Schaefer Hwy., VE 8-3460; ● MINN., MINNEAPOLIS, Elect. Jobbers Equip. Co., 619 Fourth Ave., S., FE 6-6321; ● MO., KANSAS CITY, Jones, Charles D., Co., 3023 Main St., LO 3763, ST. LOUIS, Baker Control & Engrg. Co., 4330 W. Papin St., JE 4948; ● N. Y., BUFFALO, Lamb, Robert F., Co., 1807 Elmwood Ave., BE 3757, DEWITT, Wulfetange, J. F., Jr., 4505 E. Genesse St., GI 6-3330; ● OHIO, CLEVE., Jay Engrg. Co., 5413 Pearl Road, TU 4-4080, DAYTON, Jay Engrg. Co., 1721 E. Third St., KE 2151; ● OKLA., TULSA, Furtney, Harold Co., Box 7081, Brookside Sta., RI 7-6490; ● ORE., PORTLAND, Polich, Andrew L., Inc., 734 N. W. Glisan St., CA 3-6241; ● PA., DREXEL HILL, McDavitt, C. N., Box 8, Pil. Gar. Sta., KI 4-2588, PITTSBURGH, Wargo, William E., Co., 211 Yarrow Lane, TU 5800; ● TEXAS, DALLAS, Scanlon, P. J., Co., 2608 Inwood Road, FL 1-9991, HOUSTON, Indl. Equip. Co., 6831 Navigation Blvd., WA 8-5431; ● UTAH, SALT LAKE CITY, Pace-Turpin Co., 726 S. Third W., DA 2-5595; ● VA., RICHMOND, Atwell, R. L., 3444 Grove Ave., EL 3-5145; ● W. VA., CHARLESTON, Zimmerman, G. H. & Co., Box 1306, Tel: 2-2212; ● WASH., SEATTLE, Seatronics, Inc., 1806 Bush Pl., EA 3-8545

AIR Products Co., 85 Westwood Circle, Roslyn, N. Y.

A & J Mfg. Co., 1013 W. Hillcrest Blvd., Inglewood, Calif., Tel: OR 8-3504; Sls. Mgr.: J. R. Young; Pur. Agt.: A. L. Young

A-K Mfg. Co., Inc., 115 S. Northwest Hwy., Barrington, Ill., Tel: DUnkirk 1-5432; Sls. Mgr.: G. K. Knaack; Pur. Agt.: A. H. Bieganski
Sales Offices: ● CALIF., RESEDA, Cozzi, Michael J., 6245 Zelzah Ave., DI 2-7383; ● ILL., CHICAGO, Caine Electrn Sales Co., 3020 N. Cicero, SP 7-4022

AMI, Inc., 1500 Union Ave., S. E., Grand Rapids, Michigan

AMP, Inc., Eisenhower Blvd., Harrisburg, Pa., Tel: JOrdan 4-0101; Sls. Mgr.: H. Haas; Pur. Agt.: G. Beck

AMP, Inc., Capitron Div., 155 Park St., Elizabethtown, Pa., Tel: EMpire 7-1105; Sls. Mgr.: J. A. O'Brien; Pur. Agt.: G. Beck
Sales Offices: ● ARIZ., TUCSON, Wagner, Miles C., Jr., 215 E. River Rd., MA 3-5353; ● CALIF., ARCADIA, Fiske, John J., Box 585, HI 7-7655; ● FLA., ST. CLOUD, Kruse, Robert W., Box 146, TW 2-1503; ● ILL., ROSELLE, Tingleff, Raymond D., 105 Bradley Lane, TW 4-3337; ● MASS., CONCORD, Rauseo, John V., Box 401, EM 9-2223; ● MD., TOWSON, Latch, George K., 320 Weatherbee Rd., VA 5-1566; ● TEXAS, GARLAND, Pyle, Emmett M., Box 665, BR 8-2244

A. P. M. Co. (Automatic & Precision Mfg. Co.) 252 Hawthorne Ave., Yonkers, N. Y., Tel: YOnkers 8-2010; Sls. Mgr.: R. Solins; Pur. Agt.: C. C. Brandt
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A. P. W. Co., 72 W. Main St., Rockaway, N. J., Tel: OAwood 7-0643; Sls. Mgr.: A. Pfeil
Sales Office: ● N. Y., SEAFORD, Abbott, Henry, 3939 Wicks Ave., SU 1-5256

A. R. F. Products, Inc., 7627 Lake St., River Forest, Ill.

ARRA CORPORATION (Antenna & Radome Research Assoc.) (Pgs. 792-794), 1 Bond St., Westbury, N. Y., Tel: EDgewood 4-8770; Sls. Mgr.: E. B. Weissman
Sales Offices: ● **CALIF., LOS ANGELES,** West Eleven, Inc., 200 N. Barrington Ave., GR 2-2686, **PALO ALTO,** White and Co., 788 Mayview Ave., DA 3-4455; ● **CONN., MERIDEN,** Abbott-Allison Co., Box 467, BE 7-9232; ● **N. Y., NEW YORK,** H. A. F. Assoc., 330 E. 70th St., RE 7-1330

A-V Mfg. Corp., 305 Broadway, New York, N. Y.

Abacus, Inc., 3040 Overland Ave., Los Angeles, Calif., Tel: VErmont 7-6169; Sls. Mgr.: F. Zimmerman; Pur. Agt.: P. Davies

Abalon Precision Mfg. Co., 540 Casanova St., Bronx, N. Y., Tel: LUdlow 9-5682; Pres.: L. Orent

Abrams Instrument Corp., 600-620 E. Shiawassee St., Lansing, Mich, Tel: IV 4-9441; Sls. Mgr.: C. J. Arksey; Pur. Agt.: C. E. Adams
Sales Offices: ● CALIF., LOS ANGELES, MacLennan, D. K. Co., 921 Westwood Blvd.; ● OHIO, DAYTON, Ashby, Griffin L. Assoc., 4501 Sunray Rd.

Accurate Electronics Corp., 169 S. Abbe Rd., Elyria, Ohio, Tel: EMerson 6-7925; Sls. Mgr.: J. F. Seybold
Sales Offices: ● CALIF., SAN FRANCISCO, Featherstone & Salisbury, 607 Market St., YU 2-5766; ● CAN., MONTREAL, Electrolabs, 7385 St. Lawrence Blvd., CR 6-6076; ● COLO., DENVER, Vines and Co., 1442 Clarkson St., KE 4-8067; ● CONN., HAMDEN, Kerrigan, J. F., & Co., Box 6016, AT 8-2200; ● ILL., CHICAGO, Ellis, Arthur J., Co., 1607 W. Howard St., AM 2-2708; ● IND., FORT WAYNE, Meily, Wm. A., 4017 S. Harrison Blvd., KE 2461; ● N. J., MERCHANTVILLE, Stahl, Wm. C., 30 E. Cedar Ave., NO 2-6336; ● N. Y., SYRACUSE, Lanzendorf, Oren G., 513 Cumberland Ave., GR 2-4195; ● OHIO, CLEVELAND, Clark, Joseph H., Box 708, PR 1-2241

Accurate Instrument Co., 2422 Branard St., Houston, Texas, Tel: JAckson 3-2712
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Accurate Insulated Wire Co., 23 Fox St., New Haven, Conn.

Accurate Mfg., 44 Hepworth Pl., Garfield, N. J., Tel: GRegory 3-2900; Sls. Mgr.: A. W. Rista; Pur. Agt.: V. A. De Mattia
Sales Offices: ● CALIF., LOS ANGELES, Airey, F. J., Co., 1513-15 S. Mateo St., TU 3101; ● COLO., DENVER, Putnam, L. B., Co., 1217 California St.; ● CONN., BRIDGEPORT, Scholl, Chas. E., 952 Main St., ED 5-8492; ● GA., ATLANTA, Davis, Frank B., 708 Spring St., N. W., TR 5-2278; ● ILL., CHICAGO, Catellier, R. D., Inc., 4908 W. Fullerton Ave., BE 7-6460; ● KAN., KANSAS CITY, Halzlip, Robert L., Co., 1401 Fairfax Trafficwy, MA 1-4700; ● MICH., DETROIT, Cross, V. W., Co., 5019 Ridgewood Ave., TE 4-9122; ● MO., ST. LOUIS, Sampson, C. J., Co., 5627 Manchester Ave.; ● N. C., CHARLOTTE, Lassiter, W. H. Sales Co., Box 11014, FR 5-5031; ● N. J., LINDEN, Brazill Bros., 11-13 McKinley St., WA 5-0800; ● N. Y., SYRACUSE, Daw, Walter E. & Co., 753 James St., SY 2-9664; ● OHIO, CINCINNATI, Ehlers, Arthur L., Co., 1031 Meta Dr., EL 1-4200; ● PA., PHILADELPHIA, Welde, Wm. C. & Sons, 120 N. 32nd St., EV 6-0925; ● TEXAS, DALLAS, Anderson, Geo. E., Co., 1901 Griffin St., RI 1-5931; ● WASH., SEATTLE, Electric Agencies, 506 Second Ave., MA 3-2360; ● WISC., MILWAUKEE, Schwind, A. W., Inc., 324 S. Second St.

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Aeronautical Electronics, Inc., Raleigh-Durham Airport, Raleigh, N. Car.

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Ainslie Corp., 312 Quincy Ave., Quincy, Mass., Tel: GR 2-8747; Sls. Mgr. H. W. Ainslie; Pur. Agt: L. Ainslie

Air Marine Motors, Inc., 369 Bayview Ave., Amityville, N. Y., Tel: AMityville 4-3700; Sls. Mgr: Wm. L. Sly; Pur. Agt: P. Harrington
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Airborne Electronics Co., 6813 Troost Ave., North Hollywood, Calif.

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Alco Electronics Mfg. Co., 3 Wolcott Avenue, Lawrence, Mass., Tel: MUrdock 6-3888; Sls. Mgr: L. Gill; Pur. Agt: A. F. Contarino
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Alden Electronic & Impulse Recording Equip., Box 125, Westboro, Mass.

Alden Products Co., 146 N. Main Street, Brockton, Massachusetts, Tel: JUniper 3-0160; Sls. Mgr: N. W. Hearn

Alden Systems, Inc., Alden Research Center, Westboro, Mass.

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Sales Offices: ● CALIF., BURBANK, Weightman & Assoc., 4101 Burbank Blvd., VI 9-2435, MENLO PARK, Weightman & Assoc., 1435 El Camino Real, DA 6-3797; ● CAN., TORONTO, Kerr-Machin Assoc. Ltd., Box 34, HI 4-3643; ● FLA., MIAMI, Repco Sales, 401 N. W. 71st St., PL 7-2911; ● ILL., OAK PARK, Hill & Gray, Inc., 41½ Harrison St., ES 8-7050; ● MASS., NEEDHAM, White Sales Co., Inc., 945 Great Plain Ave., HI 4-3676; ● MO., ST. LOUIS, Gordon Fixman Eng. Co., 8160 Stanford Ave., PA 5-5219; ● N. J., TENAFLY, Gray, Harold, & Assoc., 46 Tenafly Rd., LO 7-3585; ● OHIO, CLEVELAND, Midwest Sales Co., 3219 W. 117th St., WI 1-2700; ● PA., PHILADELPHIA, Nolan, John J., & Assoc., 314 W. Sparks St., WA 4-1595; ● WASH., SEATTLE, Testco, Boeing Field, Room 108, PA 3-9000

Allis Co., 427 E. Stewart St., Milwaukee, Wisc., Tel: HUmboldt 1-6000; V. Pres: C. G. Skidmore, Pur. Agt: H. Larsen

Sales Offices: ● ALA., BIRMINGHAM, 2201 Highland Ave., S., FA 4-5601; ● ARIZ., PHOENIX, Coulson, R. E., 8050 N. 3rd Ave., WI 3-8935; ● CALIF., BURLINGAME, 1275 Rollins Rd., DI 2-4393, LOS ANGELES, 4405 E. Olympic Blvd., AN 8-3621; ● CAN., CALGARY, Farwil Corp., 1510A 1st St., W., AM 9-7791, EDMONTON, Farwil Corp., 10249 104th St., 4-6155, MONTREAL, Rumble, G. Co., 690 St. Paul St., W., UN 6-2194, TORONTO, Rumble, G. Co., 302 Terminal Bldg., EM 3-8855, VANCOUVER, Seppala, K. H. W., 399 W. 5th Ave., EX 3033, WINNIPEG, Haney, N. L. Agency, 875 Wall St., SP 2-1219; ● COLO., DENVER, Kaub, H. & Co., 1025 Santa Fe Dr., MA 3-4606; ● CONN., W. HARTFORD, 14 Oakwood Ave., Bx 356, JA 3-4281; ● D. C., WASHINGTON, General Engin. & Sales, 725 15th St., N. W., NA 8-1005; ● FLA., ORLANDO, 169 E. Church St., GA 5-6509; ● GA., ATLANTA, 1365 Spring St., N. W., TR 2-2228; ● IA., DAVENPORT, 415 Perry St., 6-1627; ● ILL., CHICAGO, 5633 W. Diversey Ave., NA 2-8750, ROCKFORD, 209 7th St., 2-3783; ● IND., INDIANAPOLIS, 333 N. Penn St., ME 4-9668, SOUTH BEND, 436 N. Michigan St., CE 2-0601; ● KY., LOUISVILLE, Cardinal Carryor Co., 930 E. Mason St., JU 7-0756; ● LA., NEW ORLEANS, 330 S. Miro St., EX 2282, SHREVEPORT, Butler & Land, 1845 Line Ave., 2-0697; ● MASS., MEDFORD, 209 Mystic Ave., EX 6-4375; ● MD., BALTIMORE, Renoff, P. V. Co., 333 E. 25th St., HO 7-3280; ● MICH., DETROIT, 2842 W. Grand Blvd., TR 5-5622, GRAND RAPIDS, 1974 S. Division Ave., CH 5-1119, KALAMAZOO, Dewey, E. B. Co., 2519 Lake St., FI 4-6163, MARQUETTE, Industrial Engin. & Sale, 700 Champion St., CA 6-8161; ● MINN., MINNEAPOLIS, Harris, H. R. Co., 807 13th Ave., S., FE 6-4388; ● MO., KANSAS CITY, 903 McGee St., VI 2-7189, ST. LOUIS, 4903 Delmar Blvd., FO 1-5980; ● N. C., CHARLOTTE, 1422 E. 4th St., ED 4-1658; ● N. J., E. ORANGE, 314 Dodd St., OR 4-8586; ● N. Y., BUFFALO, 1807 Elmwood Ave., RI 2015, DE WITT, 4455 E. Genesee St., GI 6-2290, NEW YORK, 50 Church St., CO 7-3462, ROCHESTER, 895 Winton Rd. S., HI 5-5380; ● NEBR., OMAHA, 4102 Farnam St., CA 2151; ● OHIO, CINCINNATI, 2330 Victory Pkway., UN 1-1582, CLEVELAND, 1836 Euclid Ave., CH 1-2913, TOLEDO, 1920 Sylvania Ave., GR 9-6161; ● OKLA., TULSA, 1526 E. 4th St., DI 3-9149; ● ORE., PORTLAND, 1733 N. E .7th Ave., AT 4-2187; ● PA., PHILADELPHIA, 2099 N. 63rd St., GR 7-2213, PITTSBURGH, 4135 Brownsville Rd., TU 4-6363, READING, 2904 Kutztown Rd., WA 9-3673, YORK, 38 S. Beaver St., 8-2028; ● TENN., MEMPHIS, 4355 Rhodes, FA 3-9872; ● TEXAS, AMARILLO, Butler & Land, 1505 W. 10th St., DR 6-5255, DALLAS, Butler & Land, 5538 Dyer St., EM 1-6631, EL PASO, Associated Engineers, 511 Hawkins Rd., PR 2-3233, HOUSTON, 3783 Richmond Ave., MO 4-4533; ● UTAH, SALT LAKE CITY, Elect. Sales Co., 818 E. 21st St., S., HU 5-0531; ● VA., RICHMOND, 6901 Patterson Ave., AT 2-3275; ● W. VA., HUNTINGTON, Ensign Elect. & Mfg. Co., 914 Adams Ave., JA 2-8343; ● WASH., SEATTLE ,708 5th Ave., S., MU 2-5350; ● WISC., APPLETON, 1713 S. Oneida St., RE 3-8995, MILWAUKEE, 1125 W. National Ave., MI 5-2002

Allis-Chalmers Mfg. Co., 935 S. 70th Street, Milwaukee, Wisconsin

Sales Offices: ● ALA., BIRMINGHAM, 1824-29th Ave., TR 9-8621; ● ARIZ., PHOENIX, 3300 N. Central Ave., CR 4-5426; ● CALIF., LOS ANGELES, 417 Hill St., MA 6-2231, SAN DIEGO, 747 Ninth Ave., BE 4-4684, SAN FRANCISCO, 650 Harrison St., DO 2-8384; ● CAN., CALGARY, 709—8th Ave. W., 2-5880, MONCTON, 232 St. George St., EV 4-9898, MONTREAL, 4104 St. Catherine St., WE 7345, PORT ARTHUR, 12-A Court St. S., 5-7632, VANCOUVER, 1200 W. Pender St., MU 1-3496, WINNIPEG, 56 Albert St., 92 8-53-5; ● CONN., HARTFORD, 750 Main, CH 4-6556, NEW HAVEN, 10, 265 Church St., ST 7-1176; ● D. C., WASHINGTON, 777—14th St., N. W., EX 3-2800; ● FLA., JACKSONVILLE, 1628 San Marco Blvd., EX 8-6441, MIAMI, 25 S. E. 2nd Ave., FR 9-5691, TAMPA, 405 S. Morgan St., FR 2-8371; ● GA., ATLANTA, 57 Forsythe St., N.W., JA 2-7116; ● ILL., CHICAGO, 135 S. LaSalle St., FR 2-6480, PEORIA, Comm. Natl Bank, FR 4-9279, ROCKFORD, 303 N. Main St., FR 5-0664; ● IND., EVANSVILLE, 329 Main St., HA 4-8219, INDIANAPOLIS, 3590 N. Meridan St., WA 4-5361; ● IOWA, DAVENPORT, 326 W. Third St., 3-9793, DES MOINES, 206 Sixth Ave., 3-8682; ● KAN., WICHITA, 114 S. Main St., FO 3-9762; ● KY., LOUISVILLE, 233 E. Burnett Ave., ME 7-5478; ● LA., NEW ORLEANS, 210 Baronne St., JA 8623, SHREVEPORT, 624 Travis St., 2-3274; ● ME., AUGUSTA, 269½ Water St., MA 3-4769; ● MASS., BOSTON, 31 St. James Ave., HU 2-3700; ● MD., BALTIMORE, 1115 E. 30th St., HO 7-4480; ● MICH., DETROIT, 17170 W. 7 Mile Rd., BR 3-6400, GRAND RAPIDS, 5-7 Lyon St., N.W., GL 9-8294, JACKSON, 297 W. Michigan Ave., ST 4-8591; ● MINN., DULUTH, 10 E. Superior St., RA 7-5061, MINNEAPOLIS, 821 Marquette Ave., FE 3-6455; ● MO., KANSAS CITY, 1734 Main St., VI 2-0132, ST. LOUIS, 1205 Olive St., CE 1-4313; ● MONT., BUTTE, Hirbour Bldg., 2-7341; ● N. C., CHARLOTTE, 300 E. Seventh St., ED 4-1667; ● N. J., NEWARK, 1060 Broad St., MA 3-7170; ● N. Y., BUFFALO, 170 Franklin St., WA 1741, New York, 100 Church St., BE 3-9100, ROCHESTER, 10 Gibbs St., BA 5-4060, SYRACUSE, 472 Salina St., GR 1-0147; ● N. MEX., ALBURQUERQUE, 5104 Grand Ave., AL 6-5064; ● NEB., OMAHA, 14th & Farnam Sts., AT 1780; ● OHIO, AKRON, First Natl Tower, PO 2-7648, CINCINNATI, 617 Vine St., MA 7300, CLEVELAND, 815 Superior Ave., MA 1-5182, COLUMBUS, 1500 W. Third St., HU 6-2465, DAYTON, 11 W. Monument Ave., BA 8-2174, TOLEDO, 245 Summit St., CH 4-7488, YOUNGSTOWN, 25 Boardman St., RI 3-5175; ● OKLA., OKLAHOMA CITY, 401 N. Harvey, RE 9-1631, TULSA, 320 Archer St., GI 7-9163; ● ORE., PORTLAND, 520 W. 6th Ave., CA 2-9835; ● PA., ALLENTOWN, 508 Turner St., HE 4-9366, PHILADELPHIA, 1617 Pa. Blvd., RI 6-8412, PITTSBURGH, 1701 McFarland Rd., LO 3-4434, YORK, Queen St., YO 5415; ● R. I., PROVIDENCE, 240 Olney St., JA 1-8820; ● TENN., CHATTANOOGA, Hamilton Natl Bank, AM 6-5101, KNOXVILLE, 531 Gay St., 2-2165, MEMPHIS, 46 N. Third St., JA 7-0377; ● TEXAS, ABILENE, 412 1st Natl. Bank, OR 4-3472, AMARILLO, 301 Polk St., DR 3-1766, BEAUMONT, 490 Orleans St., TE 5-2535, CORPUS CHRISTI, 416 N. Chaparral St., TU 3-8521, DALLAS, 1800 N. Market St., RI 2-7144, EL PASO, 215 N. Stanton St., KE 3-9517, FT. WORTH, 408 W. 7th St., ED 2-8331, HOUSTON, 1104 Dowling St., CA 5-0691, SAN ANTONIO, 902 Frost Natl. Bank, CA 7-7022; ● UTAH, SALT LAKE CITY, 136 S. Main St. EM 3-1723; ● VA., RICHMOND, 700 E. Franklin St., MI 3-6646; ● WASH., SEATTLE, 1318 4th Ave., MA 3737, SPOKANE, 12 Indiana Ave., FA 7-1581; ● W. VA., CHARLESTON, 179 Summers St., DI 3-9505; ● WISC., APPLETON, 1000 W. College Ave., RE 4-4577

ALLISON LABORATORIES, INC., (Pg. 620), 14191 E. Skyline Dr., La Puente, Calif., Tel: OXford 4-4056; Sls. Mgr: R. E. Allison

Sales Offices: ● **CALIF., BELMONT,** Miller, Gerald B. Co., 1334 Old Country Rd., LY 1-0365, **HOLLYWOOD,** Miller, Gerald B. Co., 1550 N. Highland Ave., HO 2-1195, **SAN DIEGO,** Miller, Gerald B. Co., 1263 Rosecrans Blvd., AC 2-1121; ● **CAN., MONTREAL,** Electrodesign, 736 Notre Dame St., W., UN 6-7367; ● **D.C., WASHINGTON,** Burlingame Assoc., 8218 Wisconsin Ave., OL 4-6400; ● **ILL., CHICAGO,** Stemm, R. Edward, 5681 West Lake St., ES 9-2700; ● **MASS., WALTHAM,** Burlingame Assoc., 974 Main St., TW 4-1955; ● **MICH., DETROIT,** Sterling, S. Co., 15310 W. McNichols Rd., BR 3-2900; ● **MINN., MINNEAPOLIS,** Stemm, R. Edward, 123 So. Third St., FE 5-7172; ● **N. Y., MT. VERNON,** Burlingame Assoc., 510 S. Fulton Ave., MT 4-7530, **SYRACUSE,** Burlingame Assoc., 514 University Bldg., SY 2-6253; ● **OHIO, CLEVELAND,** Sterling, S. Co., 5827 Mayfield Rd., HI 2-8080; ● **PA., PITTSBURGH,** Sterling, S. Co., 355 Fifth Ave., AT 1-9248, **UPPER DARBY,** Burlingame Assoc., 222 Long Lane, SH 7-9080; ● **WASH., SEATTLE,** Miller, Gerald B. Co., King County Airport, LA 3320

Allmetal Screw Products Co., 821 Stewart Ave., Garden City, N. Y., Tel: PL 1-1200; Sls. Mgr: S. Marsh; Pur. Agt: P. Fishman

Sales Offices: ● CALIF., CULVER CITY, 5822 W. Washington, WE 3-9595; ● ILL., CHICAGO, 6424 W. Belmont Ave., AV 2-3232

Alloy Precision Casting Co., 3855 West 150th St., Cleveland, Ohio

Allweather Antennas Mfg. Co., 350 S. Egg Harbor Rd., Hammenton, N. J.; Sls. Mgr: J. E. Meyers

Sales Offices: ● N. J., HAMMONTON, Myers, J. E., 350 S. Egg Harbor Rd., LO 1-1990

Alnor Industries, Inc., 3316 W. 118th, Cleveland, Ohio

Alonge Products Inc., 163 W. 23rd St., New York, N. Y., Tel: WAtkins 4-2815; Sls. Mgr: E. Alonge; Pur. Agt: E. Alonge

Alpar Mfg. Corp., 220 Demeter St., Palo Alto, Calif., Tel: DA 6-8105; Sls. Mgr: R. V. Laustrup; Pur. Agt: P. Rochester

Sales Offices: ● CALIF., BEVERLY HILLS, Mitchell, C. H. Co., 9015 Wilshire Blvd., BR 2-6635, SAN FRANCISCO, Frazar & Hansen, 301 Clay St., EX 2-5112; ● COLO., DENVER, Williams, Allen Co., 2264 S. Albion St., SK 6-9403; ● GA., ATLANTA, Joyner, J. E., Box 341, PL 8-4910; ● MICH. DETROIT, Zaffina, Lawrence Co., 7351 Gratiot Ave.; ● MO., KANSAS CITY, Schryver, Clyde H. Sls., 8720 Norwood, MI 9-8075; ● N. M., ALBUQUERQUE, Williams, Allen Co., 3221 Silver Ave., S. E., AL 5-9632; ● PA., FLOURTOWN, Chaney, Charles H., P. O. Bldg., CH 8-3232

Alpha Instrument Co., 43 Hempstead St., New London, Conn., Tel: GIbson 2-2141; Sls. Mgr: I. A. Cohn; Pur. Agt: A. G. Cohn

Alpha Metals, Inc., 56 Waters St., Jersey City, N. J., Tel: HEnderson 4-6778; Field Mgr: Martin A. Boyle

Sales Offices: ● CALIF., W. COVINA, Le Blond, Richard E., 322 Holly Oak Pl., ED 2-8265; ● COLO., GREELEY, Moss, Gordon B., Box 428; ● ILL., CHICAGO, Alpha-Loy Corp., 2250 S. Lumber St., MO 6-5280; ● MASS., LEXINGTON, Harkins, Robert, 2 Liberty Ave., VO 2-4051; ● MINN., MINNEAPOLIS, Wood, Clemons Co., 1645 Hennepin Ave., FE 9-6393; ● N. Y., PEARL RIVER, Bilsky,

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N., P. O. Box 71, PE 5-2396, TONAWANDA, Kennedy, James, 101 Greenleaf Ave., WI 5140; ● OHIO, CLEVELAND, Dolfuss, Charles A., 21st & Payne Ave., YE 2-8335; ● PA., PHILADELPHIA, Pessel, Otto, 441 W. Ellet St., CH 7-7894

Alpha Molykote Corp., 65 Harvard Ave., Stamford, Conn., Tel: FIreside 8-3724; Sls. Mgr: D. M. Noltie; Pur. Agt: C. Sonntag
Sales Offices: ● CALIF., GLENDALE, Haskel Seals, 1236 S. Central Ave., CH 5-6811, SAN FRANCISCO, Haskel Seals, 225 11th St., UN 3-1489; ● CAN., TORONTO, Dow Corning Silicones, Tippet Rd., Downsview, ST 8-6118; ● GA., ATLANTA, Postell, J. A., 936 W. Peachtree N. W., TR 4-8671; ● ILL., CHICAGO, Dost, R. B., Inc., 201 N. Wells St., CE 6-9517; ● IOWA, DAVENPORT, Stevenson Sales Co., Inc., Clark St. & Indian Rd., DA 6-4477; ● KAN., WICHITA, Wilco, Inc., 228 S. Wichita, AM 5-5648; ● LA., METAIRIE, Southern Lubricant Co., 716 Harang Ave., VE 5-1962; ● MICH., DETROIT, Penn Petroleum Corp., 7131 Westfield Ave., TE 4-3600; ● N. J., LINDEN, Ind. Oil & Chem Co., 1717 W. Elizabeth Ave., HU 6-8874; ● N. Y., ROCHESTER, Gr. Lakes Sales & Engrg., 2612 Ridge Rd., W., GL 3-4735; ● OHIO, WICKLIFFE, Stevenson Oil & Chem. Co., 30130 Lakeland Blvd., WH 3-3338; ● ORE., PORTLAND, Wall Western, Inc., 1717 N. W. 14th Ave., CA 8-6641; ● PA., PHILADELPHIA, Lanco Engrg. Sales Co., 33rd & Arch Sts., EV 6-8835, PITTSBURGH, Freund, R., Box 5958, TU 4-3634; ● TEXAS, HOUSTON, Pan-Tech Engrg. & Supply, 3230 Mercer, JA 4-7371; WASH., SEATTLE, Northwestern Lubricants, 8403 Greenwood St., SU 3-2820; ● WISC., MILWAUKEE, Hammond, L., Co., 1551 N. 35th St., DI 2-6822

ALPHA WIRE CORP., (Pgs. 1179-1183), 200 Varick St., New York, N. Y., Tel: ALgonquin 5-5400; Sls. Mgr: J. Kirschbaum; Pur. Agt: S. Ellenoff
Sales Offices: ● **CALIF., LOS ANGELES,** Perlmuth Electrn. Assoc., 5057 W. Washington Blvd., WE 1-1041, **SAN BRUNO,** Kolans, Bill & Co., 499 El Camino Real S., JU 3-8363; ●**CAN., DOWNSVIEW,** Alpha Aracon Radio Co., 555 Wilson Ave., ST 8-6181; ● **COLO., DENVER,** Hyde Electrn. Co., 888 S. Lipan St., WE 6-3456; ● **FLA., MIAMI,** Key Account Sales Co., 1900 N. W. Miami Ct., FR 3-3871; ● **GA., ATLANTA,** Millar, James Assoc., 1036 Peachtree St., NE, TR 6-0919; ● **ILL., CHICAGO,** Bruning, A. H., Co., 1758 Lawrence Ave., ED 4-0989; ● **IND., INDIANAPOLIS,** Thomas & Sukup, Inc., 5226 N. Keystone Ave., CL 1-6915; ● **MASS., BROOKLINE,** Gerber Sales Co., 48 Pearl St., BE 2-2425; ● **MICH., FERNDALE,** Haggerty-Ludwig-Sullivan, 23525 Woodward Ave., LI 7-4771; ● **MINN., MINNEAPOLIS,** Laub, Nick J., Co., 3749 W. Broadway, JU 8-4663; ● **MO., KANSAS CITY,** Kay Sales Co., 2600 Grand Ave., BA 1-3800; ● **N. Y., ROCHESTER,** Wolfe-Marsey Sales Co., 74 Park Ave., GR 3-9088, **YONKERS,** Blair Sales Co., 45 S. Broadway, YO 3-0150; ● **OHIO, W. RICHFIELD,** Bear, Neal Corp., 3435 Streetsboro Rd., OL 9-3331; ● **PA., READING,** Beil & Whitaker, Inc., 3623 Jacksonwald Ave., FR 5-6837; ● **TEXAS, DALLAS,** Texport Co., The, 2147 Farrington Blvd., RI 7-6886; ● **VA., RICHMOND,** Martin & Dial, Inc., 1306 Vassar Rd., RE 7-2503; ● **WASH., SEATTLE,** Stroum, Samuel N., Co., 1612 Broadway, EA 3-6117

Alpine Electronics Components Corp., Wolcott Rd., Wolcott, Conn., Tel: PLaza 7-1449; Sls. Mgr: R. H. Sceery; Pur. Agt: T. Rowlison
Sales Offices: ● CALIF., LOS ANGELES, Wesrep Corp., 2022 S. Sepuleda Blvd., SAN MATEO, Heaton, J., 3525 Alameda De Las P; ● ILL., WHEATON, Hausten, D. R., 607 E. Willow St.; ● MASS., BOSTON, Akeroyd, A. E. Co., John Hancock D. R., 607 E. Willow St.; ● MASS., BOSTON, Akeroyd, A. E. Co., John Hacock Bldg.; ● MD., TOWSON, Valley Electronics, Inc., 1735 E. Joppa Rd.; ● N. Y., Port Washington, Aaron, P. D., Professional Bldg.; ● OHIO, CLEVELAND, Brauer W. J. & Assoc., 15631 Lakewood Hts. Blvd.

Alpine Laboratories Ltd., 1610 Nevada Avenue, Colorado Springs, Colorado

Alpitec Inc., 49 Gleason Ave., Stamford, Conn.; Sls. Mgr: I. Peters

Alprodco, Inc., Box 4974, Memphis, Tenn., Tel: JA. 7-7534; Sls. Mgr: B. Turner

Althor Products, 2301 Benson Avenue, Brooklyn, N. Y., Tel: ESplanade 3-7444; Sls. Mgr: J. Kessler; Pur. Agt: I. Thorn

Alto Fonic Music Systems Inc., 935 Commercial St., Palo Alto, Calif., Tel: DAvenport 6-5280; Sls. Mgr: G. Davis; Pur. Agt: G. Heaviside
Sales Offices: ● CALIF., LOS ANGELES, Koessler Sls. Co., 818 N. Fairfax Ave., OL 3-1605; ● CAN., TORONTO, Kahnert, R. C. Sls., 73 Crockford, Blvd., PL 7-5171, VANCOUVER, McLennan, D. Eldon, 1624 W. 3rd Ave., BA 9251; ● COLO., DENVER, Bowen, R. G. Co., 721 S. Broadway, RA 2-4641 ● GA., EAST POINT, Hayden, Paul & Assoc., Box 331, PO 6-0261; ● ILL., CHICAGO, Green, Loren F. & Assoc., 5218 W. Diversey Ave., PA 5-6824; ● MASS., HAMPDEN, Rodgers & Assoc., Chapin Rd., RE 3-8428; ● MINN., MINNEAPOLIS, Franklin, Merrill, 338 E. Franklin Ave., FE 6-2315; ● MO., ST. LOUIS, Shaw, Robert Co., 7800 Kenridge La., WO 2-4500; ● N. J., UNION CITY, Bressler, Jules J., 4808 Bergenline Ave., UN 4-9577; ● N. Y., BUFFALO, Mitchner, R. W. Co., 487 Ellicott Sq., WA 2517; ● OHIO, CLEVELAND, Schroeder Sls. Co., 2309 Prospect Ave., MA 1-5075; ● PA., PHILADELPHIA, Estersohn, Harry, 311 W. Mt. Pleasant, CH 7-9494; ● TEXAS, DALLAS, Wyborny & Yount, 2731 Taylor St., RI 8-2158; ● WASH., SEATTLE, Lanphear, William Co., 3215 Western Ave., AT 4-8150

Alto Scientific Co., Inc., 855 Commercial St., Palo Alto, Calif., Tel: DAvenport 1-3434; Sls. Mgr: D. Cherry; Pur. Agt: V. E. Barrett
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Auto Engraver Co., Box 366, Ridgefield, Conn.

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Sales Offices ● ILL., CHICAGO, Terry, F. W., 2326 S. Michigan; ● MICH., DETROIT, Mathews, W. F., 447 New Center Bldg., TR 2-6798; ● N. Y., NEW YORK, Esserman, Joseph, 325 E. 176th, TR 2-3910

Auto-Swage Products, Inc., 250 Canal St., Shelton, Conn., Tel: REgent 5-3361; Sls. Mgr: P. S. Houghton; Pur. Agt: J. Howard
Sales Offices: ● N. Y., ROCHESTER, Kirsh, Philip L. Assoc., 223 Windemere Rd., BU 8-0705

Auto Test, Inc., 600 S. Michigen Ave., Chicago, Ill., Tel: WA 2-5459; Sls. Mgr: R. Mansfield; Pur. Agt: W. H. Yenni
Sales Offices: ● WISC., NEILLESVILLE, Auto-Test, Inc. 411 W. 8th St.

Autocall Co., 57 Mack Ave., Shelby, Ohio, Sls. Mgr: M. E. McLain
Sales Offices: ● CALIF., LOS ANGELES, Glass, Chet, 1420 W. Ninth St., DU 8-1343, SAN FRANCISCO, Monson, A. H., 1110 Howard St., UN 1-2050; ● CAN., TORONTO, Fraser, George M., 1554 Yonge St., WA 4-9492; ● CONN., SIMSBURY, Schnell, J. G., 140 Hopmeadow St., OL 8-7914; ● GA., ATLANTA, Kibby, A. B., 333 Candler Bldg., JA 3-1062; ● ILL., CHICAGO, Hornaday, T. F., 1733 E. 75th St., HY 3-1426; ● MASS., BOSTON, Schnell, J. G., 270 Commonwealth Ave., KE 6-8100; ● MICH., DETROIT, Munchausen, H. C., 339 Curtis Bldg., TR 5-2806; ● MO., KANSAS CITY, Morse, R. D., 2826 Main St., LO 1-3300, ST. LOUIS, Morse, R. D., 34 N. Brentwood Blvd., PA 7-0144; ● N. Y., BUFFALO, Poland, F. H., 505 Ellicott Sq., WA 5350, NEW YORK, Munchausen, J. H., 521 Fifth Ave., YU 6-7672; ● OHIO, CINCINNATI, Davis, Wm. J., 2637 Erie Ave., TR 1-2217, CLEVELAND, Austin, R. M., 16202 Hilliard Rd., AC 1-0788, COLUMBUS, Davis, Wm. J., 21 E. State St., CA 4-3555; ● PA., PHILADELPHIA, Metzger, W. H., 1720 Sansom St., RI 6-4995, PITTSBURGH, Oleary, C. W., 4616 Clairton Blvd., TU 2-4449; ● TEXAS, DALLAS, Woodbury, A. B., 504 Interurban Bldg., RI 2-4585; ● UTAH, SALT LAKE CITY, Smith, Lowell R., 1067 E. 2nd St., S.; ● WISC., MILWAUKEE, Schloemer, L.B., 2333 W. Wells St., DI 2-5300

Autocraft Electronics Co., 5024 Elm St., Skokie, Ill., Tel: ORchard 3-8033; Sls. Mgr: R. B. Gubbins

Automated Circuits, Inc., 337 Payne Ave., North Tonawanda, N. Y., Tel: LUdlow 9160, Sls. Mgr: T. L. Robinson
Sales Offices: ● N. Y., ROCHESTER, Gay, Geo. J., 3220 Culver Rd., HO 7-8352

Automatic Coil Co., 199 Sackett St., Brooklyn, N. Y., Tel: ULster 2-5454
Sales Offices ● CONN., S. NORWALK, Wells, Nelson, 15 Chatham Dr.; ● MASS., BROOKLINE, Eastern Electronic Sales, 145 University Rd.; ● N. Y., BROOKLYN, Morse, Irv., 2351 E. 65th St.

AUTOMATIC ELECTRIC SALES CORP. (Pgs. 986, 987), Northlake, Ill., Tel: Fillmore 5-7111; Sls. Mgr: V. E. James; Pur. Agt: W. S. Cadwell
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Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J., Tel: Digby 4-3765; Sls. Mgr: F. P. Spinelli; Pur. Agt: H. W. Hyland

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Sales Offices: ● CALIF., REDWOOD CITY, Heaton, J. S., Co., 413 Lathrop St., EM 9-5278; ● CONN., MERIDEN, Lavin, H., Assoc., Box 196, BE 7-5527; ● D. C., WASHINGTON, Arco Engg. Co., 733 Fifteenth St., NW, EX 3-1174; ● ILL., CHICAGO, Bacher, L. G., & Assoc., 4216 W. Division St., ME 7-6420; ● MICH., DETROIT, Trombley, W. L. & Son, 3035 E. Grand Blvd., TR 1-6067; ● MINN., MINNEAPOLIS, Gibb, C. R., Co., 2400 Hennepin, FR 7-1200; ● OHIO, LAKEWOOD, Andrews, T. P., Co., 16408 Madison Ave., AC 6-5610; ● TEXAS, DALLAS, Southern Ind. Electrn., Inc., Box 9814, DA 8-1551

Automation Dynamics Corp., 255 County Rd., Tenafly, N. J., Tel: LOwell 7-3232; Sls. Mgr: D. Suhre; Pur. Agt: E. A. Smith

Automation Engng. Corp., 8430 San Fernando Road, Sun Valley, Calif. Tel: ST 7-9677, Sls. Mgr. M. S. Nathason; Pur. Agt. J. Greenblatt.

Automation, Inc., 212 Worchester St., Wellesley Hills, Mass., Tel: CEdar 5-6621; Sls. Mgr: T. G. Slattery; Pur. Agt: A. W. Joyce

Sales Offices: ● ILL., CHICAGO, Controlcraft Co., 6835 W. Higgins Av., NE 1-3400; ● WASH., SEATTLE, Republic Elec. & Devel., 2627 Western Ave., MA 4-4515

Automation Instruments, Inc., 401 East Green Street, Pasadena, California, Tel: SYcamore 3-8169; Sls. Mgr: R. L. Shafer

Sales Offices: ● CALIF., SUNNYVALE, Theisner, W. & Co., 251 S. Murphy St.; ● D. C., WASHINGTON, Maguire, J. J. Co., 742 Investment Bldg., NA 8-4247; ● GA., ATLANTA, Holmes, E. G. & Assoc., 309 Pharr Rd., CE 7-7801; ● LA., SHREVEPORT, Dykes Co., Box 1763, Tel. 3-3502; ● N. J., RUTHERFORD, Morse Elctrn. Assoc., Box 83, WE 3-1159; ● TEXAS, RICHARDSON, Kemco, Inc., 408 Maple, AD 5-3406; ● UTAH, SALT LAKE CITY, Missile Accessories, Box 2092, CY 8-1393; ● WASH., SEATTLE, Scientific Supp., 600 Spokane St., MU 2-3460

Automation Management, Inc., Adams St., Westboro, Mass., Tel: FOrest 6-5377; Sls. Mgr: W. L. Alden

Autonetics, Div., North American Aviation, 9150 E. Imperial Hway., Downey, Calif., Tel: SPruce 3-2233; Dir. Mkt: C. A. Wolf; Dir. Mat: C. R. Raftery

Sales Offices: ● CALIF., DOWNEY, 9150 E. Imperial Hwy., SP 3-2233; ● D. C., WASHINGTON, 1625 Eye St., N. W., EX 3-3346; ● OHIO, DAYTON, 333 W. First St., BA 4-6506; ● WASH., SEATTLE, 421 Michigan St., PA 5-8700

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Sales Offices: ● CALIF., LOS ANGELES, Perlmuth Electronic Assc., 5057 W. Washington Blvd., WE 1-1041; ● CAN. SCARBOROUGH, Constellation Components, 136 Tower Dr., PL 7-3359; ● GA., ATLANTA, Nickerson, F. Co., 1150 Zonolite Rd., N.E. TR 5-8908; ● ILL., CHICAGO, Anderson, B. Assoc., Inc., 6835 W. Higgins Ave., SP 4-4174; ● IND., FORT WAYNE, Valentine, F. C., Inc., 511 Ft. Wayne Bldg., AN 9122; ● KAN., WICHITA, KEMCO, Inc., 6427 E. Kelloge, MU 4-8224; ● MASS., SOMERVILLE, Near, Inc., 99 Highland Ave.; ● MO., ST. LOUIS, Besign & Sales Eng. Co., 25 N. Meramec, PA 1-6403; ● N. J., SUMMIT, Luce, R. P. & Co., Inc., 7 Beechwood Rd., CR 3-9250; ● N. Y., SYRACUSE, Swank, W. B., Inc., 2310 Bellvue Ave., WESTBURY, Luce, R. P. Co., Inc., 340 Maple Ave., ED 3-4550; ● PA., PHILADELPHIA, Luce, R. P. & Co., Inc., 8604 Fayett St., CH 7-6988; TEXAS, DALLAS, Edmiston, H. D., Box 5832; ● WASH., SEATTLE, Widdekind, M. K. Co., 22 1st Ave., N.

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Avia Products Co., 7270 Beverly Blvd., Los Angeles, Calif.

Aviation Electronic Service, No. 12 St., Whelling, Ill., Tel: LE 7-0405; Pur. Agt: J. S. Naber

Sales Offices: ● Ill. Chicage, Edison Park Labs., 7611 Oshkosh Ave., NE 1-3791

Aviel Electronics, Inc., 4204 Glencoe Ave., Venice, Calif., Tel: EXmont 8-5753; Sls. Mgr: E. D. Ulman; Pur. Agt: A. C. Hupp

Sales Offices: ● CALIF., LONG BEACH, Smith, D. Electronics, 2235 E. Artesia Blvd., NE 6-6161, SAN CARLOS, Striker, John E. Co., Box 548, LY 1-0736; ● D. C. Washington, Warren, Stuart Mount, National Press Bldg.; ● FLA., ORLANDO, Johnson Assoc. of Fla., 521 Elwell St., 5-1546; ● TEXAS, DALLAS, Allied Components, Inc., 2517 Converse St.

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Bassett, Inc., Rex, 1314 N.E. 17th Court—Box 7127, Fort Lauderdale, Fla., Tel: LOgan 4-3028; Sls. Mgr: R. Bassett

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Buffalo Electronics Corp., Box 485, Nia Falls, N. Y.

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BULOVA WATCH CO., Electronics Div. (Pg. 587), 40-06 62nd St., Woodside, N. Y., Tel: NEwtown 9-5700; Sls. Mgr: A. B. III, Jr.
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Burken Lamination Corp., 811 Whittier St., Bronx, N. Y.

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Cedar Engrg., Inc., 5806 W. 36th St., Minneapolis, Minn.

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Sales Offices: ● CALIF., LOS ANGELES, Moxon Sales, 7553 Melrose Ave., WE 8-2565, SAN MATEO, Moxon Sales, 15 41st Ave., FI 5-2866, SAN DIEGO, Moxon Sales, 3616 Buena Vista St., HU 8-2901; ● ILL., CHICAGO, Hunter, T. B. Assoc., 4441 W. Irving Pk., SP 7-2500; ● MASS., SOUTH BRAINTREE, Bordewieck Engrg. Sales, 221 Grove St., VI 3-0845; ● MICH., DETROIT, Clifford, D. J., 729 Fisher Bldg., TR 5-3544; ● MINN., MINNEAPOLIS, Heimann Co., 1711 Hawthorne Ave.; ● PA., WYNCOTE, Hardy, N. Assoc., 414 Gribbel Rd., TU 7-3955

Clare, C. P. & Co., 3101 Pratt Blvd., Chicago, Ill., Tel: AMbassador 2-7700; Sls. Mgr: D. R. Dooley; Pur. Agt: B. E. Brooks

Sales Offices: ● CAN., TORONTO, Clare, C. P. Canada Ltd., 2700 Jane St., ME 3-6793; ● D. C., WASHINGTON, Clare, C. P. & Co., 1405 K St., EX 3-1337; ● FLA., CLEARWATER, Wimberly, W. Ben Co., 532 S. Ft. Harrison, CL 3-7072; ● GA., ATLANTA, Joyner, J. E. & Assoc., 2258 Casc. Rd., S.W., PL 5-4336; ● KAN., MISSION, Halgin Sales, 5920 Nall Ave., RA 2-2441; ● MASS., NEEDHAM, De Veer Sales Eng. Co., 1492 Highland Ave., HI 4-4200; ● MINN., MINNEAPOLIS, Clare, C. P. & Co., Box 6103—Edina Br., TA 4-7064; ● N. M., ALBUQUERQUE, McClendon, R. E. Co., 915 Yale St. S.E., AL 6-4983; ● N. Y., NEW YORK, Clare, C. P. & Co., 420 Lexington Ave., MU 4-1702, SKANEATELES, Clare, C. P. Co., E. Lake Rd., R.D. #3, RO 3-4471; ● OHIO, CINCINNATI, Fisher, Bruce W., 7960 Mitch. Farm Lane, TW 1-3827, DAYTON, Miller, Eldon W., 4096 Fer Don Rd., CR 5-4655; ● PA., PHILADELPHIA, Clare, C. P. & Co., 101 N. 33rd St., EV 6-3385; ● TEXAS, DALLAS, Nesbitt, Robert W., 1925 Cedar Springs, RI 7-5824, HOUSTON, Hilton, Ray M., 4810 Hazard, JA 8-3811; ● WASH., SEATTLE, Parsons, C. B. & Co., 3028 First Ave., MU 2-6780

Claremont Tube Corp., 36-02 35th Ave., Long Island City, N. Y., Tel: RA 1-1206; Pur. Agt: A. Kampe

Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio, Tel: UL 1-2000; Sls. Mgr: R. Whitehill; Pur. Agt: N. E. Schall

Sales Offices: ● ALA., BIRMINGHAM, 1747 Reese St., TR 9-3457; ● ARK., PINE BLUFF, 815 Hudson Ave., JE 4-5932; ● CALIF., LOS ANGELES, 4755 E. 49th St., LU 3-6366, SAN MATEO, 72 E. Third Ave., DI 2-6051; ● CAN., MONTREAL, Railway Power & Eng., 3745 St. James St. W., WE 6741; ● COLO., DENVER, 4949 Colorado Blvd., DE 3-5434; ● FLA., MIAMI, 49 N.E. 22nd St., FR 9-8122; ● GA., ATLANTA, 3084 Grandview Ave., N.W., CE 7-6626; ● IDAHO, BOISE, 1118 N. 20th St., 2-6947; ● ILL., CHICAGO, 9107 W. Ogden Ave., BI 2-1517; ● IND., GARY, 504 Broadway, TU 2-1515; ● IOWA, BETTENDORF, 1012 Hall St., 5-0316; ● LA., SHREVEPORT, 1845 Line Ave., 2-0697; ● MASS., BOSTON, 369 Boylston St., BI 4-8200; ● MD., BALTIMORE, 2319 Maryland Ave., BE 5-4018; ● MICH., DETROIT, 19983 Livernois Ave., DI 1-3000, FLINT, 309 Paterson Bldg., CE 4-3633; ● MINN., MINNEAPOLIS, 807 Thirteenth Ave., S, FE 6-4388; ● MISS., JACKSON, 429 S. West St., FL 5-8305; ● MO., KANSAS CITY, 3021 Main St., PL 3-0111, ST. LOUIS, 7 N. Brentwood Blvd., PA 7-7278; ● N. C., CHARLOTTE, 116½ E. Fourth St., FR 5-1044; ● N. M., ALBUQUERQUE, 419 Central Ave., N.W., CH 2-7180; ● N. Y., BUFFALO, 1283 E. Delavan Ave., TA 1484, NEW YORK, 60 E. 42nd St., MU 2-1743, SYRACUSE, 2105 W. Genesee St., HU 8-7106; ● NEB., OMAHA, 14th and Farnam Sts., AT 4232; ● OHIO, AKRON, 217 Ash St., HE 4-3129, CINCINNATI, 3342 Erie Ave., TR 1-0410, CLEVELAND, 13878 Cedar Rd., ER 1-3600, TOLEDO, 1220 Madison Ave., CH 1-2181, WORTHINGTON, 500 Meadoway Park, TU 5-5148, YOUNGSTOWN, 3119 Market St., ST 2-1131; ● OKLA., TULSA, 3940 E. 31st Place, LU 7-6082; ● ORE., PORTLAND, 734 N.W. Glisan St., CA 3-6241; ● PA., ARDMORE, 119 Coulter Ave., GR 7-0707, PITTSBURGH, P.O. Box 8090, LO 1-3542; ● TENN., MEMPHIS, Box 10166 McKellar Sta., WH 8-0496; ● TEXAS, AMARILLO, 1505 W. 10th St., DR 6-5255, DALLAS, Box 8085, EM 1-6631, EL PASO, Box 600, PR 2-3233, HOUSTON, 6831 Navigation Blvd., WA 8-5431; ● UTAH, SALT LAKE CITY, 550 W. 7th South St., EL 5-5378; ● VA., RICHMOND, Box 8762, W. Hmptn. Sta., AT 8-8758; ● W. VA., HUNTINGTON, 914 Adams Ave., JA 2-8343; ● WASH., SEATTLE, 111 W. Harrison St., AT 4-0530; ● WISC., MILWAUKEE, 6108 W. Lincoln Ave., LI 3-5533

Clark Crystal Co., Farm Rd., Marlboro, Mass., Tel: MArlboro 1411; Sls. Mgr: F. Nobles

Clark Electronic Labs, Box 165 Palm Springs, Calif., Tel: FA 8-2210; Sls. Mgr: H. L. Spencer; Pur. Agt: V. I. Groll

Clarkson Labs Inc., 919 N. 9th St., Philadelphia, Pa., Tel: MArket 7-6764, Sls. Mgr: J. T. Moran; Pur. Agt: M. Coppersmith

Clarostat Mfg. Co., Inc., Washington St., Dover, N. H., Tel: SHerwood 2-1120; Sls. Mgr: P. B. Grimm; Pur. Agt: E. Schramm

Sales Offices: ● CALIF., LOS ANGELES, Perlmuth Elctrn. Assoc., 5057 W. Washington Blvd., WE 1-1041, SAN BRUNO, Kolans, B. Co., 499 El Camino Real S., JU 3-8363; ● CAN., TORONTO, Canadian Marconi Co., 830 Bayview Ave., HU 1-5221; ● COLO., DENVER, Connors, W. H. Co., 375 Birch St., DE 3-7628; ● GA., ATLANTA, Millar, J. Assoc., 1036 Peachtree St., N.E., TR 6-0919; ● ILL., CHICAGO, Cumming, B. & Assoc., 6029 W. Belmont Ave., ME 7-3770, CHICAGO, Sarkis, H., 5608 N. Western Ave., AR 1-3774, NORTH AURORA, Campbell Industries, Inc., Grant St., AU 6-8551; ● IND., FORT WAYNE, Needler, E. S., 5302 Fairfield Ave., HA 9726, MARION, Musser, V., 608 W. Second St., NO 2-7874; ● MASS., BROOKLINE, Segel, H. P. Co., Inc., 386 Washington St., BE 2-7525; ● MD., SILVER SPRING, Lienau, C. W. & Co., 9427 Georgia Ave., NJ 7-5888; ● MICH., DETROIT, Milsk, R. Co., 19371 J. Couzens Hwy., BR 3-3652, DETROIT, Henschen, Jensen & Co., 2842 W. Grand Blvd., TR 1-0308; ● MINN., MINNEAPOLIS, Warner, A. J. Co., 5022-29th Ave., S., PA 9-7371; ● MO., KANSAS CITY, Elliott, A. K. Co., 211 Westport Rd., LO 1-9594, KANSAS CITY, Keenig-Myers Assoc., 4538 Main St., JE 1-7221, ST. LOUIS, Forristal-Young Sales Co., 8147 Delmar Blvd., PA 5-7701; ● N. Y., BUFFALO, Allen, L. D., Inc., 1043 Walden Ave., FI 6915, NEW YORK, Adelman, L. L. Co., 25 Chittenden Ave., WO 2-5308, NEW YORK, Bialek, S., 205 E. 42nd St., MU 4-1655, NEW YORK, Clarostat, 141 Broadway, WO 2-6508, SYRACUSE, Allen, L. D., Inc., 115-117 Luther Ave., GR 1-3108; ● OHIO, CINCINNATI, Olsen, J. O. Co., 7870 Jolain Dr., TW 1-6140, CINCINNATI, Olsen, J. O. Co., 4016 Diehl Ave., SY 1-1297, CLEVELAND, Olsen, J. O. Co., 16201 Shaker Blvd., SK 2-5444; ● ORE., PORTLAND, Stroum, S. N. Co., 6224 E. Burnside; ● PA., NARBERTH, Henderson, C. W., 400 Gilpin Rd., MO 4-9588, PHILADELPHIA, Leban & Graham, 1414 Manoa Rd., MI 2-0668, PITTSBURGH, Lowry Dietrich Co., 1404 Swantek St., WA 1-2959; ● TEXAS, DALLAS, Schoonmaker, J. Y. Co., 5328 Redfield Ave., LA 6-7238; ● WASH., SEATTLE, Stroum, S. N. Co., Box 1339 Broadway Sta., EA 3-6117, SEATTLE, Stroum, S. N. Co., 1612 Broadway; ● WISC., MILWAUKEE, Cumming, B. & Assoc., 4852 N. 24th St., UP 3-1381

Clary Corp., 408 Junipero St., San Gabriel, Calif., Tel: ATlantic 7-6111; Sls. Mgr: W. R. Beall; Pur. Agt: D. Werter

Sales Offices: ● MASS., BOSTON, Stone Laboratories, 793 Tremont St., GA 7-3600

Clauss Cutlery Co., Fremont, Ohio

Clear Beam Antenna Co., 21341 Roscoe Blvd., Canoga Park, Calif., Tel: DIamond 7-2255; Sls. Mgr: B. Raynor; Pur. Agt: H. D. Wiggins

Sales Offices: ● CALIF., SAN FRANCISCO, Moulthrop, F. W. Co., 575 10th St., MA 1-0722; ● COLO., DENVER, Koether-Cox Co., 110 W. 13th Ave., MA 3-3544; ● CONN., WEST HAVEN, Reiss, Robert S. Assoc., 70 Jessie Dr., WE 4-5261; ● ILL., CHICAGO, Wiley, Samuel J. Co., 2060 W. Birchwood, UP 8-3313; ● MD., SILVER SPRING, Taylor, Morris F. & Assoc., 9431 Georgia Ave., JU 9-4002; ● MICH., DETROIT, Rathsburg, Jack, 4140 Van Dyke, WA 1-3932; ● MO., KANSAS CITY, Clemenson-Larrabee, 436 E. 79th St., JA 3-3005; ● N. Y., QUEENS VILLAGE, Eisenberg, Sam R. & Assoc., 215 Murdock Ave., HO 8-9448; ● OHIO, CLEVELAND HEIGHT, Elliott, Howard C. Co., 2595 Calchester, FA 1-4463; ● ORE., PORTLAND, Legg, Richard Co.,

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1633 N.W. 21st Ave., CA 3-9720; ● PA., PHILADELPHIA, Lewis, Herman Co., 1622 68th Ave., LI 8-8487; ● TEXAS, DALLAS, Antle-Smith Sls., 2721 Brookfield, FL 7-7279; ● WASH., SEATTLE, Blair-Hirsh, 2534 Wallingford, ME 6697

Clearprint Paper Co., 1482 67th St., Emeryville, Calif.

CLEGG LABORATORIES, Div. Clegg, Inc. (Pg. 775), Morristown, N. J., Tel: JEfferson 8-7214; Sls. Mgr: E. T. Clegg; Pur. Agt: A. Gillingham

Cletron, Inc., 1974 E. 61st St., Cleveland, Ohio, Tel: EX 1-3834; Sls. Mgr: D. G. Harris, Pur. Agt: L. J. Faust

Sales Offices: ● CALIF., ALHAMBRA, Moye, R. G. Co., 116 S. Stoneman Ave., CU 3-1669, NORTH HOLLYWOOD, Bassett, W. Co., 12045 Magnolia Blvd., ST 7-7129, SAN FRANCISCO, Logan Sales, 154 Eighth St., HE 1-0692; ● COLO., DENVER, Connors, W. H. Co., 375 Birch St., FR 0566; ● GA., DECATUR, McCorvey, V. Avis, 215 Church St., DR 7-6167; ● ILL., CHICAGO, Kadell Sales, 5875 N. Lincoln Ave., LO 1-3042, CHICAGO, Linx, William M., 6322 N. Cicero Ave., MU 5-2022; ● KY., LOUISVILLE, Bilray Organization, 3615 Brownsboro Rd., TW 6-6369; ● MASS., SOMERVILLE, Near, Inc., 99 Highland Ave., PR 6-2262; ● MD., GREENBELT, Massey Assoc., 111 Centerway, GR 4-2071; ● MICH., DEARBORN, West, Rod, 1441 Dacosta, LO 1-9152, DETROIT, R. J. Sales, 19942 Inkster Rd., KE 7-9059; ● MINN., MINNEAPOLIS, Foster, Mel Co., 2402 Hennepin Ave., FR 4-2612; ● MO., KANSAS CITY, Kay Sales, 2600 Grand Ave., BA 1-3800; ● N. Y., BROOKLYN, Brown, Irv Co., 1500 Carroll St., HY 3-1379, NEW YORK, Camber, Marty, 1700 York Ave., HY 7-5400, YONKERS, Brown, Jack, 207 Rosedale Rd., SP 9-7330; ● PA., GLADWYNE, Hevner, Don S., 1528 Spring Mill Rd., GL 5-9727, PHILADELPHIA, Linz, Dave, 238 Shellmire St., ES 9-0734; ● TEXAS, DALLAS, Smith, J. Earl, Box 35331, FL 7-1727; ● WASH., SEATTLE, Parsons, C. B. Co., 3028 First Ave., MU 2-6780

Cleveland Container Co., 6201 Barberton Ave., Cleveland, Ohio, Tel: OL 1-4500; Sls. Mgr: J. Sebesky; Pur. Agt: R. F. Boll

Sales Offices: ● CALIF., LOS ANGELES, Cochran-Barron Co., 544 S. Mariposa Ave., DU 5-0095; ● CAN., SCARBOROUGH, Paisley Products Co., 36 Upton Rd., PL 5-2216; ● CONN., NORTH HARTFORD, Pettigrew, R. S. Co., 10 N. Main St., AD 3-8533; ● ILL., CHICAGO, McFarlane Sales Co., 5950 W. Division, CO 1-2142; ● N. J., EAST ORANGE, Murray Sales, 604 Central Ave., 5-9038; ● PA., ARDMORE, Midlantic Sales, 9 E. Athens Ave., MI 9-2643; ● TEXAS, DALLAS, Green, John A. Co., 6815 Oriole Dr., FL 1-9947

Cleveland Electronics, Inc., 1974 E. 61st St., Cleveland, Ohio

Cleveland Graphite Bronze Co., The, 17000 St. Clair Ave., Cleveland, Ohio, Tel: IVanhoe 1-7221; Sls. Mgr: L. W. Christenson; Pur. Agt: J. Mehring

Sales Offices: ● CALIF., VAN NUYS, 4629 Van Nuys Blvd., ST 8-0660; ● ILL., CHICAGO, 332 S. Michigan, WA 2-6230; ● MICH., DETROIT, 6-259 Gen. Motors Bldg., TR 2-3453; ● N. Y., NEW YORK, 611 Chrysler Bldg., OX 7-7860

Cleveland Instrument Co., 735 Carnegie Ave., Cleveland, Ohio, Tel: LAfayette 4-4821; Sls. Mgr: F. W. Witzke; Pur. Agt:: W. Young

Sales Offices: ● CALIF., BELMONT, Smith, Harry M. & Assoc., 1341 Old County Rd., LY 3-7869, LOS ANGELES, Garrett Supply Co., 3844 S. Santa Fe Ave., LU 8-7221, LOS ANGELES, Slater, Paul B. Co., 2505 S. Yates Ave., RA 3-7251, PASADENA, Heinze, A. G. Co., 2807 E. Foothill, RY 1-7474, PASADENA, Specifax Co., 555 E. Walnut St., RY 1-8830; ● COLO., DENVER, Helton, Clint Co., 142 Broadway, RA 2-8915; ● ILL., CHICAGO, Optical Gaging Prod., 154 E. Erie St., SU 7-1546; ● IND., MUNCIE, Miller, A. D., Wysor Block, AT 4-1691; ● IOWA, CEDAR RAPIDS, Froeberg, Ted, 364 Pk. Terrace, S.E., 2-6547; ● MICH., FERNDALE, Motch & Merryweather, 23520 Woodward Ave., JO 6-3190; ● MINN., MINNEAPOLIS, Nelson, Wm. K. Co., 807 13th Ave. S., FE 3-1215; ● N. C., CHARLOTTE, Apex Machine Tool Supp., Box 8005, EX 9-0455; ● N. Y., NEW YORK, Clarkson & Foreman, 50 Church St., WO 2-2140, ROCHESTER, Brook-Anco Corp., 75 College Ave., BR 1-4100, ROCHESTER, Optical Gaging Prod., 26 Forbes St.; ● OHIO, CINCINNATI, Motch & Merryweather, Box 115, TW 1-6410, CLEVELAND, Hodson, L. W. Machinery, 25000 Euclid Ave., AN 1-1500, CLEVELAND, Motch & Merryweather, 1250 E. 222nd St., IV 6-3600, DAYTON, Hofferberth, H. E. Mach., 1111 Ashland Ave., CL 3-7287; ● PA., MEDIA, Maier, George S. Co., 40 Wyncroft Dr., LO 6-5960, PITTSBURGH, Motch & Merryweather, 717 Liberty Ave., AT 1-3985; ● R. I., MANVILLE, McMurtrie, T. Co., 3362 Mendon Rd., PO 9-7701; ● WASH., SEATTLE, Fetzer, Lewis J. Co., Box 63, Boeing Fld., PA 5-6660; ● WISC., MILWAUKEE, Hammond, Larry Co., 1551 N. 35th St., DI 2-6822

Cleveland Metal Specialties, 1783 E. 21st St., Cleveland, Ohio, Tel. PRospect 1-4186; Sls. Mgr: A. Gross; Pur. Agt: J. Japel

Clevite Corp., Electronic Components Div., 3311 Perkins Ave., Cleveland 14, Ohio, Tel. ENdicott 1-1730; Sls. Mgr: M. R. Eastin; Pur. Agt: L. Didante

Sales Offices: ● CALIF., NEWPORT BCH., Duncumb, R. F., Box 623, OR 5-0822; ● COLO., DENVER, Feeger, P. A., Box 3255, AL 5-1196; ● ILL., CHICAGO, Zimmerman, R. M., 6272 W. North, TU 9-2239; ● N. J., NEWARK, Seybert, T. R., 1507 Natl. Newark; ● N. M., ALBUQUERQUE, Brooks, E. P., 114 San Pedro, S. E., AM 8-1724; ● WASH., SEATTLE, Johnston, R., 11009 Evanston Ave., EM 2-0596

Clevite Corp., Texas Div., 9820 S. Main St., Houston, Texas, Tel. MO. 7-2425; Sls. Mgr: C. E. Caldwell; Pur. Agt: W. Lansdon

Clevite Transistor Prod. Clevite Corp., 241-257 Crescent St., Waltham, Mass., Sls. Mgr: C. Raimonds

Sales Offices: ● ARIZ., SCOTTSDALE, Fry Co., 478 N. Scottsdale Rd., WH 5-3281; ● CALIF., LOS ANGELES, Chafin, Earl S., 1541 W. Olympic Blvd., DU 5-3955, REDWOOD CITY, Cerruti-Hunter Assoc., Box 21, EM 9-3354; ● FLA., MIAMI BEACH, Geartner, Jack, 235 Lincoln Rd., JE 1-0200; ● ILL., CHICAGO, Cushman, Edward A., 6261 W. Grand Ave., TU 9-7060; ● MD., TOWSON, Dougherty, Jack, 111 W. Allegheny Ave., VA 3-0431; ● MINN., ST. PAUL, Ragon, Russell G., 1406 W. Idaho Ave., MI 6-6937; ● MO., KANSAS CITY, Fry, W. E. Co., 406 W. 34th St., JE 1-5236, ST. LOUIS, Fry, W. E. Co., 6616 W. Florissant; ● N. C., CHARLOTTE, Highsmith, J. L., 3733 Monroe Rd., FR 7-2546; ● N. J., HADDONFIELD, Winnemore, Sam, 1201 Windmoor Rd., HA 9-4678; ● N. Y., HICKSVILLE, Smith, Donald S., 185 Spindle Rd., MI 2-4061, ROCHESTER, Fowler Beach Corp., 3700 East Ave., LU 6-0468, ● OHIO, CLEVELAND, Sidnell, R. G., 1229 Westlake Ave., AC 1-1313; ● PA., PHILADELPHIA, Newson, C. H., 813 Bethlehem Pike, CH 8-3377, PLYMOUTH MTNG., Norris, Louis F. 4050 Friends La., CH 8-0282; ● TEXAS, DALLAS, Nesbitt, Robert, 1925 Cedar Springs, PR 5-824, HOUSTON, Hilton, Ray, 4810 Hazzar St., ● WASH., SEATTLE, Johnson, Ray, 1011 E. 69th St., EM 2-0956

Clifford Mfg. Co., 152 Grove St., Waltham, Mass.

CLIFTON PRECISION PRODS. CO., INC. (Pgs. 844, 845), Clifton Heights, Pa., Tel: MAdison 6-2101; Sls. Mgr: T. W. Shoon; Pur. Agt: T. Parker

Sales Offices: ● **CALIF., PALOS VERDES,** Enright Eng. Co., 3721 Palos Verdes N., FR 5-9886; ● **COLO., COLORADO, SPRINGS,** Clifton Prec. Products, 401 E. Fillmore, ME 2-2691; ● **MASS., W. NEWTON,** Darbury Corp., The, 99 Elm St., BI 4-2053; ● **MO., CLAYTON,** Clifton Prec. Products, 8000 Bonhomme, PA 7-5848; ● **N. Y., GREENVALE,** Brede, H. W. Co., 75 Glen Cove Rd., MA 1-4700; ● **PA., UPPER DARBY,** Clifton Prec. Products, 9014 W. Chseter Pike, HI 9-1200; ● **TEXAS, DALLAS,** Ammon & Woods Assoc., 562 E. Mockingbird La., TA 6-4171

Cline Elecrtic Mfg. Co., Aircraft Products Div., 3405 West 47th St., Chicago, Ill.

Clinton Supply Co., 110 S. Clinton St., Chicago, Ill.

Clippard Instrument Lab., Inc., 7350-90 Colerain Rd., Cincinnati, Ohio, Tel. JA. 1-4261; Sls. Mgr: G. F. Platts

Sales Offices: ● CALIF., SAN FRANCISCO, Lebell F. Co., 1485 Bayshore Blvd., JU 7-8700

Clipper Gear & Machine Co., 15301 E. 12 Mile Rd., Roseville, Mich., Tel. PRescott 3-0450; Sls. Mgr: A. Bolden; Pur. Agt: M. V. Andersen

Clough-Brengle Co., 6014 Broadway, Chicago, Ill., Tel. AMbassador 2-2200; Sls. Mgr: G. Fonte; Pur. Agt: A. Mueller

Sales Offices: ● CALIF., LOS ANGELES, Geist, W. K. Co., 3177 Glendale Blvd., NO 5-5219; ● CAN., TORONTO, Hackbush Electronics Ltd., 23 Primrose Ave., LE 1-2453; ● VA., ALEXANDRIA, Anderson, J. F. Co., 300 Belle View Rd., SO 8-7153

Clover Industries, Inc., 588 Young St., Tonawanda, N. Y.

Coast Coil Co., 5333 W. Washington Blvd., Los Angeles, Calif.; Sls. Mgr: H. Frederick

Coaxial Connector Co., Inc., 37 N. 2nd Ave., Mt. Vernon, N. Y., Tel MO 8-6416; Sls. Mgr: W. R. Clayton

Cobehn, Inc., 226 Passaic Ave., Caldwell, N. J., Tel. CApital 6-6675; Sls. Mgr: D. F. Cook; Pur. Agt: W. E. Bellars

Sales Offices: ● CALIF., LOS ANGELES, Jones, Griff R., 718 E. 60th St., AD 1-0029, SAN DIEGO, Henberger, John C., 3536 Crown Point Dr., HU 8-0317; ● ILL., CHICAGO, Marsland, Hugh & Co., 6699 Lincoln Ave., OR 6-1100; ● IND., INDIANAPOLIS, Marsland, Hugh & Co., 6730 E. 19th St.; ● MASS., BOSTON, Whiteside, Fred Corp., 10 High St., HA 6-0846; ● MINN., MINNEAPOLIS, Marsland, Hugh & Co., 231 N. Edgewood Ave., TA 2-7949; ● N. Y., NEW YORK, Comtrad Corp., 673 Broadway, AL 4-8066; ● PA., READING, Chem-Tronics, Inc., R. F. D. No. 3, FR 3-8509; ● WASH., SEATTLE, Seatronics, Inc., 1806 Bush Pl., EA 3-8545

Codetyper Labs., 1666 N. Garey Ave., Pomona, Calif.; Sls. Mgr: N. Cunningwell

Coggins, George F. Co., 177 S. W. Front, Portland, Ore.

Cohan-Epner Co., Inc., 142 W. 14th St., New York, N. Y.

Cohn, Sigmund Corp., 121 S. Columbus Ave., Mt. Vernon, N. Y., Tel: MOunt Vernon 4-5300; V. Pres: R. Cohen

Coil Co. of America, Inc., 221 Washington Street, Northvale, N. J., Tel. CLoster 5-3434; Sls. Mgr: B. Gottlieb; Pur. Agt: H. Gay

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Davidson Mfg. Co., 2223 Ramona Blvd., West Covina, Calif., Tel: ED 7-7281; Sls. Mgr: L. Van Valkenburg; Pur. Agt: O .A. Kidwell

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Electro-Devices, Inc., 4-6 Godwin Ave., Paterson, N. J., Tel: ARmory 4-8989; Pres: O. E. Carlson
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Electro Engineering & Mfg. Co., 627 W. Alexandrine, Detroit, Mich.

ELECTRO ENGINEERING WORKS, INC., (Pgs. 1126-1128), 401 Preda St., So. San Leandro, Calif., Tel: LOckhaven 9-3326; Sls. Mgr: R. Brooks; Pur. Agt: M. C. Phillips
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Sales Offices: ● KY., LOUISVILLE, Robich, J., 211 Choctaw Rd.; ● MICH., DETROIT, Etched Products Corp., 20211 Greenfield Rd., BR 3-7500

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Ethylene Chemical Corp., 245 Broad St., Summit, N. J.

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Ewald Instruments, Route No. 7-R, Kent, Conn., Tel: WAlker 7-3278; Pres: L. Ewald

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Ferrara, Inc., Subs. Telecom, Inc., 1019 Admiral Blvd., Kansas City, Mo.

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FERROTRAN ELECTRONICS CO., (Pg. 512), 693 Broadway, New York, N. Y., Tel: ALgonquin 4-5810, Sls. Mgr: H. King

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Fidelity Products Co., Inc., 1200 Grove St., Irvington, N. J.

Field Emission Corp., 210 N. Ford St., McMinnville, Ore., Tel: 1-2951; Sls. Mgr: W. P. Dyke; PUR. AGT: S. D. BENNETT

Film Assocs., 4600 S. Dixie Hgwy., Dayton, Ohio, Tel: AXminster 3-2164; Sls. Mgr: E. Lang; Pur. Agt: E. R. Arn

FILM CAPACITORS, INC., (Pg. 493), 3400 Park Ave., New York, N. Y., Tel: CYpress 2-5180; Sls. Mgr: S. Lipman; Pur. Agt: S. Knebel

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Filtron Co., Inc., 131-15 Fowler Ave., Flushing, N. Y., Tel: HIckory 5-7000; Sls. Mgr: S. I. Perry; Pur. Agt: L. Kerestury

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Firestone Tire & Rubber Co., 2525 Firestone Blvd., Los Angeles, Calif.

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Sales Offices: ● ALA., BIRMINGHAM, 2803-A 19th Pl., S., TR 1-6862; ● CALIF., LOS ANGELES, 2300 S. Eastern Ave., RA 3-6411, SAN DIEGO, 1052 Rosecrans St., AC 2-0359, SAN FRANCISCO, 907 Post St., GR 4-1616; ● COLO., DENVER, 1445 Kearney St., FL 5-2377; ● CONN., WEST HARTFORD, 968 Farmington Ave., AD 6-2368; ● FLA., JACKSONVILLE, Box 2614, EX 8-4450, MIAMI, 3008 Coral Way, HI 4-7373, TAMPA, 1108 Wallace S. Bldg., 2-0421; ● GA., ATLANTA, 1370 Spring St., N. W., TR 2-3527; ● ILL., CHICAGO, 3505 N. Kimball Ave., CO 7-6400; ● IND., INDIANAPOLIS, 6101 College Ave., CL 5-8996, SOUTH BEND, Room 416, JMS Bldg., CE 3-1065; ● KY., LOUISVILLE, 131 Breckenridge La., TW 6-1247; ● LA., NEW ORLEANS, 824 Dakin St., VE 1-1301; ● MD., BALTIMORE, 5712 Harford Rd., HA 6-7688, SILVER SPRING, 8641 Colesville Rd., JU 5-8390; ● MASS., OHLYOKE, 7 Valley Heights, HO 3-0168, QUINCY, 1400 Hancock St., MA 9-4451; ● MICH., DETROIT, 15552 W. McNichols Rd., BR 2-1970, GRAND RAPIDS, 190 Monroe, N. W., GL 6-7436; ● MINN., MINNEAPOLIS, 7630 Excelsior Blvd., WE 5-1721; ● MO., KANSAS CITY, 119 E. 18th St., VI 2-1780, ST. LOUIS, 5025 Pattison Ave., MO 4-5306; ● NEB., OMAHA, 4730 Chicago Ave., RE 7532; ● N. J., EAST ORANGE 16 N. Harrison St., OR 2-9019; ● N. Y., BUFFALO, 237 Main St., MO 2871, NEW YORK, 101 Park Ave., MU 3-7935, ROCHESTER, 75 College Ave., HI 5-4920; ● N. C., CHARLOTTE, 3333 Wilkinson Blvd., EX 9-0441; ● OHIO, CINCINNATI, 2350 Glendale-Milford, PR 1-5400, CLEVELAND, 1385 Cook Ave., AC 1-3400, COLUMBUS, Box 516, AX 1-2661, TOLEDO, 662 Spitzer Bldg., CH 6-7462; ● OKLA., TULSA, 1228-B N. Osage Dr., CH 2-7516; ● ORE., PORTLAND, 3030 N. W., 29th Ave., CA 2-9687; ● PA., FORT WASHINGTON, 110 Commerce Dr., CH 8-3900, PITTSBURGH, 929 Park Ave., LO 1-4211, YORK, 116 E. Market St., 8-1907; ● TENN., MEMPHIS, 56 N. Main St., JA 6-0660, NASHVILLE, 4012 Hillsboro Rd., AM 9-6186; ● TEXAS, DALLAS, 3709 Atwell St., FL 7-1711, HOUSTON, 3400 Montrose Blvd., JA 4-7261; ● WASH., SEATTLE, 550 Mercer St., AT 2-7954; ● WISC., MILWAUKEE, 316 E. Silver Spring Dr., WO 2-6056

Formica Metal Products Co., Corporation Way, Medford, Mass., Tel: EXport 5-5656; Sls. Mgr: C. Formica; Pur. Agt. D. Schiavone

Formsprag Co., 23601 Hoover Rd., Warren, Mich., Tel: JEfferson 6-5100; Sls. Mgr: C. F. Trapp, Jr.; Pur. Agt: E. D. Mackie
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Forro Scientific Co., 833 Lincoln, Evanston, Ill., Tel: DA 8-5729; Sls. Mgr: M. Somlo

Forsberg Mfg. Co., 125 Seaview Ave., Bridgeport, Conn., Tel: EDison 4-9469; Sls. Mgr: J. W. Nystrom
Sales Offices: ● CALIF., SAN LEANDRO, Woosley, Bob, 15026 Juniper St.; ● COLO., WHEATRIDGE, Burr, Coleman H. & Co., 7700 W. 48th Ave.; ● IND., INDIANAPOLIS, Hearn, Arthur F., 2237 N. Balton St.; ● MINN., MINNEAPOLIS, Schonberg, W. C. & Assoc., 2815 Hennepin Ave.; ● N. Y., NEW YORK, Davis, George Walter, 258 Broadway; ● PA., PITTSBURGH, Baker, W. A., 1610 Potomac Ave.; ● WASH., SEATTLE, Matzke, W. A., 809A Term. Sls. Bldg.

Fort Wayne Metals, Inc., 3211 MaCarther Dr., Fort Wayne, Ind.

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Sales Offices: ● CALIF., ARCADIA, Reid, R. L., & Co., 248 W. Pamela Rd., DO 6-3286, SAN CARLOS, Ross, David H. Co., 534 El Camino Real, LY 1-4411; ● CONN., MERIDEN, Lavin, Henry Assoc., Box 196 BE 7-5527; ● GA., DECATUR, McCorvey, V. Avis Co., 215 Church St., DR 7-6167; ● ILL., CHICAGO, Locke & Clark Sales Co., 2326 W. Farwell Ave., SH 3-4649; ● IND., FORT WAYNE, Haffey, Ralph J. Co., 6629 Coldwater Rd., TR 7381; ● MD., TOWSON, Maguire, J. A., Co., 29 Allegheny Ave., VA 5-3836; ● N. J., CAMDEN, Maguire, J. A., Co., 116 N. 7th St., WO 6-3118, TENAFLY, Border-Barrett, 121 Oak St., LO 8-2354; ● N. Y., TONAWANDA, Components for Industry, 103 Greenhaven Terr., JA 7900; ● OHIO, CINCINNATI, Haffey, Ralph J., Co., 1243 Garden Circle, PO 1-2884

Fostoria Pressed Steel Corp., Fostoria, Ohio, Tel: HE 5-7721; Pur. Agt: R. L. Hill

Sales Offices: ● CALIF., CARMEL, McDaniel, C. W., Box 4236, MA 4-2977; ● ILL., CHICAGO, Fostoria Pressed Steel, 539 W. North Ave., MO 4-5590; ● MICH., DETROIT, McDaniel, C. W., 18627 J. Couzens Hwy., DI 1-8543; ● N. J., MADISON, Fostoria Pressed Steel, 4 Green Village Rd., FR 7-0914

FOTO-VIDEO LABORATORIES, INC., (Pg. 900) 36 Commerce St., Dept. E-1, Cedar Grove, N. J., Tel: CEnter 9-6100; Sls. Mgr: J. Mahler; Pur. Agt: J. Palmere

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Fourdee Inc., 704 W. Fairbanks Ave., Winter Park, Fla., Tel: MIdway 7-0899; Sls. Mgr: W. Haire

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Fourjay Industries, 2360 W. Dorothy La., Dayton, Ohio, Tel: AXminster 9-3673; Sls. Mgr: J. M. Fulkerson

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Fox Poducts Co., 4720 N. 18th St., Philadelphia, Pa., Tel: DA 9-2700; Sls. Mgr: W. J. Hamilton; Pur. Agt: J. Blumenthal

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Freeman Co., Yankton, So. Dak., Tel: NOrth 5-2829; Sls. Mgr: S. H. Byquist; Pur. Agt. E. W. Freeman

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Friez Instrument Div., Bendix Aviation Corp., 1400 Taylor Ave., Baltimore, Md., Tel: VAlley 3-4040; Sls. Mgr: J. W. Hammond; Pur. Agt: H .J. Grady

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Fuller, H. B. Co., 181 W. Kellogg Blvd., St. Paul, Minn., Tel: CApital 2-0505; Pur. Agt: R. E. Foley

Sales Offices: ● CALIF., LOS ANGELES, Fuller, H. B. Co., 3250 Mines Ave., AN 3-2113, S. SAN FRANCISCO, Fuller, H. B. Co., 57 S. Linden Ave., PL 6-5450; ● CAN., WINNIPEG, Fuller, H. B. Co. Ltd., 1400 Sargent Ave.; ● FLA., TAMPA, Fuller, H. B. Co., 1803 2nd Ave.; ● GA., ATLANTA, Fuller, H. B. Co., 655 Mead St., S.E., MA 7-1939; ● IOWA, COUNCIL BLUFFS, Corn Belt Adhesives Co., 1017 4th St., 3-4882; ● ILL., CHICAGO, Fuller, H. B. Co., 904 W. Blackhawk St., MI 2-6300; ● MINN., ST. PAUL, Fuller, H. B. Co., 1144 Eustis St., MI 6-8641; ● MO., KANSAS CITY, Fuller, H. B. Co., 915 Broadway, VI 2-9887; ● N. J., LINDEN, Fuller, H. B. Co., 1201 Fuller Rd., WA 5-2272; ● N. Y., BUFFALO, Fuller, H. B. Co., 1934 Elmwood Ave., RI 6366; ● OHIO, CINCINNATI, Fuller, H. B. Co., 4020 Cherry St., MU 1-5420; ● ORE., PORTLAND, Fuller, H. B. Co., 3332 N.W. Yeon Ave., CA 6-6625; ● TENN., MEMPHIS, Fuller, H. B. Co., 802 Royal Ave., JA 6-4212; ● TEXAS, DALLAS, Fuller, H. B. Co., 2217 Laws St., RI 7-7315

Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville, Tenn., Tel: 4-1641; Sls. Mgr: G. L. Ogdin, Jr.; Pur. Agt: F. Coker

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Furniture Craftsman, 3596 Alpine Rd., N.W., Comstock Park, Mich., Tel: EM 1-0203; Sls. Mgr: K. B. Neuenfeldt
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Furst Electronics, Inc., 1938 E. Fairchild Avenue, Danville, Ill.

Furzehill Labs., 550 Fifth Ave., New York, N. Y., Tel: Circle 7-5561; Sls. Mgr: D. Werner; Pur. Agt: L. D. Burns

Fusite Corp., 6000 Fernview Ave., Cincinnati, Ohio, Tel: RE 1-2020; Sls. Mgr: J. H. Marsh, Jr.; Pur. Agt: J. Fox
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Futuramic Co., 915 S. Broadway, Park Ridge, Ill., Tel: TAlcott 3-0211; Pur. Agt: R. G. Middleton

Fyr-Fyter Co., 221 Crane Street, Dayton, Ohio, Tel: BA 2-3751; Sls. Mgr: A. C. Trautwein; Pur. Agt: M. C. Wright
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GB ELECTRONICS CORP., Subs. General Bronze, Hook Creek Blvd., Valley Stream, N. Y., Tel: LOcust 1-8300; Sls. Mgr: M. R. Jungman; Pur. Agt: A. Ashcroft

G-C ELECTRONICS MFG., Div. GC-Textron, Inc., 400 S. Wyman St., Rockford, Ill., Tel: WOodland 8-9661; Sls: Mgr: A. H. Binash; Pur. Agt: G. Kampmeier
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G-L Electronics Co. Inc., 2921 Admiral Wilson Blvd., Camden, N. J., Tel: WOodlawn 6-2780; Sls. Mgr: W. C. Bullock; Pur. Agt: B. F. Beatty
Sales Offices: ● CALIF., PASADENA, Kimball, R., 35 N. Raymond Ave., RY 1-9603; ● CONN., MERIDEN, Lavin, H. Assoc., Box 196, BE 7-5527; ● FLA., INDIAN RIVER CITY, Brown, W. A. & Assoc., 201 Capron Rd., TI 1086; ● ILL., CHICAGO, Tollaksen, H. S., 300 W. Adams St., CE 6-2964; ● MINN., MINNEAPOLIS, Engineering Prod. Assoc., 6338 Vincent Ave., S., MI 6-3443; ● MO., KANSAS CITY, Schwerin, E. B., 4210 Main St., WE 1-7564; ● N. J., MOUNTAIN LAKES, Dearie, J. P., 215 Morris Ave., DE 4-0684; ● PA., PHILADELPHIA, Murphey, W. R., 520 E. Moreland Ave., CH 7-0831, PITTSBURGH, Robco Thomson Engirg .Serv., 2712 Mt. Vernon Ave., FL 7-7885; ● VA., ALEXANDRIA, Brown, W. A. & Assoc., 3610 Mt. Vernon Ave., TE 6-1800; ● WASH., BELLEVUE, Smith, M. R., 9300 N.E. Twelfth St., GL 4-9400

GM Adhesive Metla Nameplate, 3131 Western Ave., Seattle, Wash., Tel: ATwater 4-8490; Sls. Mgr: N. H. Boward; Pur. Agt: L. C. Green
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G.M. Mfg. Co., 134 W. 26 St., New York, N. Y., Tel: WA 4-7965; Sls. Mgr: S. Lewis; Pur. Agt: J. Kahl
Sales Office: ● CALIF., EL CAJON, Kahl Scientific Instr., HI 4-5944

GPE Controls, Inc., 240 E. Ontario St., Chicago, Ill., Tel: WHitehall 4-3700
Sales Offices: ● ALA., BIRMINGHAM, McConnell Sales Corp., 1661 28th Ave., S., TR 1-3501; ● CALIF., BURBANK, GPE Controls, Inc., 40 E. Verdugo Ave., CI 4-3181, LOS ANGELES, Bojanower Machinery, 5270 E. Washington Blvd., AN 3-6175; ● CAN., TORONTO, Process-Instr. Systems, 1918 Ave. Rd., OR 5514; ● COLO., DENVER, Peterson Co., 4949 Colorado Blvd., DE 3-543; ● LA., KENNER, Deshautreaux, Emile C., Box 261, KE 4-4665; ● MICH., DETROIT, Early, Frank E. Co., 15028 Fenkell Ave., VE 6-4336; ● MO., KANSAS CITY, Carolan, W. C. Co., 612 W. 47th St., JE 1-5505; ● N. J., CLIFTON, GPE Controls, Inc., 1500 Main Ave., GR 2-1000; ● OHIO, CINCINNATI, Porter, H. T. & Co., 503 Worthington Ave., CH 1-1633, CLEVELAND, GPE Controls, Inc., 1836 Euclid Ave., CH 1-1633; ● PA., HAVERTOWN, GPE Controls, Inc., 511 W. Chester Pike, HI 6-7050, PITTSBURGH, GPE Controls, Inc., 104 Sixth St., GR 1-7085; ● S. C., GREENVILLE, Marshall & Williams Co., Box 5285 Sta. B, GR 2-7338; ● TEXAS, HOUSTON, Eads Co., Box 13071, JA 6-1646; ● UTAH, SALT LAKE CITY, Specialty Sales Co., 117 W. 2nd S. St., DA 2-5553

GPS Instrument Co., Inc., 180 Needham St., Newton, Mass., Tel: DEcatur 2-8110; Sls. Mgr: S. Giser; Pur. Agt: F. S. Spada

G-V CONTROLS, INC. (Pg. 990), 83 Okner Parkway, Livingston, N. J., Tel: WYman 2-6200; Sls. Mgr: R. F. Stockton; Pur. Agt: R. Maloney
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Gabriel Co., The, Electronics Div., 135 Crescent Rd., Needham Hgts., Mass., Tel: HI 4-0005; Sls. Mgr: J. H. Hannigan; Pur. Agt: A. Walker
Sales Offices: ● N. J., HADDONFIELD, Hitchens, Roland, 323 Homestead Ave.; ● TEXAS, DALLAS, Ohlfest, Al N., 1214 Davis Bldg.

Gaertner Scientific Corp., The, 1261 Wrightwood Ave., Chicago 14, Illinois, Tel: BUckingham 1-5335; Sls. Mgr: L. W. Higgins; Pur. Agt: L. V. Mosbarger

Gahagan, Inc., Waterman Ave., Esmond, R. I., Tel: CEnterdale 1-4000; Sls. Mgr: E. J. Holland
Sales Offices: ● N. Y., ROCHESTER, Lazor, John, Box 307, GR 3-3301; ● PA., PHILADELPHIA, Shelps, George A., 1625 Spruce St., KI 6-1066

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Gamewell Co., The, Pot. Div., 1238 Chestnut St., Newton Upper Falls, Mass., Tel: BIgelow 4-1240; Sls. Mgr: C. T. Manning; Pur. Agt: E. O. Halloran
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GAP INSTRUMENT CORP. (Pgs. 604, 605), 116 Merrick Rd., Freeport, L. I., N. Y., Tel: FReeport 8-1040· Sls. Mgr: A. S. Goodrich; Pur. Agt: G. M. Tracy
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Getters Electronics Inc., 44 Falls St., Niagara Falls, N. Y., Tel: BUtler 5-0379; Sls. Mgr: R. G. Webster

Giannini, G. M. Co., Inc., 918 E. Green St., Pasadena, Calif., Tel: SYcamore 3-2101; Sls. Mgr: L. M. Ryan; Pur. Agt: P. Coleson

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Giannini, G. M. &Co., Inc., Caldwell Township, Caldwell, N. J.

Gibbs Mfg. & Research Corp., 454 N. Main St., Janesville, Wisc., Tel: PLeasant 4-4467; Sls. Mgr: G. W. Mulder; Pur. Agt: R. W. Hower

Sales Offices: ● CALIF., LOS ANGELES, Owens, L. Co., 1102 S. Western Ave., RE 5-0203

Gibson Electric Co., Box 555, Delmont, Pa., Tel: HOward 8-7701; Sls. Mgr: F. R. Farnham; Pur. Agt: R. C. Hannegan

Sales Offices: ● CALIF., LOS ANGELES, Wilcox, E. A., Co., 6436 E. Corvette St., RA 3-6436, SAN FRANCISCO, Wilcox, E. A., Co., 277 Seventh St., HE 1-6670; ● ILL., OAK PARK, Hill and Gray, Inc., 41½ Harrison St., EU 3-0373; ● MASS., MELROSE, Pike, Gilbert L., 370 Upham St., ME 4-6941; ● N. Y., ROCHESTER, Scott, Judson H., 630 Seneca Pky., GL 3-2208, ROSLYN, Hicks, Wm. M., 4 Spruce Dr., MA 7-6150; ● N. C., CHARLOTTE, Hile, W. K., Box 6165, FR 7-5052; ● OHIO, CLEVELAND HEIGHTS, Stone, R. R., & Assoc., 1925 Lee Rd., ER 1-4484, DAYTON, Stone, R. R. & Assoc., 384 W. First St., BA 4-7282; ● PA., BROOMALL, Cashman and Norton, Box 124, EL 7-7703; ● WASH., SEATTLE, Wilcox, E. A., Co., 915 Arctic Bldg., MU 1468

Gibson, William D. Co., 1800 Clybourn Ave., Chicago, Ill.

Gilfallan Bros., INC., 1815 Venice Blvd., Los Angeles, Calif., Tel: DUnkirk 1-3441; Sls. Mgr: A. J. Brown; Pur. Agt: A. L. McDermott

Sales Offices ● D. C., WASHINGTON, Field, E. R., 1028 Conn Ave., N. W. DI 7-6698; ● N. Y., ROME, Gerald Dekayer, 227 W. Dominick St., RO 2282; ● OHIO, DAYTON, Dean, R. E., 137 N. Main, BA 3-2811

Gillies Co., Inc., 66 Central St., W. Boylston, Mass., Tel: TEmple 5-4445; Sls. Mgr: D. M. Gillies

Gilmore Industries, 13015 Woodland Ave., Cleveland, Ohio

Girard-Hopkins, 1000 40th Ave., Oakland, Calif., Tel: KEllog 2-8477; Sls. Mgr: J. C. Hopkins; Pur. Agt: A. R. Stack

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Girdler Company, Themex Division, 224 E. Broadway, Louisville, Ky.

Girdler Process Equip. Div., Chemetron Corp., P. O. Box 43, Louisville, Ky., Tel: JUniper 7-7553; Sls. Mgr: B. R. Hopkins; Pur. Agt: V. Klein

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Glad Day Development Co., P. O. Box 266, Burbank, Calif.

Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles, Calif., Tel: NO 3-3361; Sls. Mgr: J .D. Welterlen; Pur. Agt: W. B. Moon, Jr.

Glaser Lead Co., Inc., 31 Wykcoff Ave., Brooklyn, N. Y.

Glaser-Steers Corp., 155 Oraton St., Newark, N. J., Tel: HUmbolt 4-6400; Sls. Mgr: J. S. Glaser; Pur. Agt: H. Paganelli

Sales Offices: ● CALIF., LOS ANGELES, Perlmuth Electrn. Assoc., 5057 W. Washington Blvd., WE 1-1041; ● CAN., TORONTO, Clark, Alex L. Ltd., 3745 Bloor St., W., BE 1-3303, TRENTON, Glaser-Steers, 99 Wragg St., TR 6545; ● ILL., CHICAGO, Sarkis, Henry D., 5608 N. Western Ave., AR 1-3774; ● KAN., MERRIAM, Zimmer Sls., 5620 Woodward Ave., HE 2-1121; ● MD., ROCKVILLE, Rosen, Gene & Assoc., 4402 Bayne St., WH 6-6769; ● N. J., RED BANK, Miller, Harry Co., 27 Mechanic St., SH 1-9300; ● N. Y., SYRACUSE, Franklin, Wm. A., 2 Standish Ter., GI 6-1120; ● N. C., CHARLOTTE, Roddey, L. D., Box 1302, JA 3-5437; ● OHIO, CLEVELAND, Schroder Sls., 2309 Prospect Ave., MA 1-5075; ● TEXAS, DALLAS, Lucas, Chls. Sls., Box 8506, WH 2-5958; ● UTAH, SALT LAKE CITY, Gates Co., 200 S. Main St., EL 9-1101

Glass Fibers Co., L. O. F., 1810 Madison Ave., Toledo, Ohio, Tel: CHerry 8-5771

Sales Offices: ● GA., ATLANTA, 3166 Maple Dr., CE 7-1601; ● ILL., CHICAGO, 230 N. Michigan Ave., AN 3-7417; ● N. Y., NEW YORK, 441 Lexington Ave., MU 2-3150; ● TEXAS, HOUSTON, 2370 Rice Blvd., JA 9-6647

Glass Products Co., 30 South Salsipuides St., Santa Barbara, Calif., Sls. Mgr: N. Pritikin

Glass-Tite Industries, Inc., 88 Spectacle St., Cranston, R. I., Tel: STuart 1-3200; Sls. Mgr: R. R. Papitto; Pur. Agt: L. Ferber

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Glasseal Products Co., Inc., 1111 E .Elizabeth Ave., Linden, N. J., Tel: HUnter 6-2067; Sls. Mgr: K. G. Crocker; Pur. Agt: J. Graham

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Glastic Corp., 4321 Glenridge Rd., Cleveland, Ohio, Tel: IVanhoe 6-0100;

Sales Offices: ● ILL., CHICAGO, 3405 North Harlem Ave., PE 6-4280; ● N. Y., SCOTIA, 40 St. Stephans Lane, EX 9-4392

Gleason Avery Co., Auburn, N. Y.

Sales Offices: ● ARIZ., PHOENIX, Shefler-Kahn Co., Box 1587, AL 8-7893; CALIF., ANAHEIM, Hopkins, R. S. Co., 112 W. Broadway, KE 5-1912; ● CAN., TORONTO, Davis Automatic Controls, 4251 W. Dundas St., RO 4135; ● CONN., ROCKY HILL, Walworth Controls Co., 131 Main St., JA 9-6806; ● ILL., CHICAGO, Caine Electrn. Sales, 3020 N. Cicero Ave., SP 7-4022; ● IND., ANGOLA, Law Instrument Co., Box 95, Tel: 217; ● MD., SILVER SPRINGS White, L. G. Co., 880 Bonifant St., JU 5-3141; ● MASS., NEEDHAM, White Sales Co., 945 Great Plain Ave., 3-3676; ● MICH., HIGHLAND, PARK, Morrow, J. Sales, 85 Louise Ave., TO 8-0649; ● N. Y., NEW HYDE PARK, Freeman, P. R. Co., 91 Dogwood Lane, PI 2-5627, ROCHESTER, Johnson, H. C. Agencies, 111 Mount Hope Ave., HA 6-1090

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Glentronics, Inc., 859 E. Alosta Ave., Glendora, Calif., Tel: EDgewood 5-4514; Sls. Mgr: R. T. Schultz; Pur. Agt: R. J. Eimar

Sales Offices: ● CALIF., LOS ANGELES, Roberts, E. V. & Assoc., 5068 W. Washington, WE 8-2541; ● MICH., DETROIT, Flora, J. Malcolm, 18450 Livernois Ave., UN 1-8141

Globar Plant Refractories Div., Carborundum Co., Box 339, Niagara Falls, N. Y., Tel: BUtler 5-5715; Sls. Mgr: D. S. Bowman; Pur. Agt: W. R. L. Spry

Sales Offices: ● CALIF., LOS ANGELES, Carborundum Co., 2626 Malt Ave., RA 3-4866; ● ILL., CHICAGO, Carborundum Co., 3335 W. 47 St., LA 3-7100; ● MICH., DETROIT, Carborundum Co., 11171 Lappin Ave., LA 1-3400; ● N. J., JERSEY CITY, Chutter, G. A., 15 Exchange Pl., DE 2-1700; ● N. Y., NEW YORK, Carborundum Co., 60 E. 56 St., PL 5-1831, TONAWANDA, Rew, C. W., 121 Wheeler St., JA 3029; ● OHIO, CLEVELAND, Carborundum Co., 24800 Lakeland Blvd., RE 1-8600; ● PA., BRISTOL, Carborundum Co., ST 8-5561; ● WISC., MILWAUKEE, Olsen, R. C., 4420 N. Wilson Dr., UP 3-2520

Glove Electrical Mfg. Co., 1729 W. 134th St., Gardena, Calif., Tel: FAculty 1-3311; Sls. Mgr: R. E. Peterson; Pur. Agt: W. Ostendorf

Sales Offices: ● ARIZ., PHOENIX, Gramer, Everett, 1014 E. Camelback Rd., CR 9-1231; ● CALIF., SAN FRANCISCO, Logan Sales Co., 150 Eighth St., HE 1-0692; ● Fla., ST. PETERSBURG, Raymund, E. C. & Assoc., 1221 Arlington Ave.; ● ILL., CHICAGO, Carlson Sales Co., 6677 N. Northwest Hwy., NE 1-8486; ● MASS., CAMBRIDGE, Greene, Dan Org., Box 124, UN 4-2220; ● N. J., RED BANK, Miller, Harry, 27 Mechanic St., SH 1-9300, RIDGEWOOD, Finlay, Robert, Lincoln Bldg., OL 2-0088; ● OHIO, CLEVELAND, Stone, Robert R., 1925 Lee Rd.; ● ORE., PORTLAND, Weber, Dale G., 8 S. E. Clay St., BE 4-7671; ● TEXAS, DALLAS, Branum Sales Co., 1581 Slocum St., RI 1-4995; ● WASH., SEATTLE, Hamilton, R. D., 637 W. 183rd St., LI 4-3300

GLOBE INDUSTRIES, INC., (Pg. 843), 1900 Stanley Ave., Dayton, Ohio, Tel: BAldwin 2-3741; Sls. Mgr: Y. J. Holt; Pur. Agt: J .Trostle

Sales Offices: ● **ARIZ., SCOTTSDALE**, Davidson, Joe & Assoc., 623 E. 4th St.; ● **CALIF., REDWOOD CITY**, Long & Assoc., 680 Warren St., **SOUTH GATE**, Davidson, Joe & Assoc., Box 108; ● **CAN., TORONTO**, Leonard Electric, 346 Bering Ave.; ● **COLO., DENVER**, Pease, Fred A. Co., 4921 E. 38th Ave; ● **CONN., TOLLAND**, Stockwell Tech., Sls. Co., Box 118; ● **FLA., FORT MYERS**, Lynch, Arthur L. & Assoc., 35 W. N. Shore Ave.; ● **GA., ATLANTA**, Smith, Maitland K. Co., 208 14th St., N .W.; ● **ILL., CHICAGO**, Engineered Sales Co., 3592 Milwaukee Ave.; ● **IND., INDIANAPOLIS**, Whitesell, R. O. & Assoc., 6620 E. Washington St.; ● **MD., TOWSON**, Wilkinson, R. L., Inc., 707 Stevenson La.,; ● **MICH., DETROIT**, Sterling S. Co., 15310 W. McNichols Rd., ● **MINN., MINNEAPOLIS**, Nelson, Richard W., 500 Washington Ave. N. ● **MO., KANSAS CITY**, Harris-Hanson Co., 7916 Paseo Ave. **ST. LOUIS**, Harris-Hanson Co., 2814 S. Brentwood; ● **N. Y., HARTSDALE**, Components Sales, 218 E. Hartsdale Ave., SC 5-1050, **ROCHESTER**, Reed-Tollefson, 2815 Monroe Ave., ● **N. C., CHARLOTTE**, Highsmith, James L. & Co., 737 Providence Rd.; ● **OHIO, CHAGRIN FALL**, Thomas Engrg. Co., 4475 Lander Rd., **CINCINNATI**, Whitesell, R. O. & Assoc., 2209 Losantville Ave., **DAYTON**, Fedotin, Lionel S., 1434 Vancouver Dr., **DAYTON**, Whitesell, R. O. & Assoc., 2600 Far Hills Ave.; ● **PA., GLENSIDE**, Wilkinson, R. L. Inc., Box 15; ● **TEXAS, DALLAS**, Aymond, Edward F. Co., 4312 Maple Ave.; ● **WASH., SEATTLE**, Stroum, Samuel N. Co., Box 1339

Glyco Products Co., Inc., Empire State Bldg., New York, N. Y.

Goat, Fred Co., Inc., 308 Dean St., Brooklyn, N. Y.

Godfrey Manufacturing Co., 1633 N. Halsted St., Chicago, Ill., Tel: MOhawk 4-3516; Pres: W. S. Martin

Sales Offices: ● CALIF., MONTEREY PARK, Rollins Electric, 804 S. Atlantic Blvd., CU 3-1209

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Sales Offices: ● ARIZ., PHOENIX, Howe & Howe, 4328 N. 42nd Pl., AM 5-9185; ● CALIF., LOS ANGELES, Stolaroff, M. A. & Co., 4622 W. Slauson Ave., AX 3-6226, PALO ALTO, Win, Tompkins & Co., 2363 Birch, DA 6-7940; ● ILL., CHICAGO, Magnuson Assoc., 3347 W. Irving Park Rd., KE 9-7555; ● MASS., NORWOOD, Monahan & Co., 66 Hoyle St., NO 7-5961; ● MICH., DETROIT, Great Lakes Mfg. Reps., 5770 Artesian, LU 4-2918; ● N. J., HOBOKEN, Simberkoff Sales, 68 Hudson St., OL 6-5211; ● N. C., WILMINGTON, Buthan, Inc., 4924 Oleander Dr., RO 2-5749; ● WASH., SEATTLE, Paramount Agencies, 3215 Western Ave., AT 4-1840, SPOKANE, Paramount Agencies, Box 835, TE 8-2287

Goldake Co., 1544 W. Glenoaks Blvd., Glendale, Calif., Tel: CHapman 5-6571; Sls. Mgr: H. I. Eggleston Jr.; Pur Agt: F. P. Greenhalgh

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Golden Co., 1054 28th St., Brooklyn, N. Y., Tel: GEdney 6-2476; Sls. Mgr: I. Golden

GOLDING MFG. CO., (Pg. 470), 52 Elm St., Newark, N. J., Tel: MArket 3-0702; Sls. Mgr: J. Goulding

Goldsman Co., 1325-27 No. Lawrence St., Philadelphia, Pa., Tel: POplar 5-4468; Sls. Mgr: A. Goldsman; Pur. Agt: R. Goldsman

Sales Offices: ● CALIF., LOS ANGELES, Emmet, Frank A. Co., 2837 W. Pico Blvd., RE 1-8211; ● CONN., GLASTONBURY, Milewski, John, Box 8, ME 3-9465; ● ILL., OAK PARK, Racine, L. S. & Co., 6617 W. North Ave., VI 8-7899; ● N. J., HADDONFIELD, M & S Electrns., Box 185, HA 9-1909; ● OHIO, CLEVELAND, Schusterman, Sam, Box 4311, RE 2-9161

Goldsmith Bros., Smelting & Ref. Co., 111 N. Wabash Ave., Chicago, Ill., Tel: RA 6-0232; Sls. Mgr: A. G. Wahlen; Pur. Agt: F. Capek

Sales Offices: ● CALIF., OAKLAND, Goldsmith Bros., S. & R., 3918 Foothill Blvd., KE 4-2940; ● N. Y., NEW YORK, Goldsmith Bros. S. & R., 74 W. 46th St., JU 2-0630

Gombos, John Co., Inc., 103 Montgomery Ave., Irvington, N. J., Tel: ESsex 3-6633; Sls. Mgr: H. J. Schatz

Gonset Div., Young & Wire Corp., 801 S. Main St., Box 791, Burbank, Calif., Tel: THornwall 5-8711; Sls. Mgr: W. Nico; Pur. Agt: P. Kilmer

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Gulton Industries, Inc., Glenco Corp. Div., 212 Durham Ave., Metuchen, N. J., Tel: LIberty 8-2800; Sls. Mgr: G. Howatt; Pur. Agt: J. Furchhemier
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Gulton Industries, Inc., Instrumentatoin Div., 212 Durham Ave., Metuchen, N. J., Tel: LIberty 8-2800; Sls. Mgr: A. I. Dranetz; Pur. Agt: J. Furchheimer
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Gulton Industries, Inc., Magnetics Div., 13030 Cerise Ave., Hawthorne, Calif., Tel: ORegon 8-7608; Sls. Mgr: J. Alexakis
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Gulton Industries, Inc., Nuclear Div., 15000 E. Central Ave., Albuquerque, N. Mex., Tel: ALpine 6-9858; Sls. Mgr: H. Poulsen; Pur. Agt: J. Tillman
(Sales Offices Are Listed Below)

Gulton Industries, Inc., Vibro Ceramics Div., 212 Durham Ave., Metuchen, N. J., Tel: LIberty 8-2800; Sls. Mgr: I. I. Steinberg; Pur. Agt: J. Furchheimer
Sales Offices: ● ALA., HUNTSVILLE, Ken, G., 1008 McClung St.; ● CALIF., LOS ANGELES, Perlmuth Elctrns., 5057 Washington Blvd.; ● CAN., SCARBOROUGH, Lake Engrg., 767 Warden Ave.; ● COLO., DENVER, Rufus, D., Box 9171; ● D. C., WASHINGTON, Wilco Assoc., 733 15th St., N. W.; ● ILL., CHICAGO, Bluzat, R. Co., 6320 N. Milwaukee Ave., CHICAGO, Carlson Elctrns., 6677 N. Northwest Hwy., EVANSTON, Van Cleve, R., 1707 Ridge Ave.; ● MASS., LEXINGTON, Schaal Assoc., 11 Muzzey St., SAXONVILLE, Smith, J., 5 Alfred St.; ● N. J., CRANFORD, Abrams, H., 6 Rutgers Rd.; ● N. Y., ALBANY, Reagan, J. A. & Co., 45 N. Lake Ave., LONG ISLAND CITY, Berman, E., 24-50 24th St.; ● OHIO, CLEVELAND, Levin, S. & Assoc., 6252 Mayfield Rd., DAYTON, Gerner, R., 3851 Tait Rd.; ● PA., PAOLI, Cuesta, Joe, Box 873; ● TEXAS, DALLAS, Southern, P., 3212 Princeton Ave; ● VA., FALLS CHURCH, Smith, L., 1793 Jay Miller Dr.; ● WASH., SEATTLE, Levinson, H., 1117 Second Ave.

Gurley, W. & L. E., 514 Fulton St., Troy, N. Y., Tel: AShley 2-6300, Sls. Mgr: D. Harkness; Pur. Agt: R. Kapps

Guthman Div. Essex Wire Corp., 3443 W. Addison, Chicago, Ill.

Gyra Electronics Corp., 518 N. Spring Ave., La Grange, Ill., Tel: FLeetwood 4-3296; Dir: G. L. Calhamer
Sales Offices: ● CALIF., BERKELEY, Asa, M., 2536 Virginia St., LOS ANGELES, Reed, C. W. Co., 5959 Hoover St., PL 3-2221; ● N. Y., SCARSDALE, Shprentz, H. Co., Box 147, SC 5-0485

Gyrex Corp., 1654 Lincoln Blvd., Santa Monica, Calif., Tel: EXbrook 3-0462; Sls. Mgr: W. A. Barton; Pur. Agt: W. J. Underwood
Sales Offices: ● ILL., CHICAGO, Green, Loren F. & Assoc., 5218 W. Diversey Pkwy., PA 5-6824; ● N. Y., GREAT NECK, Industron, 300 Northern Blvd., HU 7-2620; ● WASH., SEATTLE, Levinson, Harry Co., 1117 2nd Ave., MA 2-5433

Gyro Electronics Co., 36 Walker St., New York, N. Y., Tel: WO. 6-1290; Sls. Mgr: L. M. Friedman

H. & H. Machine Co., Inc., Noble & Jackson Sts., Norristown, Pa.

H & H Products Co., 766 Ramsey Ave., Hillside, N. J.

H. K. Metalcraft Mfg. Co., 3785 10 Ave., New York, N. Y., Tel: LOrraine 9-7500; Sls. Mgr: S. P. Hull
Sales Offices: ● CALIF., LOS ANGELES: Sargent, R. J. Co., Box 22103, RA 3-9616; ● COLO., DENVER, Swan, Edward C. Co., 232 Dahlia St., EA 4718; ● CONN., BRIDGEPORT, Pfannkuch, O. E., 952 Main St., FO 7-8673; ● ILL., CHICAGO, Blakeslee, J. K. & Co., 1553 W. Madison St., MO 6-2070; ● MASS., EAST MILTON, Taylor, Art J., 45 Antwerp St., CU 6-7175; ● MICH., FERNDALE, Knecht, Russell S., Co., 860 Livernois Ave., JO 6-3961; ● MO., KIRKWOOD, Hunolt, Glenn N. Agency, 1405 Robinhood Ct., YO 6-4234; ● N. Y., BUFFALO, Harding, Harry W., 235 Burke Dr., AM 1164; ● N. C., CHARLOTTE, Patton, G. S. & Assoc., Municipal Air. Term., EX 2-1233; ● OHIO, DAYTON, Delanoy, Kenneth D., 227 Cheltenham Dr., OX 0021, SHAKER HEIGHTS, Hills, Arthur Co., 3588 Normandy Rd.. SU 1-1855; ● PA., IRWIN, Simon, S. Ray, 300 Michaels Dr., OR 3-5975, PHILADELPHIA, Brosius, Russell T., 1617 Pennsylvania Blv., RI 6-6784; ● WASH., SEATTLE, Pacher, Charles, 420 First Ave., W., AT 4-1880

HPL Mfg. Co., 15210 Miles Ave., Cleveland, Ohio

H. & S. Wire Cutting Services, Inc., 24 E. 21 St., New York, N. Y., Tel: OR. 4-2966; Pur. Agt: H. Jacobs
Sales Offices: ● N. Y., NEW HYDE PARK, Schwartzman, E., 135 Sperry Blvd., FL 4-4996

Hackensack Cable Corp., 110 Orchard St., Hackensack, N. J., Tel: HUbbard 7-1100; Sls. Mgr: A. Brady

Haddam Mfg. Route No. 9, Haddam, Conn.

Hagen Mfg. Co., Inc., 202 20th St., Moline, Ill., Tel: BAraboo 1195; Sls. Mgr: A. W. Rummery; Pur. Agt: C. A. Boardman
Sales Offices: ● ALA., BIRMINGHAM, McConnell Sales Corp., 1661 28th Ave., TR 1-3501; ● CALIF., LOS ANGELES, Hundley Co., 3282 Fletcher Dr., CL 5-7111, SAN FRANCISCO, Campbell & George Co., 1601 Cortland Ave., MI 8-1236; ● CAN., ISLINGTON, Davis Controls, Ltd., Box 160, BE 3-3211, MONTREAL, Davis Controls, Ltd., 5727 Monkland Ave., HU 1-0259, WINNIPEG, Davis Controls, Ltd., 209 McIntyre Block, WH 3-4946; ● COLO., DENVER, Peterson Co., 4949 Colorado Blvd., DE 3-5434; ● CONN., HARTFORD, Gibson Engineering Co., 141 Washingotn St., CH 7-6919; ● FLA., JACKSONVILLE, Ward Engineering Co., 2727 Phylis St., EV 8-7656, MIAMI, Ward Engineering Co., Gratigny Rd., Box 11, ORLANDO, Ward Engineering Co., 1015 W. Central Ave., GA 2-4295; ● GA., ATLANTA, Combs, Thomas B. Co., 1823 Gordon Rd., S. W., PL 8-5516; ● ILL., BERWYN, Kelburn Engineering Co., 3136 Clarence Ave., ST 8-6485; ● IOWA, DES MOINES, Donald Corp., 308 E. 6th Ave., CH 3-7623; ● MD., BALTIMORE, Woods, Harry M. & Co., 124 Light St., MU 5-4643; ● MASS., BOSTON, Gibson Engineering Co., 1018 Commonwealth Ave., AS 7-5074; ● MICH., DETROIT, Ernest, Ralph Assoc., 12818 Puritan Ave., UN 1-7311; ● MINN., ST. PAUL, Lundbeck, R. A. Co., 1900 University Ave., MI 6-4523; ● MO., KANSAS CITY, Barger Equip. Co., 1415 Penn., HA 1-5730, ST. LOUIS, Barger Equip. Co., 4030 Choutear Ave., JE 3-0123; ● N. J., HACKENSACK, Ribble, C. H. Co., 31 Di Carolis Ct., DI 2-2602; ● N. Y., BUFFALO, Munhall Co., 170 Franklin St., MO 1212; ● OHIO, CLEVELAND, Finnicum, J. L. & Assoc., 4500 Euclid Ave., HE 1-7477, DAYTON, Thal Mor Assoc., 11 W. Monument Ave., BA 2-9661; ● OKLA., TULSA, Anderson, C. B. Co., 712 Oil Capital Bldg., GI 7-1123; ● ORE., PORTLAND, Branom & Leeland Instr., 6019 N. Union Ave., BU 5-5205; ● PA., PITTSBURGH, Moore, E. M. & Co., 6964 Thomas Blvd., EM 1-8780, UPPER DARBY, Keegan, W. F. & Co., 771 Shelbourne Rd., FL 2-1125; ● TEXAS, DALLAS, Elliott, Lynn Co., 1008 Fidelity Un. Bldg., RI 8-1140, HOUSTON, Elliott, Lynn Co., 372 M & M Bldg., CA 4-9715; ● UTAH, SALT LAKE CITY, Nabaum, S. C. Co., 4777 So. 1300, E.; ● VA., RICHMOND, Cline, E. Frank, 2016 2nd Ave., 3-8529; ● WASH., SEATTLE, Barnom & Leeland Instr., 2136 2nd Ave., MA 2-7320

Hake Products, Inc., 6152 Wasigo Dr., Cincinnati, Ohio, Tel: BEechmont 1-4650; Sls. Mgr: E. C. Hake; Pur. Agt: C. Hake
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Hall Electronics Co., 566 N. Roberts St., St. Paul, Minn.

Hall Mfg. Co., 3901 Wesley Terrace, Schiller Park, Ill.

HALLAMORE ELECTRONICS CO. (Pgs. 687, 1102), Div Siegler Corp., 8352 Brookhurst Ave., Anaheim, Calif., Tel: PRospect 4-1010; Sls. Mgr: J. R. Frost; Pur. Agt: D. D. Knapp

Haller, Raymond, & Brown, Inc., Science Park, State College, Pa., Tel: ADams 7-7611; Sls. Mgr: L. D. Rexroat; Pur. Agt: J. H. Smith

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Haloid Co., The, 2-20 Haloid St., Rochester, N. Y.

Hamilton Electronics, 2726 Pratt Ave., Chicago, Ill.

Hamilton Electronics Corp., 1015 Gaston Ave., Fairmont, W. Va.

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Hamilton Mfg. Co., Two Rivers, Wis., Tel: 351; Sls. Mgr: W. A. Friedrich; Pur. Agt: R. T. Hoopes
Sales Offices: ● CALIF., PALO ALTO, Cox, W. C., 2291 Cowper St., DA 6-1257; ● GA., ATLANTA, Anderson, A. J., 490 Brookfield Dr., N.E., CE 7-0287; ● MICH., YPSILANTI, Kruecke, R. R., 1480 Collegewood Dr., HU 2-8458; ● MICH., MINNEAPOLIS, Johnson, N. L., 5041 Bedford Ave., WE 9-2306; ● PA., BERWYN, Hawkins, R. C., 27 Cypress La., BE 1182; ● TEXAS, DALLAS, Brunsman, R. W., 4242 Lomo Alto

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Hammett & Edison, Box 68, International Airport, San Francisco, Calif., Tel: Diamond 2-5208

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Sales Offcies: ● ALA., HUNTSVILLE, Brown, W. A. Assoc., 3405 Lookout Dr.; ● ARIZ., PHOENIX, McCarthy Assoc., 1014 E. Camelback Rd., CR 9-1891; ● CALIF., MENLO PARK, McCarthy Assoc., 635 Oak Grove Ave., DA 6-7937, PASADENA, McCarthy Assoc., 1055 E. Walnut St., RY 1-0439, SAN DIEGO, McCarthy Assoc., 934 W. Laurel St., BE 9-4015; ● FLA., INDIAN RIVER, Brown, W. A. Assoc., Box 206, IN 1086; ● MASS., Marbleead, Raytronics Co., 2 Garden Rd., NE 2-1857; ● MICH., DETROIT, Rubin, Ben Z. Co., 16130 Meyers Rd., UN 4-4958; ● OHIO, DAYTON, Rubin, Ben Z. Co., 4749 Archmore Dr., AX 3-5664; ● PA., PITTSBURGH, Ransford, H. E. Co., 5400 Clairton Blvd., TU 4-3425; ● TEXAS, DALLAS, Lipscomb, Earl Assoc., Box 7084, FL 7-1881, HOUSTON, Lipscomb, Earl Assoc., Box 6573, MO 7-2407; ● VA., ALEXANDRIA, Brown, W. A. Assoc., 3610 Mt. Vernon Ave., TE 6-1800; ● WASH., SEATTLE, Paramount Agencies, 3215 Western Ave., AT 4-1840, SPOKANE, Paramount Agencies, Box 835, TE 8-8918

Hampden Mfg. Co., Inc., 3 Rivers — P. O. Box 89, Palmer, Mass., Tel: PAlmer 353; Sls. Mgr: C. C. Day
Sales Offices: ● Conn., Avon, Reidy, T., Box 287, OL 8-5553; ● MASS., WEST ACTON, Reidy, K., 43 Quaboag Rd., CO 3-7146; ● N. J., FORT LEE, Gary-Martin, 3030 Edwin Ave., WI 7-0300; ● N. Y., SYRACUSE, Lanzenforf, O. G., 513 Cumberland Ave., GR 2-4195

Handicraft Tools, Inc., Div. of X-Acto, 48-41 Van Dam St., L. I. City, N. Y., Tel: EXeter 2-3333; Sls. Mgr: D. Gluck; Pur. Agt: A. Tinkler
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Sales Offices: • ARIZ, PHOENIX, Fender, H., 1620 E. Earll Dr., CR 4-1331; • CALIF., PICO, Erikson Tool Co., Box 424, OX 9-3719; • CAN., TORONTO, Finkler, L., 1794 Ave., Rd., RU 1-5232; • CONN., HAMDEN, Carroll, E., 165 London Dr., AT 8-0044; • FLA., TAMPA, Taylor, M. F., Co., 4304 Corona St., WINTER HAVEN, Van Dusen, R. H., 940 Lake Elbert Dr., CY 4-2941; • GA., EAST POINT, Taylor, M. F., Co., 2396 Connally Dr.; • ILL., CHICAGO, Friedman, M. L., 2814 W. Balmoral Ave., LO 1-4257; • IND., INDIANAPOLIS, Scheffler C., 3929 Barnor Dr., LI 7-7010; • MD., BALTIMORE, Taylor, M. F., Co., 9500 Buckhorn Rd., SILVER SPRING, Taylor, Morris F., Box 111 JU 9-4002; • MASS., BROOKLINE, Warren, F. E., Box 791, BE 2-8112; • MO., KANSAS CITY, Elliott, A. K., Co., 211 Westport Rd., LO 1-9594; • N. Y., BROOKLYN, Morse, I., 2351 E. 65th St., CO 7-2913; • N. C., CHARLOTTE, Taylor, M. F., Co., 1224 Dresden Dr., W.; • OHIO, Westlake, Jones, S., 2743 Horseshoe Blvd.. ED 1-5514; • ORE., DAYTON, Dabney, B., Box 208, DA 6X13; • PA., HELLERTOWN, Benner, L. T., 534 Ellen St., LANSDOWNE, Taylor, M. F., Co., 275 Bryan Mawr Ave., PITTSBURGH, Taylor, M. F., Co., 5436 Youngridge Dr.; • TEXAS, DALLAS, Macrae-Smith Co., Box 35113, BL 3-2006, HOUSTON, Macrae, D. F., Box 19387, Meml. Pk. Sta., HO 5-7780

Hupp Electronics Co., P. O. Box 513 Carlisle, Pa.

Huppert Co., K. H., 6830-40 S. Cottage Grove Avenue, Chicago 37, Ill., Tel: Midway 3-4770; Sls. Mgr: R. A. Hastings; Pur. Agt: S. Schiptsh

Sales Offices: • CALIF., LOS ANGELES, Pacific Combustion Eng., 4832 Huntington Dr., S., CA 5-1584, SAN FRANCISCO, Babcock, C. B., Co., 1485 Bayshore Blvd., JU 6-3040, SAN FRANCISCO, Huppert, K. H., Co., 1529 Folsom St., UN 1-5341; • CAN., MONTREAL, Williams & Wilson Ltd., 544 inspector St.. UN 6-2851, MONTREAL, Can. Fairbanks-Morse Co., 908 St. Antoine St., UN 6-1451; • CONN., ORANGE, New Eng. Oven & Furn., Co., Box 723, SY 9-2005; • FLA., MIAMI, General Equipment, Inc., 543 N.W. 5th St., FR 4-8468; • IOWA, DES MOINES, Grimes, C., & Co., 1000 Ninth St., AT 2-3954; • MD., BALTIMORE, Carey Machinery & Sup. Co., Box 206, BR 6-1600; • MASS., BOSTON, Pelkus, L. C., & Co., 683 Atlantic Ave., LI 2-1941; • MINN., ST. PAUL, Kemp-Manning Sales Co., 2295 University Ave., MI 5-4637; • MO., KANSAS CITY, Ellfeldt Mach. & Sup. Co., 1801 McGee St., VI 2-5494; • N. J., NEWARK, Schultz & Anderson Co., 109 Edison Pl., MA 2-4317; • N. M., ALBUQUERQUE, Equipment Sls. & Mfg. Co., Box 1753, CH 3-6769; • N. Y., BROOKLYN, Lewis, L., 1202 Ave. I, DE 8-7252, NEW YORK, Printz, W., Co., 358 Fifth Ave., WI 7-7764; • N. C., CHARLOTTE, Walke, H., Co., Box 1105, ED 4-5391; • OHIO, CLEVELAND, Lakeside Mach. Sls., Inc., 1311 St. Clair Ave., SU 1-4400; • PA., PHILADELPHIA, Herbach & Rademan, 1204 Arch St., LO 7-4309, PITTSBURGH, Loftus Engineering Co., One Gateway Center, GR 1-1300; • TEXAS, HOUSTON, Wessendorff, Nelms & Co., Box 4648, WA 8-5151; • WISC., SOUTH MILWAUKEE, Lange, L. A., 641 Hawthorne Ave., SO 2-2216

Huron Industrials, P.O. Box 557, Port Huron, Mich.

Hurst Tool & Mfg. Co., Inc., Princeton, Ind., Tel: FUlton 5-4034; Sls. Mgr: H. L. Hightower; Pur. Agt: L. M. Hurst

Sales Offices • CALIF., LOS ANGELES, Perlmuth Elctrn., 5057 W. Washington, WE 1-1041; • CAN., NORTH VANCOUVER, Thompson, Chas. L., 3093 Woodbine Dr., YO 2597, SCARBOROUGH, Kahnert, R. C. Sls., 73 Crockford Blvd., PL 7-5171; • COLO., COLORADO SPRINGS, Peyser & Co., 1501 N. Weber St., ME 4-3401; • ILL., CHICAGO, Bierhaus-Balhorn, 5967 W. Madison St., CO 1-1928, ROSELLE, Sisson, D. L. Sls., Box 226, TW 4-3837; • IND., INDIANAPOLIS, Whitesell, R. O. & Assoc., 6620 E. Washington, FL 9-5374; • MASS., CAMBRIDGE, Hathaway, Glenn M., 238 Main St., KI 7-0380; • MICH., DETROIT, Hill, Buryl, Inc., 15425 Schaefer Hwy., VE 8-3460; • MINN., MINNEAPOLIS, Hamilton, D .V. & Co., 3359 Republic Ave., WE 9-7891; • MO., KANSAS CITY, Kelly-Schmitz-Winkeler, 7449 Broadway, HI 4-2013, ST. LOUIS, Giordano, Joseph, 817 Gerald Ave., JA 1-8725; • N. Y., ALBANY, Carse Elec., 1044 Broadway, AL 3-3628, BUFFALO, Power Labs., 1550 Fillmore Ave., KE 7925, DEWITT, Martin, C. L. Sls., 103 Pickwick Rd., GI 6-2540, MAMARONECK, Wimpie, S. Assoc., 257 Mamaroneck Ave., OW 8-7100; • N. C., WILMINGTON, Buthan, Inc., 4924 Oleander Dr., RO 2-5749; • OHIO, LAKEWOOD, Andrews, T. P. & Co., 16408 Madison Ave., AC 6-5610; • OKLA., TULSA, Elder, J. W. Co., Box 3395, DI 3-9149; • PA., NARBERTH, Drew, W. & Co., 104 Essex Ave., MO 4-8331; • TEXAS, DALLAS, Guenther, John B., 4533 N. Central Expwy., LA 8-6286; • WASH., SEATTLE, Haight, F. H. Co., 3212 Eastlake Ave., EA 1818

Hussman Refrigerator Co., Aircraft Div., 819 E. Taylor St., St. Louis, Mo.

Hutcheson, Guy C., 1100 W. Abram St., Box 32, Arlington, Texas, Tel: CRestview 4-8721

Hy-Kon Mfg. Co., 163 E. State St., Alliance, Ohio, Tel: TA 1-2320; Sls. Mgr: J. V. Abblett

Sales Offices: • CALIF., LOS ANGELES, Pomeroy, J. G. Co., 1004 E. Fourth St., SAN FRANCISCO, Benz, Fred D. Co., 444 Brannan St.; • CAN., TORONTO, Slater, J. G. & Co., 54 Wellington St. W.; • FLA., CORAL GABLES, Akerman, Joe, 813 Sistina Ave.; • ILL., CHICAGO, Rick & Selleg, 549 W. Wash. Blvd.; • N. Y., NEW YORK, McDowell, Wm. T., 120 Liberty St.; • PA., McKEESPORT, McKernan, T. W., 109 Union Ave., PHILADELPHIA, Elenbe Sales Co., 1635 Race St.

HYCON EASTERN, INC. (Pg. 592), 75 Cambridge Parkway, Cambridge, Mass., Tel: UNiversity 4-7200; Sls. Mgr: E. D. Phillips; Pur. Agt: W. Senior

Sales Offices: ● **CALIF., LOS ANGELES,** Kittleson Co., 416 N. La Brea Ave., WE 3-7371; ● **COLO., DENVER,** Posakony Co., The, 1460 Pennsylvania St.; ● **D. C., WASHINGTON,** Jodon, F. R. Inc., 8510 Beech Tree Rd., EM 5-1515; ● **GA., ATLANTA,** Scientific Sales Eng., 2162 Piedmont Rd., N.E., TR 3-2475; ● **ILL., CHICAGO,** Pivan Eng. Co., 2820 Peterson Ave., BR 4-9135; ● **MASS., WAKEFIELD,** Instrument Dynamics, 11 Albion St., CR 6-5100; ● **MICH., ROYAL OAK,** Satullo Co., The, 4512 N. Woodward, LI 9-3910; ● **MINN., MINNEAPOLIS,** Eng. Products Assoc., 6338 Vincent Ave., S., MI 6-3443; ● **MO., ST. LOUIS,** Design & Sales Eng. Co., 25 N. Meramac; ● **N. J., UNION CITY,** Hughes, Kenneth E. Co., 4808 Bergenline Ave., UN 7-3204; ● **N. Y., SYRACUSE,** Naylor Electric Co., 1718 Erie Blvd., E., GR 2-9183; ● **OHIO, DAYTON,** Hobstetter-Soenke, 131 N. Ludlow St., BA 2-2897; ● **TEXAS, DALLAS,** Southwestern Eng. & Equip., 3906 Lemmon Ave., LA 6-7433

Hycon Manufacturing Co., 1030 So. Arroyo Pkway—P.O. & Bin N, Pasadena, Calif., Tel: SYcamore 5-4241; Sls. Mgr: M. J. Leonard; Pur. Agt: W. H. Jordan

Sales Offices: ● ARIZ., PHOENIX, Pacific Electro Sales, 5018 N. 7th St., CR 7-4671; ● CALIF., LA JOLLA, Pacific Electro Sales, 1465 Deer Hill Ct., BE 3-3341, LOS ANGELES, Pacific Electro Sales, 6053½ Whittier Blvd., RA 3-3396; ● COLO., DENVER, Pearson, M. —& Co., 1860 S. Acoma St., SP 7-7878; ● FLA., ORLANDO, Wallace, S. K. Assoc., 5525 Embassy Dr.; ● OHIO, DAYTON, Hobstetter, J. P., 131 N. Ludlow, BA 2-2897; ● UTAH, SALT LAKE CITY, Pearson, M. & Co., 288 Canyon Rd., EM 4-7524; ● WASH., SEATTLE, Johnston, R. Co., 1011 E. 69th, LA 4-5170

Hycor Div. Int. Resistance Co., 12970 Bradley Ave., Sylmar, Calif.

Hydraulic Press Mfg. Co., Mt. Gilead, Ohio, Tel: 9351; Sls. Mgr: E. L. Oehling; Pur. Agt: C. A. Fisher

Sales Offices: ● CALIF., LOS ANGELES, Machinery Sales Co., 2838 Leonis Blvd., SOUTH SAN FRANCISCO, B-H-S Machinery Co., 717 Airport Blvd.; ● CAN., TORONTO, Barber, F. F. Machinery, 187 Fleet St. W.; ● COLO., DENVER, Mine & Smelter Supply Co., Box 5270, Terminal Sta.; ● D. C., WASHINGTON, Elliott, J. H. Co., 2102 New York Ave.; ● FLA., ORLANDO, Leu, H. P., Inc., 100 W. Livingstno Ave.; ● GA., ATLANTA, Chandler Machinery Co., 120 Houston St.; ● ILL., PARK RIDGE, Hydraulic Press Mfg. Co., 911 Busse Hway., TA 3-3136; ● LA., NEW ORLEANS, Frederic & Baker, 725 Canal Bank Bldg., SHREVEPORT, Frederic & Baker, 100 Edwards St.; ● MASS., CAMBRIDGE, Austin-Hastings Co., 226 Binney St.; ● MICH., DETROIT, Hydraulic Press Mfg. Co., 2842 W. Grand Blvd., TR 5-5540; ● MO., KANSAS CITY, Blackman & Nuetzel Mach., 1103 E. Armour St., ST. LOUIS, Blackman & Nuetzel Mach., 3713 Washington Blvd.; ● NEB., OMAHA, Fuchs Machinery & Supply, 2401 N. 11th St.; ● N. J., TEANECK, Hydraulic Press Mfg., 352 Cedar Lane, TE 6-1613; ● OHIO, MT. GILEAD, Hydraulic Press Mfg. Co., 9351; ● OKLA., TULSA, Blackman & Nuetzel Mach., 101 W. Archer St.; ● PA., PITTSBURGH, Hydraulic Press Mfg. Co., 512 Empire Bldg., GR 1-6999; ● S. C., COLUMBIA, Tidewater Supply Co., 807 Gervais St.; ● TENN., KNOXVILLE, Tidewater Supply Co., 150 Island Home Ave.; ● TEXAS, DALLAS, Tri-State Machinery Co., 3002 Commerce St., EL PASO, Mine & Smelter Supply Co., 1515 Eleventh St., HOUSTON, Thompson, H. L. Co., 1002 Esperson Bldg.; ● UTAH, SALT LAKE CITY, Todd Machinery Co., 4165 Holloway Dr.; ● VA., RICHMOND, Smith-Courtney Co., Seventh & Bainbridge; ● WASH., SEATTLE, Hallidie Machinery Co., 210 Hudson St.

HYDRO-AIRE, INC. (Pg. 907), Aviation Electronics Div., 3000 Winona Ave., Burbank, Calif., Tel: Victoria 9-1331; Sls. Mgr: F. Andrew; Pur. Agt: C. E. Lenox

Sales Offices: ● **CALIF., LOS ANGELES,** Emmet, Frank A. Co., 2837 W. Pico Blvd., RE 1-8211, **SAN CARLOS,** Ross, David H. Co., 534 El Camino Real, LY 1-4411; ● **COLO., DENVER,** Scientific Instrument Co., 1460 Pennsylvania, AL 5-2777; ● **MASS., WINCHESTER,** Hooker, Samuel C., 397 Highland Ave., WI 6-2745; ● **WASH., SEATTLE,** Smith, Don Sales Co., 2204 N. 45th St., ME 3-3160

Hydro-Aire, Inc., Electro-Aire Div., 3000 Winona, Burbank, Calif.

Hydro Molding Co., Inc., Plattsburgh, N. Y., Tel: 2598; Sls. Mgr: S. Levites

Hydroforming Co. of America, Inc., 7400 W. Lawrence Ave., Chicago, Ill., Tel: UNderhill 7-7600; Sls. Mgr: J. J. Lytle; Pur. Agt: J. Leeve

Sales Offices: ● N. Y., ROCHESTER, Stampress Engrg. Co., 468 Monroe Ave., GR 3-5423; ● OHIO, CLEVELAND, Gold, Frank A., Box 765, LO 1-6835; ● TEXAS, DALLAS, Koch, King A., 309 Meadows Bldg., EM 1-1765; ● WISC., MANITOWOC, Forbes, Donald G., 2228 Markham St., MU 2-1934

Hymac Corp., 4625 Leahy St., Culver City, Calif., Tel: TExas 0-4991; Sls. Mgr: J. Gershuny

Sales Offices: ● CALIF., LOS ANGELES, Pacific Electro-Sls., 6053 Whittier Blvd., RA 3-3396, SAN MATEO, Harriss-Koetke, 204 E. Hillsdale Blvd., FI 1-2909; ● COLO., DENVER, Pearson, M. & Co., 1860 S. Acoma, SP 7-7878; ● FLA., ORLANDO, Wallace, S. K. Assoc., 5525 Embassy Dr., GA 4-0294, TAMPA, Wallace, S. K. Assoc., 207 W. Alfred St.; ● GA., ATLANTA, Wallace, S. K. Assoc., 2151 Beecher Rd., S.W.; ● ILL., CHICAGO, Bruning, A. H. Co., 1758 W. Lawrence Ave., ED 4-0989; ● MASS., NEEDHAM, Abbett & Hustis, 1245 Highland, HI 4-5470; ● MINN., ST. PAUL, Engelbretson, W. Co., 906 Ottawa Ave., CA 2-2338; ● TEXAS, DALLAS, MacRae-Smith, Box 35113, BL 3-2006

I. D. E. A., Monitoradio Div., 7900 Pendleton Pike, Indianapolis, Ind.

I. E. Manufacturing, 325 N. Hoyne Ave., Chicago, Ill., Tel: HAymarket 1-1480; Sls. Mgr: A. Anders; Pur. Agt: M. Mondrus

Sales Offices: ● CALIF., PASADENA, Ellis, David, Co., 919-D E. California St., SAN MATEO, Harriss-Koetke Sales Co., 635 E. Hillsdale Blvd., FI 1-2909; ● CAN., TORONTO, Atlas Radio Corp. Ltd., 50 Wingold Ave.; ● COLO., DENVER, Pearson, Mel, 1860 S. Acoma, SP 7-7878; ● FLA., MIAMI BEACH, Geartner, Jack, 823 86th St., UN 6-6664; ● GA., ATLANTA, Joyner, J.E., & Assoc., Box 10821, PL 8-4910; ● ILL., HIGHLAND PARK, Rose, J. K., & Co., 1116 Linden Ave., AM 2-5584; ● IND., INDIANAPOLIS, Thomas-Sukup, Inc., 5226 N. Keystone Ave., GL 6915; ● MASS., WESTON, Cole, Lawrence B., & Co., 21 Radcliffe Rd., CE 5-3197; ● MICH., DETROIT, Milsk, Robert, Co., 19371 James Couzen Hwy.; ● MINN., MINNEAPOLIS, Hagestad, E. O., & Assoc., 4513 Laguna Dr., WA 2-2034; ● MO., JEFFERSON CITY, Vignola, C. A., Assoc., Box 569, 5-1023; ● N. Y., NEW YORK, Becker, Irving, 635 E. 14th St., NEW YORK, Merican, J. C., 1 Christopher St., AL 5-6387; ● OHIO, CLEVELAND, Olsen, John O., Co., 16201 Shaker Blvd., SK 2-5444; ● TEXAS, DALLAS, Guenther, John B., 4533 N. Central Expwy., LA 8-6286; ● WASH., SEATTLE, Haight, Fred H., Co., 3212 Eastlake Ave., EA 1818

ILG Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago, Ill., Tel: KI 5-1520; Sls. Mgr: J. J. Friedler; Pur. Agt: S. Heyerick

Sales Offices: ● ALA., BIRMINGHAM, 2217-7th Ave., S., AL 1-3342; ● ARIZ., PHOENIX, 914 W. Madison St., AL 2-8163; ● CALIF., SAN FRANCISCO, 55 New Montgomery St., SU 1-0964; ● COLO., DENVER, 1216 Santa Fe Dr., CH 4-0558; ● D. C., WASHINGTON, 17th & Penn Ave., N.W., NA 8-9732; ● FLA., CLEARWATER, 1123 Seminole St., 3-3783, JACKSONVILLE, 1766 Manning, FL 7737, ORLANDO, 1300 Dove Dr., GA 5-6926; ● GA., ATLANTA, 31-16th St., N.W., TR 4-3595; ● IOWA, DES MOINES, 307A Shops Bldg., AT 8-1741; ● IDAHO, BILLINGS, 108 N. 23rd St., 2-2105; ● ILL., CHICAGO, 222 N. LaSalle St., FR 2-1520, ROCK ISLAND, 1713-29½ St., 6-5120; ● IND., INDIANAPOLIS, 503 Archt. & Bldrs. Ind., ME 5-5045; ● KAN., WICHITA, 434 N. Rock Island, AM 2-8660; ● ME., PORTLAND, Box 2191, SP 3-1266; ● MD., BALTIMORE, 2453 Maryland Ave., HO 7-9235; ● MASS., BOSTON, 137 Newbury St., KE 6-0562, WEST SPRINGFIELD, 671 Elm St., 4-6975; ● MICH., DETROIT, 415 Brainard St., TE 2-5445, GRAND RAPIDS, 1330 Chicago Dr. S.W., GL 2-9256; ● MO., ST. LOUIS, 1221 Locust St., MA 1-1072; ● NEB., OMAHA, 1112½ Farnam St., AT 5540; ● N. Y., BUFFALO, 349 Franklin St., MO 6090, COLONIE, 23 Pinehurst Rd., AL 2-7251, NEW YORK, 15 Park Row, BA 7-8787, ROCHESTER, 75 College Ave., HA 6-4070; ● N. C., CHARLOTTE, 823 Professional Bldg., ED 2-6721, GREENSBORO, 1052 Battleground Ave., BR 3-0566, RALEIGH, 210 Carolina Bldg., TE 4-6448; ● OHIO, CINCINNATI, 626 Broadway, GA 1-4640, CLEVELAND, 1105 Schofield Bldg., CH 1-5122, COLUMBUS, 12 N. 3rd St., CA 8-3111, TOLEDO, 1316 Adams St., CH 8-5307; ● OKLA., OKLAHOMA CITY, 313 N.W. 4th St., CE 2-2417, TULSA, 125 W. 3rd St., LU 5-9504; ● ORE., PORTLAND, 10338 N.E. Sandy Blvd., AL 4-7378; ● PA., NARBERTH, 227 Haverford Ave., MO 4-2251, PITTSBURGH, 310 Washington Rd., LO 1-4418; ● TEXAS, DALLAS, 2703 Bomar Ave., FL 7-6613, EL PASO, 305 Canal St., 3-8485, HOUSTON, 1803 Calumet, JA 8-5207, SAN ANTONIO, 109 Barrera St., CA 6-7229; ● UTAH, SALT LAKE CITY, 1482 Major St., IN 7-5489; ● VA., NORFOLK, 2624 Cromwell Rd., MA 2-6641, RICHMOND, 715 Grace St., MI 3-7331; ● WASH., SEATTLE, 7331 W. Greenlake Way, LA 2-8183

I-L-S INSTRUMENT (Pg. 702), Div. Meriam Instrument Co., 4525 W. 160th St., Cleveland, Ohio, Tel: CLearwater 2-3850; Sls. Mgr: R. B. Laule; Pur. Agt: M. E. Saltsgaver

Sales Offices: ● **CALIF., REDWOOD CITY,** Cerruti-Hunter Assoc., 841 Woodside Rd., EM 9-3354; ● **COLO., DENVER,** Landes, Zachary, & Peterson, 601 S. Jason St., SH 4-1311; ● **MICH., HAZEL PARK,** Electro-Mec Assoc., 4012 E. Nine Mile Rd., JE -4040; ● **N. M., ALBUQUERQUE,** Landes, Zachary, & Peterson, 4900 Domingo Rd., N.E.; ● **N. Y., LONG ISLAND CITY,** Test Equip. Sales Co., 29-46 Northern Blvd., ST 4-7120; ● **PA., PHILADELPHIA,** Test Equip. Sales Co., 4447 N. Bodine St., DA 9-1822, **PITTSBURGH.** Ransford, H. E., Co., 5400 Clairton Blvd., TU 4-3425; ● **TEXAS, DALLAS,** Schoonmaker, J. Y., Co., 5328 Redfield Ave., LA 6-7238, **EL PASO,** Landes, Zachary, & Peterson, 1900 Mills St., KE 3-9060; ● **UTAH, SALT LAKE CITY,** Landes, Zachary, & Peterson, 153½ W. Second St., DA 2-0812

I R C—See International Resistance Co.

I-T-E Circuit Breaker, Special Products Div., 601 E. Erie Ave., Philadelphia, Pa., Tel: GArfield 6-5700; Sls. Mgr: P. A. Garrison; Pur. Agt: W. J. Manning

ITT, COMPONENTS DIVISION, (Pg. 976), P.O. Box 412, Clifton, N. J., Tel: NUtley 2-3600; Mkt. Mgr: F. M. Viles, Jr.

Sales Offices: ● **ARIZ., PHOENIX,** Marsh, J. W., Co., 305 E. Indian Sch. Rd., AM 6-9124; ● **CALIF., LOS ANGELES,** Marsh, J. W., Co., 4216 W. Jefferson Blvd., RE 2-0145, **SAN FRANCISCO,** Marsh, J. W., Co., 1258 Fitzgerald Ave., VA 4-6714, **SAN CARLOS,** Striker, J. E., Co., Box 548; ● **CAN., SCARBOROUGH,** Lake Engrg. Co., Ltd., 767 Warden Ave., PL 7-3253; ● **COLO., DENVER,** Hyde Electronics Co., 888 S. Lipan St., WE 6-3456; ● **FLA., ORLANDO,** Phelps, D. J., 1401 Ceylon Dr., GA 4-9716, **TAMPA,** Cartwright & Bean, 4525 S. Lois Ave.; ● **GA., ATLANTA,** Cartwright & Bean, 3223 Cains Hill Pl. N.W., CE 2273; ● **ILL., CHICAGO,** Twist, J. G., Co., 5232 W. Diversey Ave., SP 7-2250, **CHICAGO,** Doyle, W. J., Co., 7002 N. Western Ave., RO 1-3130; ● **IND., INDIANAPOLIS,** MacNabb, Schroeder, 820 E. 64th St., CL 5-6770; ● **MD., BALTIMORE,** Williams, V. J., & Assoc., 3322 Elmora Ave., BR 6-8497; ● **MASS., BOSTON,** Anderson Sales Co., 177 State St., CA 7-2980; ● **MICH., DETROIT,** Thorpe, J. M., 640 Hidden La., TU 4-4360, **DETROIT,** Koehler-Pasmore Co., 11833 Hamilton, TO 8-3322; ● **MINN., MINNEAPOLIS,** Richardson, H. M., & Co., 9 E. 22nd St., FE 6-4078; ● **MO., KANSAS CITY,** Farris, R. W., Co., Inc., 406 W. 34th St., LO 1-7495; ● **N. J., OAKLYN,** Williams, V. J., & Assoc., 1100 White Horse Pike, CO 5-7006; ● **N. M., ALBUQUERQUE,** Hyde Electronics Co., 5206 Constitution Ave., AM 8-1111; ● **N. Y., BUFFALO,** Mitscher, R. W., Co., 487 Elliott Sq. Bldg., WA 2517, **MANHASSET,** Mingins Sales Co., 65 Shoreview Rd., MA 7-4319, **NEW YORK,** Sprung, J., Assoc., 254 W. 31st St., LO 5-1820; ● **N. C., CHARLOTTE,** Cartwright & Bean, 625 Harwyn Dr., FR 6-8648, **RALEIGH,** Quinlan, D. G., Co., Box 10664, TE 4-6931; ● **OHIO, BRECKSVILLE,** Nace, A., Co., Box 146, JA 6-4323. **COLUMBUS,** Pugh, C. L., Co., 2144 Riverside Dr., HU 8-4855; ● **ORE., PORTLAND,** Lee, D. M., Co., 3527 N.E. Union Ave.; ● **PA., AMBLER,** Quinlan, D. G., Co., National Bank Bldg., MI 6-7250. **GLENSIDE,** Technical Representation. 220 S. Easton Rd., TU 7-1325, **LAFAYETTE HILL,** Frederick, C. W., 4044 N. Warner Rd., TA 8-8840; ● **TENN., MEMPHIS,** Cartwright & Bean, 1336 Madison Ave., BR 5-1914; ● **WASH., SEATTLE,** Lee, D. M., Co., 2517 Second Ave., MA 5512

ITT FEDERAL DIV., Div. Intl. Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N. J., Tel: NUtley 2-3600; Sls. Mgr: J. D. Phelan; Pur. Agt: H. P. Summerer

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Sales Offices: ● CALIF., VENTURA, Int'l. Radiant Corp., 150 Baylor Dr., MI 2-4570; ● CAN., ARNPRIOR, Mel Sales, AR 400,. MONTREAL, Mel Sales, Box 1352, MO 9198; ● CONN., NEW HAVEN, Equip. Sales Co., Box 6098, CH 8-5581; ● D. C., WASHINGTON, Internatl. Radiant Corp., 1010 Vermont Ave., DI 7-4755; ● FLA., FORT MYERS, Lynch, A. H. & Assoc., 35 W. N. Shore Ave., WY 5-2151; ● ILL., CHICAGO, Int'l. Radiant Corp., 5222 W. North Ave., TU 9-7980; ● MASS., STONEHAM, Equip. Sales Co., 393 Main St., ST 6-3206; ● MICH., DETROIT, Tiby Co., 18222 J. Couzens, UN 4-9298; ● MO., KANSAS CITY, Hollander, Richard, Box 8179, JE 1-4182; ● OHIO, CLEVELAND, Tiby Co., 3115 E. Derbyshire Rd., ER 1-5335, DAYTON, Tiby Co., 4955 Mad River Rd., YO 4211; ● TEXAS, HOUSTON, Stockdale, R. B., Assoc., 3115 Buffalo Dr., JA 8-0683

International Radio & Electrs. Corp., 17th & Mishawaka Rd., Elkhart, Ind.

INTERNATIONAL RECTIFIER CORP. (Pg. 977). 1521 E. Grand Ave., El Segundo, Calif., Tel: ORegon 8-6281; Sls. Mgr: J. T. Cataldo; Pur. Agt: C. Behar

Sales Offices: ● **CALIF., SAN FRANCISCO,** Eichorn & Melchior, 749 Bryant St., DO 2-1038, **SAN FRANCISCO,** Sinai & Johnson, 845 Jessie St., **SAN MATEO,** Sinai & Johnson, 895 Hilldale Blvd., **SOUTH PASADENA.** Osborne. R. E., 1757 Garfield Ave.; ● **CAN., TORONTO,** Atlas Radio Corp., 50 Wingold Ave., RU 1-6174; ● **COLO., DENVER,** Williams, Allen I., 126 W. 12th Ave., MA 3-0343; ● **FLA., CASSELBERRY,** Atcheson & Adams, Box 105; ● **ILL., CHICAGO,** Intl. Rectifier Corp., 205 W. Wacker Dr., FR 2-3888, **CHICAGO,** Langhaus-Levy Assoc., 5323 Cottage Grove; ● **IND., INDIANAPOLIS,** Whitesell, R. O. & Assoc., 6620 E. Washington, FI 9-5374; ● **KAN., WICHITA,** Bettis, Maury E. Co., 508 N. Belmont; ● **LA., NEW ORLEANS,** Texport Co., 3629 S. Carrollton; ● **MD., LUTHERVILLE,** Jeffries, Samuel Co., Box 126; ● **MASS., CAMBRIDGE,** Intl. Rectifier Corp., 17 Dunster St., UN 4-6520, **WELLESLY HILLS,** Scott, Michael Co., 90 Edmunds Rd.; ● **MICH., BERKELY,** Intl. Rectifier Corp., 1799 Coolidge Hwy., LI 8-1144, **FERNDALE,** Haggerty Sales Co., 53525 Woodward Ave., **GRAND RAPIDS,** Haggerty Sales Co., 700 Rosewood S.E.; ● **MINN., MINNEAPOLIS,** Marshall, Robert W., 6106 Excelsior Blvd., WE 9-6444, **MINNEAPOLIS,** Gibb, Clark R., 2400 Hennepin Ave.; ● **MO., KANSAS CITY,** Bettis, Maurey E. Co., 406 W. 34th St., LO 1-0772; ● **N. MEX., ALBUQUERQUE,** Williams, Allen I., 3221 Silver, S.E.; ● **N. Y., BROOKLYN,** Brown, Irv., 1500 Carroll St., **NEW YORK,** Intl. Rectifier Corp., 132 E. 70th St., TR 9-3330, **SYRACUSE,** Zimmerman, Wilson H., 112 Dewitt St., GR 4-4889, **SYRACUSE,** Callahan, William, 156 S. Edwards Ave.; ● **N. C., GREENSBORO,** Atcheson & Adams Co., 601 N. Elm St., BR 2-6838; ● **OHIO, DAYTON,** Bear, Neal Corp., 2801 Far Hills Ave., AX 9-3566, **WEST RICHFIELD,** Bear, Neal Corp., 3435 Streetsboro Rd., OL 9-3331; ● **ORE., PORTLAND,** Weber, Dale G. Co., 8 S.E. Clay St., BE 4-7671; ● **PA., ARDMORE,** Intl. Rectfiier Corp., Suburban Sq. Bldg., MI 8-1428, **MONROEVILLE,** Bear, Neal Corp., 1974 Gregory Ave., VA 3-5117, **NARBERTH,** Jeffries, Samuel A., 105 Fourth Ave., MO 4-8500; ● **TENN., NASHVILLE,** Atcheson & Adams, Box 157; ● **TEXAS, DALLAS,** Textport Co., 2147 Farrington, RI 7-6886, **HOUSTON,** Texport Co., 12910 Tosca La.

International Register Co., 2620 Washington Blvd., Chicago, Ill., Tel: VAn Buren 6-4242; Sls. Mgr: R. C. Bedford; Pur. Agt: H. E. Shellburg

Sales Offices: ● CALIF., LOS ANGELES, Yonce, Jack, 811 E. 14th Pl., RI 7-5635; ● N. Y., LONG ISLAND CITY, Claxton, Dave, 41-14 24th St., ST 6-5732

International Research Assoc., 2221 Warwick Ave., Santa Monica, Calif., Tel: EXbrook 4-6330; Sls. Mgr: L. E. Brown; Pur. Agt: T. Reynolds

INTERNATIONAL RESISTANCE CO. (Pgs. 1027-1030). 401 N. Broad St., Philadelphia, Pa., Tel: WAlnut 2-2166; Sls. Dir: G. D. Butler; Pur. Agt: H. Zaccaria

Sales Offices: ● **CALIF., ATHERTON,** Ellis, G. B. Sales Co., 3241 El Camino Real, EM 8-3819, **HOLLYWOOD,** International Resistance. 1136 N. La Brea, HO 9-5369. **LOS ANGELES,** Marshank Sales Co., 7422 Melrose Ave., WE 8-2591; ● **COLO., DENVER,** Bowen, Ronald G., 721 S. Broadway, RA 2-4641; ● **GA., ATLANTA,** Hollingsworth & Still, 508 Whitehead Bldg., MU 8-5878; ● **ILL., CHICAGO,** International Resistance, 5243 W. Diversey Ave., TU 9-5800; ● **IND., INDIANAPOLIS,** MacNabb, Schroeder & Loomis, 820 E. 64th St., BR 6770; ● **KAN., MISSION,** Halgin Sales Co., 5920 Nall, RA 2-2441; ● **MASS., BOSTON,** Perron, Ray & Co., Inc., 1870 Centre St., FA 3-1008; ● **MICH., DETROIT,** Koehler-Pasmore Co., 11833 Hamilton, TO 8-3322; ● **MINN., MINNEAPOLIS,** Heimann Co., 1711 Hawthorne Ave., FE 2-5457; ● **N. Y., NEW YORK,** International Resistance, 165 Broadway, CO 7-5020, **SYRACUSE,** International Resistance, 112 Montgomery St., HA 2-0274; ● **OHIO, CLEVELAND,** Baehr-Greenleaf Assoc., 14700 Detroit Ave., LA 1-8468; ● **PA., PITTSBURGH,** Tanner & Covert, 300 Mt. Lebanon Blvd., LO 1-5067; ● **TEXAS, DALLAS,** McKinney, Jack Sales Co., 1330 N. Industrial, RI 1-1368; ● **WASH., SEATTLE,** Lee, Dave M. Co., Inc., 2517 Second Ave., MA 5512

International Telemeter Co., 2000 Stoner Ave., Los Angeles, Calif., Tel: GR 8-7751

International Wax Refining Co., 99 E. Hawthorne Ave., Valley Stream, N. Y., Tel: LOcust 1-2500; Sls. Mgr: F. J. Clarke; Pur. Agt: J. Vaughan

International Wire & Cable Co., 1665 No. Milwaukee, Chicago, Ill., Tel: BRunswick 8-2362; Sls. Mgr: S. Gracen; Pur. Agt: L. Gracen

Sales Offices: ● ALA., BIRMINGHAM, Smith, Maitland K., 1710 Valley Ave.; ● COLO., DENVER, Vines & Co., Box 1025; ● FLA., CLEARWATER, Smith, Maitland K. Co., 117 N. Keystone Dr., ORMOND BEACH, Smith, Maitland K. Co., 322 Riverside Dr.; ● GA., ATLANTA, Smith, Maitland K. Co., 208-14th St. N.W.; ● MICH., DETROIT, Zaffina, Lawrence F. Co., 7351 Gratoit Ave.; ● MO., KANSAS CITY, Koenig-Myers Assoc., 4538 Main St.; ● N. J., MERCHANTSVILLE, Platt, Nelson Sales Co., 312 Cherry Hill Blvd.; ● N. C., MATHEWS, Smith, Maitland K. Co., Box 170; ● PA., PITTSBURGH, Yarussi, Frank Sales Co., 312 Spring Valley; ● TEXAS, DALLAS, Wilks, Ernest Co., 1212 Camp St.

Intersearch, Inc., 7 Arcadia Place, Cincinnati, Ohio

Interstate Electronics, Cable & Connector Co., 227 Fulton St., New York, N. Y.

INTERSTATE ELECTRONICS CORP. (Pg. 531), 707 E. Vermont Ave., Anaheim, Calif., Tel: PRospect 4-6540; Sls. Mgr: J. Hastings; Pur. Agt: H. Maguire

Sales Offices: ● **VA., FALLS CHURCH,** Blount, I. T., 1057 Crane Dr., JE 3-8434

Intimex Corp., 8416 Georgia Ave., Silver Spring, Md., Tel: JUniper 5-2020; Sls. Mgr: R. V. Botsford; Pur. Agt: B. Butler

Sales Offices: ● CALIF., LOS ANGELES, Stolaroff, M. A. Co., 4622 W. Slauson Ave., AX 3-6226; ● CONN., WEST HARTFORD, Zaslow Sales Co., 108 Foxcroft Rd., AD 6-3265; ● FLA., LARGO, Margo, William G., 2238 Duncan Dr.; ● ILL., ELMHURST, Tant Enterprises, 461 N. York St., BR 9-4576; ● MD., BALTIMORE, Frost Assoc., 213 E. 25th St., BE 5-8435; ● MASS., NORTHBORO, Gay, Wyn R. F., 371 Howard St., EX 3-8150; ● MICH., DETROIT, Tant Enterprises, 16254 Meyers Rd., UN 3-2665; ● N. J., SUMMIT, Luce, R. P. & Co., 7 Beechwood Rd., CR 3-9250; ● N. Y., SODUS, Decew, Alan E., Box 73, Tel: 3261, WESTBURY, Luce, R. P. & Co., 340 Maple Ave., ED 3-4550; ● N. C., WINSTON-SALEM, Candor Co., 2080 Beach St., PA 2-1432; ● OHIO, CHAGRIN FALLS, Technical Assoc., 4475 Lander Rd., TE 1-9884, CINCINNATI, Technical Assoc., 1717 Section Rd., RE 1-6200; ● PA., NARBERTH, White, L. G. & Co., 134 N. Narberth Ave., MO 4-6505; ● TEXAS, DALLAS, Norvell Assoc., 3603 Lemmon Ave., LA 6-7861

Invar Electronics Co., 1749 N. Eastern Ave., Los Angeles, Calif., Tel: ANgelus 9-7759; Sls. Mgr: R. Lavine; Pur. Agt: T. Kopaczek

Investment Casting Co., 60 Brown Ave., Springfield, N. J., Tel: DRexel 6-6260; Sls. Mgr: E. H. Parris; Pur. Agt: E. Schoffman

Sales Offices: ● CONN., HARTFORD, Toder, Sheldon, 248 Ashley St., CH 7-1166; ● FLA., POMPANO BEACH, Florida Municipal Equip., Box 2711, WE 3-2332; ● MICH., DETROIT, Gitre Co., Inc., 12909 W. 8 Mile Rd., DI 1-9270; ● MO., ST. LOUIS, Duplex Metals, Inc., 7500 Natural Bridge Rd., EV 3-3040; ● N. Y., BUFFALO, Gibney-Decot Corp., 2107 Kensington Ave., CI 0800; ● OHIO, CLEVELAND, Gold, Frank A., Box 765, LO 1-6835; ● PA., PHILADELPHIA, Crown, M. M., 1312 E. Gorgas St., LI 8-1122; ● TEXAS, DALLAS, Anderson, C. R., 5834 Waggoner Dr., EM 8-8811

Ippolito & Co., Inc., 1624 Stillwell Ave., New York, N. Y.

Ircal Industries, 12970 Bradley Ave., Sylmor, Calif.

Iron Fireman Mfg. Co., Electronics Div., 2838 S.E. Ninth Ave., Portland, Ore., Tel: BE 4-6551; Sls. Mgr: H. Des Georges; Pur. Agt: A. D. Rolfe

Sales Offices: ● CALIF., PALO ALTO, Mauldin, C. W., 441 W. California Ave., DA 6-5291, PASADENA, A-F Assoc., 385 E. Green St., RY 1-5631; ● COLO., DENVER, Columbine Sales & Engrg., 1370 S. Eaton Ct., WA 2-2624; ● CONN., STAMFORD, Electronics Assoc., 200 Fifth St., DA 4-7300; ● FLA., MIAMI, Hemminger, W. F., 619 N.E. 78th St., PL 9-0300; ● ILL., CHICAGO, Hunter, T. B., 4441 W. Irving Pk. Rd.; ● IND., FORT WAYNE, Valentine, F. C. Inc., 511 Ft. Wayne Bk. Bldg., AN 9122; ● MICH., GRAND RAPIDS, Jewell, T. R. Sales, 1309 Carlton N.E., GL 1-3360; ● MINN., ST. PAUL, Northport Engrg., Inc., 1729 Selby Ave., MI 6-2621; ● N. J., UNION CITY, Bressler, J. J. Co., 4808 Bergenline Ave., UN 4-9577; ● PA., PHILADELPHIA, Duncan, W. I. & Assoc., 5452 Charles St., CU 9-7525; ● TEXAS, DALLAS, Kemp Engrg. Co., 2618 Manana Dr., FL 7-6663; ● WASH., SEATTLE, Seatronics, Inc., 1806 Bush Pl., CA 8545

Irwin Laboratories, 1238 S. Gerhart Ave., Los Angeles, Calif., Tel: RAymond 3-1819; Sls. Mgr: W. W. Irwin; Pur. Agt: E. M. Irwin

Iscoyanate Products, Inc., P.O. Box 1681, Wilmington, Del., Tel: EA 8-5661; Sls. Mgr: J. B. Smith; Pur. Agt: J. G. Keffer

Sales Offices: ● MICH., DETROIT, Huebner, J. J., Box 3703, TU 2-5928

Islip Transformer & Metal Co., Beech St., Islip, N. Y.

Isochen Resins Corp., 221 Oak St., Providence, R. I., Tel: JA 1-5768; Sls. Mgr: H. C. Selya; Pur. Agt: H. Spivack

Sales Offices: ● N. J., MEDFORD, Penberthy, Edw. R., 81 Union St.; ● N. Y., BRIARCLIFF, Schwartz, Herbert, 58 Hemlock Rd.

Isolantite Mfg. Co., 275 Warren Ave., Stirling, N. J., Tel: MIllington 7-0385; Sls. Mgr: F. J. Stevens

Sales Offices: ● MASS., NEEDHAM, Grant, Melville, Box 14, HI 4-1432

Isomet Corp., 118 Union St., Palisades Park, N. J., Tel: WIndsor 4-3070; Sls. Mgr: B. Smith; Pur. Agt: A. Bauer

Isotopes Specialties Co., Box 688, Burbank, Calif., Tel: VIctoria 9-2273

Sales Offices: ● ILL., GLENN ELLYN, Isotopes Specialties Co., Box 90, ST 2-3000; ● PA., PHILADELPHIA, Isotopes Specialties Co., Box 1797, LO 8-0124

ITEK CORP. (Pg. 806), 1559 Trapelo Rd., Waltham, Mass., Tel: TWinbrook 3-8700; Sls. Mgr: B. J. Warren; Pur. Agt: J. J. Kistner

Sales Offices: ● **CALIF., SAN CARLOS,** Hill, J. T., Co., 1682 Laurel St., LY 3-7693, **SAN DIEGO,** Hill, J. T., Co., 1864 Bacon St., AC 3-7133, **SAN GABRIEL,** Hill, J. T., Co., 420 S. Pine St., AT 7-9633; ● **COLO., ENGLEWOOD,** Gates, F. Y., Co., 3413 S. Bannock St., SU 1-8566; ● **FLA., INDIAN RIVER CITY,** Brown, W. A. & Assoc., 201 Capron Rd., 1086; ● **ILL., EVANSTON,** Cozzens, Warren B., Co., 845 Chicago Ave., DA 8-4800; ● **MASS., NEWTONVILLE,** Schuft, Howard J., Co., 815 Wash. St., LA 7-5304; ● **N. J., MONTCLAIR,** Freeman, L. C. & Assoc., 24 Stephen St., PI 4-4775; ● **N. M., ALBUQUERQUE,** Gates, F. Y., Co., 122 Harvard Dr., S.E., AL 3-8010; ● **N. Y., NEW YORK,** Bendix Intl., 205 E. 42nd St., MU 3-1100, **ROCHESTER,** Ossmann, E. A. & Assoc., 830 Linden Ave., LU 6-4940, **SYRACUSE,** Ossmann, E. A. & Assoc., 2363 James St., HE 7-8446, **VESTAL,** Ossmann, E. A. & Assoc., 147 Front St., EN 5-0296; ● **UTAH, SALT LAKE CITY,** Gates, F. Y., Co., 200 S. Main St., SA 9-1101; ● **VA., ALEXANDRIA,** Brown, W. A. & Assoc., 3610 Mt. Vernon Ave., TE 6-1800

ITEMCO, INC. (Pg. 610), 4 Manhasset Ave., Port Washington, N. Y., Tel: POrt Wash. 7-8330; Sls. Mgr: A. J. Deeb; Pur. Agt: J. Rosen

Sales Offices: ● **CONN., STAMFORD,** McFarland & Conchar, Box 830, DA 3-6027; ● **FLA., COCOA BEACH,** Specialized Equip., Box 323, CO 3328; ● **MASS., BROOKLINE,** Kenett Corp., 320 Washington St., LO 6-0378; ● **N. Y., PORT WASHINGTON,** Itemco, Box 191, PO 7-8330; ● **TEXAS, FORT WORTH,** Kencar Co., Box 6784, WA 3-4476

Ja Mac Products, 8845 N.E. Sandy Blvd., Portland, Ore., Tel: ALpine 2-2929; Pur. Agt: J. W. Jackson

J-B-L Instrument Co., Sycamore & Mill Rds., Clifton Heights, Pa., Tel: MAdison 3-4377; Sls. Mgr: R. D. Leonard

J.B.T. INSTRUMENTS, INC. (Pgs. 708, 709, 1094-1096), 133 Hamilton St., New Haven, Conn., Tel: STate 7-5825; Sls. Mgr: R. M. Bixler; Pur. Agt: C. E. Meyers

Sales Offices: ● **CALIF., LOS ANGELES,** Saul, H. M. & Assoc., 5015 San

Vicente Blvd., WE 8-3591, **SAN FRANCISCO,** Moulthrop, F. W. & Co., 575-10th St., MA 1-0722; ● **CAN., SCARBOROUGH,** Kahnert, R. C. Sales, 73 Crockford Blvd., PL 7-9021, **WINNIPEG,** Robinson, C. M. Co., 1550 Erin St., SP 4-1855; ● **COLO., DENVER,** Nelson, A. J. & Co., 1639 Blake St., KE 4-6751; ● **GA., ATLANTA,** Millar, J. Assoc., 1036 Peachtree, N.E., TR 6-0919; ● **ILL., CHICAGO,** Instrument Sales, 3947 W. Lawrence Ave., CO 7-4646; ● **IND., FORT WAYNE,** Bieberich, W. W., 2817 Plaza Dr., KE 2928; ● **MD., GREENBELT,** Massey Assoc., 111 Centerway, GR 4-2071; ● **MICH., DETROIT,** Henschen-Jensen, 2842 W. Grand Blvd., TR 1-0308; ● **MINN., MINNEAPOLIS,** Heimann Co., 1711 Hawthorne Ave., FE 2-5457; ● **MO., KANSAS CITY,** Roes, H. A. & Co., 2601 Cherry St., BA 1-0866; ● **N. Y., DEWITT,** Taylor, F. W. & Co., Inc., 4505 E. Genesee St., GI 6-3354, **NEW YORK,** Tobias, D. F. & Co., 30 Church St., CO 7-4350; ● **OHIO, CLEVELAND,** Dolfuss, C. H. & Co., 21st and Payne, PR 1-1270; ● **PA., NARBERTH,** Drew, W. & Co., 104 Essex Ave., MO 4-5766, **PITTSBURGH,** Root, G. S. & Co., 733 Vallevista Ave., LO 1-4125; ● **R. I., LINCOLN,** Adams-McGregor, 66 Lakeview Rd., PA 5-8067; ● **TEXAS, DALLAS,** Crockett-Lund, 2204 Griffin St., RI 2-5764; ● **WASH., SEATTLE,** Backer, J. J. & Co., 221 W. Galer St., AL 6470

Jem Electronics Corp., 743 Circle Ave., Forest Park, Ill., Tel: PResident 1-8242; Sls. Mgr: E. F. Wesny; Pur. Agt: C. F. Amberg
Sales Offices: ● COLO., DENVER, Nelson, A. J., Co., 1639 Blake, KE 4-6751; ● KAN., OVERLAND PARK, Terwilligers Sls., 7133 W. 80th St., NI 2-2421; ● MINN., MINNEAPOLIS, Murphy, Lloyd F. & Assoc., 1700 Hennepin Ave., FE 9-4851

JFD ELECTRONICS CORP. (Pg. 499), 1462 62nd St., Brooklyn, N. Y., Tel: DEwey 1-1000; Ind. Mgr: J. Goodman; Pur. Agt: B. Groveman
Sales Offices: ● **ALA., BIRMINGHAM,** Threlkeld-Duckett Sls., Box 733; ● **CALIF., CULVER CITY,** Stevens, T. L. Co., 533 S. Sepulveda Blvd., **PALO ALTO,** Nickerson-Gray & Assoc., Box 295, Sta. A; ● **CAN., MONTREAL,** Tilton, J. R. Ltd., 5004 Dornal Ave., **TORONTO,** Tilton, J. R. Ltd., 51 McCormack St.; ● **COLO., DENVER,** Longstreet & Smith Assoc., 1013—15th St.; ● **FLA., JACKSONVILLE,** Smith-Duckett Sls. Co., 816 Southshores Rd.; ● **GA., ATLANTA,** Giddings-Duckett Sls. Co., 26 E. Andrews Dr., N.E.; ● **ILL., CHICAGO,** Anderson, B. & Assoc., 6835 W. Higgins Ave.; ● **MASS., NEEDHAM,** Abbett & Hustis, 16A Eaton Square; ● **MINN., MINNEAPOLIS,** Richardson, H. M. Co., 9 E. 22nd St.; ● **MO., KANSAS CITY,** Fry, W. E. Co., 406 W. 34th St., **ST. LOUIS,** Fry, W. E. Co., 4378 Lindell Blvd.; ● **N. Y., NEW YORK,** Minthorne, L. L., 15 Moore St., **TONAWANDA,** Components For Industry, 103 Greenhaven Ter.; ● **OHIO, CINCINNATI,** Murray, J. W., 5673 Green Acres Ct., **MADEIRA,** Johnson, A. Co., 7287 Thomas Dr.; ● **ORE., PORTLAND,** Lanphear, W. R. Co., 16600 S.E. Thomas Smith; ● **PA., PHILADELPHIA,** Duncan, William Assoc., 5452 Charles St.; ● **TEXAS, DALLAS,** Texport Co., 2147 Farrington Blvd.; ● **WASH., SEATTLE,** Lanphear, W. R. Co., 2823 35th St., W.

J. & G. Machine Co., Inc., 42 Lagrange St., Worcester, Mass.

J. V. M. Engineering Co., Box 111—9300 W. 47th St., Brookfield, Ill.

J-V-M Microwave Co., 9300 W. 47th St., Brookfield, Ill., Tel: HUnter 5-2000; Sls. Mgr: R. E. Morgan; Pur. Agt: L. B. Rzeminski
Sales Offices: ● CALIF., NORTH HOLLYWOOD, Edwards, J. Co., Box 568, REDWOOD CITY, Heaton, J. S., 413 Lathrop St.; ● COLO., DENVER, Hvde Elctrn. Co., 888 S. Lipan St.; ● ILL., CHICAGO, Marsland, H. Co., 6699 Lincoln Ave.; ● MASS., WAKEFIELD, Instr. Dynamics, Inc., 11 Albion St.; ● N. J., PERTH AMBOY, Houser Assoc., 188 Water St.; ● N. Y., GREENVALE, Brede, H. W. Co., 75 Glen Cove Rd.; ● TEXAS, DALLAS, Koch Engrg. & Sales Co., 309 Meadows Bldg.

Jack & Heintz, Inc., 17600 Broadway, Cleveland, Ohio, Tel: MU 2-1000; Sls. Mgr: J. R. Beeker; Pur. Agt: H. W. Lloyd
Sales Offices: ● CALIF., INGLEWOOD, Jack & Heintz, Inc., 1009 W. Arbor Vitae St., OR 8-4921; ● CAN., TORONTO, Aircraft Appl. & Equip., 585 Dixon Rd., CH 4-5506; ● D. C., WASHINGTON, Jack & Heintz, Inc., E. Lab. Bldg., DI 7-5514; ● ILL., CHICAGO, Jack & Heintz, Inc., 4006 N. Milwaukee Ave., SP 7-1067; ● N. Y., MANHASSET, Jack & Heintz, Inc., 390 Plandome Rd., MA 7-7850; ● OHIO, DAYTON, Jack & Heintz, Inc., 2640 St. Charles Ave., CL 4-4181; ● TEXAS, DALLAS, Jack & Heintz, Inc., 9254 W. Lake Highland, DA 7-0830

Jacker, Edward W., 420 S. Chase Ave., Lombard, Ill., Tel: MAyfair 9-0942

Jackes-Evans Mfg. Co., 4427 Geraldine Ave., St. Louis, Mo.

Jackson Electrical Instrument Co., 16 S. Patterson Blvd., Dayton, Ohio, Tel: BAldwin 4-0367; Sls. Mgr: J. A. Hawkins; Pur. Agt: D. J. Eltzroth
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Sales Offices: ● IND., INDIANAPOLIS, Scheffler, C., 3929 Barnes Dr., LI 7-7010; ● MINN., MINNEAPOLIS, Northern States Sales, 1400 Park Ave., FE 6-4808; ● MO., KANSAS CITY, Kelly, W. G., 5934 Prospect, PR 5934; ● N. J., MAPLEWOOD, Lipson, B., 67 Tuscan Rd., SO 2-7383; ● N. Y., BROOKLYN, Jacobs, J., 1800 E. 12 St., DE 9-4374, BUFFALO, Jacboson, L., Co., 1366 Kenmore Ave., NEW YORK, Shattan & Lane, 200 5th Ave., CH 2-6187; ● WISC., MILWAUKEE, Loeb, G., 5052 N. Shoreland Ave., WO 4-2155

Makepeace, D. E. Co., Div. Union Plate & Wire, Pine & Dunham, Attleboro, Mass.

Malco Tool & Mfg. Co., 4025 W. Lake St., Chicago, Ill., Tel: SAcramento 2-0187; Sls. Mgr: A. Daidone; Pur. Agt: W. J. Kulins

Sales Offices: ● CALIF., LOS ANGELES, Calkins-Kerr Assoc., 6110 Ferguson Dr.; ● COLO., DENVER, Longstreet-Smith Assoc., 1013 15th St., KE 4-5091; ● CONN., WEST HARDFORD, Pettigrew, R. S. & Co., 10 N. Main St., AD 3-8533; ● FLA., ORLANDO, Small, Chris, Box 1346, Tel: 4-2071; ● IND., LOGANSPORT, Sheckell, R. O., Box 474, Tel. 4711; ● MD., TOWSON, Habco Electronics, 603 Allegheny Ave., VA 5-9637; ● MO., ST. LOUIS, Doran, A. V., Co., 950 Francis Pl., PA 5-3377; ● N. J., EAST ORANGE, Murray Sales Co., The, 604 Central Ave., OL 4-2319; ● N. Y., SYRACUSE, Hotze, I. A., 112 Dewitt St., GR 9-7378; ● OHIO, CINCINNATI, Needles, W. F., 4016 Diehl Ave., SY 1297, CLEVELAND, Olsen, John O., Co., 16201 Shaker Blvd., SK 2-5444; ● PA., PITTSBURGH, Olsen, John O., Co., 104 Elatan Dr., BR 9-2550; ● WASH., SPOKANE, Quinn, James P., Box 835, TE 8-2287; ● WISC., MILWAUKEE, Anderson, Harold C., 2333 W. Wells, WE 3-3909

Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo., Tel: CEntral 1-8980; Sls. Mgr: W. F. Michener; Pur. Agt: G. C. Bradshaw

Sales Offices: ● CALIF., LOS ANGELES, 3016 E. 44th St., LU 3-2237, SAN FRANCISCO, 465 California St., SU 1-4748; ● CAN., MONTREAL, 378 St. Paul St., W., MA 4236, TORONTO, 1270 Castlefield Ave., OR 1109; ● ILL., CHICAGO, 307 N. Mich. Ave., ST 2-1400; ● MICH., DETROIT, 8730 W. Chicago Blvd., WE 3-0444; ● N. Y., NEW YORK, 72 Gold St., WO 4-4900; ● OHIO, CINCINNATI, 3033 Vernon Pl., AV 1-6341, CLEVELAND, 1305 Brookpark Rd., SH 9-1040; ● PA., PHILADELPHIA, 101 N. 33rd St., MA 7-0235

Mallory Battery Co., 13000 Athens Ave., Cleveland, Ohio

Mallory P. R. & Co., Inc., 3029 E. Washington St., P.O. Box 1558, Indianapolis, Ind., Tel: MElrose 6-5353; Sls. Mgr: T. M. Fitzgerald; G. C. Mercer

Sales Offices: ● CALIF., ROSEMEAD, Mallory, P. R. & Co., 9121 E. Garvey Ave., CU 3-7991, SAN FRANCISCO, Hodges & Gloung, 921 Bryant St., UN 1-2367; ● CAN., TORONTO, Simmonds, A. C. & Sons, 100 Merton St., HU 5-9111; ● COLO., DENVER, Koether-Cox Co., 110 W. 13th Ave., MA 3-3544; ● D. C., WASHINGTON, Mallory, P. R. & Co., 1401 K St. N. W., EX 3-0090; ● GA., ATLANTA, Duckett, Grady Co., 26 E. Andrews Dr., N. E., CE 3-5308; ● ILL., CHICAGO, Mallory, P. R. & Co., 3672 Milwaukee Ave., KI 5-1025; ● MASS., WATERTOWN, Mallory, P. R. & Co., 118 Main St., WA 4-2214; ● MICH., DETROIT, Mallory, P. R. & Co., 8631 Livernois Ave., WE 3-1696; ● MINN., MINNEAPOLIS, Mallory, P. R. & Co., 60 S. 4th St., FE 9-1156; ● MO., ST. LOUIS, Mallory, P. R. & Co., 215 N. Meramec, PA 7-8695; ● N. J., TEANECK, Mallory, P. R. & Co., 545 Cedar La., TE 6-4702; ● N. Y., ROCHESTER, Mallory, P. R. & C.o, 842 Sibley Tower, HA 6-1580; ● OHIO, CLEVELAND, Mallory, P. R. & Co., 22700 Shore Ctr. Dr., RE 2-9200; ● ORE., PORTLAND, Burcham, Don H. Co., Box 4098, CA 7-3830; ● PA., PHILADELPHIA, Mallory, P. R. & Co., 4343 River Dr. E., VI 4-8891, PITTSBURGH, Mallory, P. R. & Co., 345 Mt. Lebanon, LO 3-3142; ● TEXAS, DALLAS, Peck, Gordon Co., 130 Casa Linda Plz., DA 1-6579, HOUSTON, Peck, Gordon Co., 4007 Bellaire Blvd., MO 4-1435; ● WASH., SEATTLE, Burcham, Don H. Co., 422 1st Ave., W.; ● WISC., MILWAUKEE, Mallory, P. R. & Co., 710 N. Plankinton, BR 3-5997

Mamco Corp., 532 Fourth St., Racine, Wisc., Tel: MElrose 4-1923; Sls. Mgr: F. E. Schumacher; Pur. Agt: J. H. Anderson

Sales Offices: ● CALIF., NORTH HOLLYWOOD, Gartner, Gerry, Box 286, CR 4-6961; ● CONN., KENSINGTON, Stachelek, N. S., 94 Kenwood St., BA 3-7387; ● ILL., CHICAGO, Sales, Gene F. Co., 5306 W. Lawrence Ave., KI 5-5562; ● MO., ST. LOUIS, Flaherty, J. B. Co., 101-51 Meramec Ave., PA 5-2923; ● N. Y., NEW YORK, Weiss, William W., 1780 Broadway, CI 6-5777, ROCHESTER, Richter, W. Corp., 650 Linden Ave., HI 0580; ● OHIO, CLEVELAND, Peterson Sales Co., 405 Caxton Bldg., PR 1-0990; ● ORE., PORTLAND, Taraba, Joseph F. Co., Box 5232, BE 4-6491; ● PA., PHILADELPHIA, Stratton, C. H. Co., 7852 Montgomery Ave., MA 5-2231; ● WASH., SEATTLE, Taraba, Joseph F. Co., 1016 First Ave., S., EL 5006

Mandex Mfg. Co., Inc., 2614 W. 48th St., Chicago, Ill., Tel: CLiffside 4-4200; Sls. Mgr: E. Biba; Pur. Agt: D. D. Ross

Sales Offices: ● CALIF., LOS ANGELES, Calkins-Kerr Assoc., 6110 Ferguson Dr.; ● CAN., KITCHENER, Marsland, Eric & Co., 824 Victoria St., N., SH 5-8310; ● ILL., LAGRANGE, Higgins, E. F., 6538 Laurel Ave.; ● N. J., CAMDEN, Maguire, James A. & Co., 116 N. Seventh St., WO 6-3118; ● TEXAS, DALLAS, Packard Assoc., Love Air Ter. Bldg.

Mandrel Industries, 5134 Glenmont—P.O. Box 13243, Houston, Texas

Manger Electric Co., Miller St., Stamford, Conn., Pur. Agt: V. Telesco; Sls. Mgr: S. M. Pullin

Sales Offices: ● COLO., GREELEY, Moss, G. G. Sales Co., Box 428, EL 3-1452

Manhattan Physical Research Group, Inc., 556 W. 191st St., New York, N. Y., Tel: SW 5-3351; Sls. Mgr: C. Adler; Pur. Agt: K. Braun

Manostat Corp., 20-26 N. Moore St., New York, N. Y., Tel: WO 6-4700; Sls. Mgr: B. Hanlon

Mansol Ceramics, 140 Little St., Belleville, N. J., Tel: PLymouth 9-8600; Sls. Mgr: R. A. Poyda; Pur. Agt: S. Feldman

Sales Offices: ● CONN., MERIDEN, Lauin, Henry Assoc., Box 196, BE 7-5527; ● FLA., MIAMI BEACH, Geartner, Jack Co., 823 8th St., UN 6-6644; ● N. J., COLLINGSWOOD, Bancroft, Hartley S., 209 Cooper St., CO 5-5215; ● N. Y., ROCHESTER, Lazor, John, Box 307, LU 6-6619; ● N. C., WINSTON-SALEM, Hilker Co., Box 5211, PA 4-2084

Manson Laboratories, Inc., 375 Fairfield St., Stamford, Conn., Tel: DAvis 5-1391; Pur. Agt: J. Chasm

Sales Offices: ● CALIF., PALO ALTO, White, F., & Co., 788 Mayview Ave., DA 3-4455; ● CAN., MONTREAL, Electrodesign, 736 Notre Dame St. W., UN 6-7367; ● COLO., LOVELAND, Kelley Enterprises, 336 E. 4th St., NO 7-1376; ● MASS., WALTHAM, Gostenhofer, G., & Assoc., 7 Wellington St., TW 4-9500; ● N. Y., DEWITT, D B Assoc., Inc., Box 284, GI 6-0220

Mantec, Inc., Div. Wyle Mfg. Corp., 140 Washington St., El Segundo, Calif., Tel: EAstgate 2-0659; Sls. Mgr: E. R. Easton; Pur. Agt: M. C. Berkenbosch

Sales Offices: ● CALIF., EL SEGUNDO, Wyle Assoc., 128 Maryland St., EA 2-1763; ● COLO., LITTLETON, Wyle Assoc., 4611 Homestead, PY 4-2902; ● OHIO, DAYTON, Wyle Assoc., 1219 Third Natl. Bldg., BA 4-4512; ● PA., WAYNE, Wyle Assoc., 540 W .Beechtree, MU 8-3393; ● TEXAS, DALLAS, Wyle Assoc., 10940 Pinnochio Dr., FL 7-7255

Manufacturers Engrg. & Equipment Corp., York & Sunset Lane, Hatboro, Pa.

Manufacturers Lab., 10610 Keswick St., Sun Valley, Calif.

Mapico Iron Oxide Div., Columbian Carbon Co., 380 Madison Ave., New York, N. Y., Tel: MUrray Hill 7-2300; Sls. Mgr: E. E. Brooks

Sales Offices: ● CALIF., LOS ANGELES, Martin, Hoyt & Milne, 906 E. 3rd St., MI 9878, SAN FRANCISCO, Martin, Hoyt & Milne, Mer. Exchange Bldg., SU 1-3553; ● CAN., MONTREAL, Columbian Carbon Ltd., 7147 Park Ave., CR 4-0619; ● COLO., ENGLEWOOD, Application Eng., Inc., 100 E. Jefferson, SU 1-0385; ● GA., ATLANTA, Burks, C. L. & Co., Box 54, CA 8150; ● ILL., CHICAGO, Cary Co., 228 N. LaSalle St., CE 6-1426; ● KY., LOUISVILLE, Tabler, W. B. Co., Box 1254, JU 3-7666; ● LA., MONROE, Columbian Carbon Co., Box 1562, FA 3-8422, NEW ORLEANS, Cucullu, R. T. Co., 4818 Lancelot Dr., FR 0513; ● MASS., BOSTON, Columbian Carbon Co., 8038 Park Sq. Bldg., HA 6-0294; ● MICH., DETROIT, Columbian Carbon Co., 15800 W. McNichols Rd., BR 3-5161; ● MINN., MINNEAPOLIS, Shanson, W. N. Co., 1015 N. 3rd St., FE 9-5652; ● MO., KANSAS CITY, Abner Hood Chem. Co., 507-517 N. Montgall, CH 3621, ST. LOUIS, Niehaus, J. E. & Co., 3419-21 Gratiot St., PR 2-0043; ● N. J., CAMDEN, Columbian Carbon Co., 806 Wilson Bldg., WA 5-8577; ● N. C., BLACK MOUNTAIN, Burks, C. L. & Co., Box 1032, NO 9-8445; ● OHIO, AKRON, Columbian Carbon Co., Box 209, JE 5-4191; ● ONT., TORONTO, Columbian Carbon Ltd., 7 Superior Ave., CL 9-9617; ● ORE., PORTLAND, Martin, Hoyt & Milne, 1501 N. W. Kearney, BR 1281; ● TEXAS, DALLAS, Ribelin, R. A. Dist. Co., 209 N. Hawkins, RI 2-4830, HOUSTON, Ribelin, R. A. Dist. Co., 570-AM & M Bldg., CA 7-6660; ● WASH., SEATTLE, Martin, Hoyt & Milne, 1016 First Ave. S., EL 5007

Marantz Co., 25-14 Broadway, Long Island City, N. Y.

Marathon Battery Co., P.O. Box 298, Wausau, Wisc., Tel: 2-1071; Sls. Mgr: E. D. McEachron; Pur. Agt: C. W. Piehl

Sales Offices: ● CALIF., LOS ANGELES, Stickel-McAllister, 4357 Melrose Ave.; ● ILL., CHICAGO, Sherwood Sales Co., 230 N. Canal St.; ● N. Y., TUCKAHOE, Brooks, Carl, 249 Westchester Ave., WO 2-5485, WILLISTON PARK, Electrical Mfgs. Serv., 105 Hillside Ave.

Marathon Electric Mfg. Corp., 12th & Cranberry Sts., Erie, Pa.

Marble-Card Electric Corp., Gladstone, Mich., Tel: GArfield 5-2841; Sls. Mgr: I. M. Sviland; Pur. Agt: N. R. Sjoquist

Sales Offices: ● ILL., CHICAGO, Harris Supp. Co., 1710 S. Michigan Ave., ● MASS., BOSTON, Sandman Elec. Co., 660 Parker St., SALEM, Forbes Engrg., 19 Flint St.; ● MICH., GRAND RAPIDS, Jay Wood Co., 2442 Parkdale S. W., MARSHALL, Jay Wood Co., Box 27; ● MINN., MINNEAPOLIS, Caskel Forge Inc., 806-14th Ave. N. E.; ● PA., UPPER DARBY, Ellis, Carl E., 140 N. Cedar La., YORK, Moreland, Earle L., Box 1067; ● WISC., MILWAUKEE, Beaumont, Spencer A., 217 N. Broadway

Marbon Chemical, Div. Borg-Warner Corp., P.O. Box 68, Washington, W. Va.

Marco Industries Co., 207 S. Helena St., P.O. Box 110, Anaheim, Calif., Tel: KEystone 5-6037; Sls. Mgr: W. W. Bowles; Pur. Agt: F. C. Loehnig

Sales Offices: ● CALIF., PALO ALTO, Brainard, W. V., 535 Middlefield Rd., DA 6-5422; ● CAN., TORONTO, Foster, Anthony & Sons, 294-306 Church St., EM 6-3081, VANCOUVER, Arva, Inc., 355 Burrard St., MU 1-3367; ● MO., KANSAS CITY, Schwerin, Ernie B., 4210 Main St., WE 1-7564; ● ORE., PORTLAND, Arva, Inc., 1238 N.W. Glisan, CA 2-7337; ● TEXAS, FORT WORTH, Dyess Co., The, 3121 Benbrook Blvd., WA 4-0788; ● WASH., SEATTLE, Arva, Inc., 1320 Prospect St., MA 2-0177

MARCONI INSTRUMENTS, LTD. (Pgs. 718-720), 111 Cedar Lane, Englewood, N. J., Tel: LOwell 7-0607; Sls. Mgr: W. A. Buck

Sales Offices: ● **CALIF., LOS ANGELES,** Moxon, G. E. Sales, 7553 Melrose Ave., WE 8-2565, **SAN DIEGO,** Moxon, G. E. Sales, 3616 Buena Vista St., HU 8-2901, **SAN MATEO,** Moxon, G. E. Sales, 15-41st Ave., FI 5-2866; ● **D. C., WASHINGTON,** S & S Assoc., 1820 23rd St. S. E., LU 2-0041; ● **ILL., CHICAGO,** Stemm, R. Edward, 5681 West Lake St., ES 9-2700; ● **MINN., MINNEAPOLIS,** Stemm, R. Edward, 123 So. Third St., FE 5-7172; ● **N. J., FAIR LAWN,** L & M Assoc., Box 641, DI 3-3070; ● **N. Y., BELLEROSE,** L & M Assoc., 248-04 Union Tpk., FI 3-3808, **SYRACUSE,** Ryerson, J. D. Assoc. Inc., Box 1400, GI 6-1771; ● **PA., PHILADELPHIA,** L & M Assoc., 488 Clapier St., GE 8-5666

Marconi Wireless Telegraph Co., Ltd., 23-25 Beaver St., New York, N. Y.

Marine Electric Co., 600 Fourth Ave., Brooklyn, N. Y.

Marine View Electronics, Inc., Inc., 88-06 Van Wyck Blvd., Jamaica, N. Y., Tel: AXtel 1-7040; Sls. Mgr: H. Weinberg

Marion Electrical Instr. Co., Grenier Field, Manchester, N. H., Tel: NAtional 5-6971; Sls. Mgr: E. S. Maury; Pur. Agt: C. Heath

Sales Offices: ● CALIF., LOS ANGELES, Roberts, E. V., & Assoc., 5068 W. Washington Blvd., WE 8-2541; ● CAN., BURLINGTON, Elder Electronics, 3220 Robert St., NE 4-0511, VANCOUVER, Arva, Inc., 355 Burrard St., MU 1-3367; ● COLO., DENVER, Hyde Elctrn. Co., 888 So. Lipan St., WE 6-3456; ● GA., ATLANTA, Duckett, Grady, Sales Co., 26 E. Andrews Dr., N. E., CE 3-5308; ● ILL., CHICAGO, Beier, Leroy W., Co., 6518 W. North Ave., BE 7-2420; ● MASS., CAMBRIDGE, Hathaway, G. M., Elec., Inc., 238 Main St., KI 7-0380; ● MICH., DETROIT, Koehler-Pasmore, 11833 Hamilton, TO 8-3322; ● MINN., MINNEAPOLIS, Richardson, H. M., & Co., 9 E. 22nd St., FE 6-4078; ● MO., KANSAS CITY, Fry, W. E., & Co., 406 W. 34th St., JE 1-5236; ● N. J., WOOD-RIDGE, Podeyn, George, Inc., 207 Hackensack St., GE 8-2780; ● N. Y., BUFFALO, Lamb, Robert F., Co., 1807 Elmwood Ave., BE 3757, DE WITT, Wulfetange, J. F., Box 293, NEW YORK, Cooper-Simon & Co., Inc., 400 East 79th St., LE 5-2900; ● OHIO, BRECKSVILLE, Deunk, Robert K., & Assoc., 10005 Chippewa, CINCINNATI, Beedle Equip. Co., Roselawn Center Bldg., JE 1-2640; ● ORE., PORTLAND, Arva, Inc., 1238 N.W. Glisan, CA 2-7337; ● PA., PHILADELPHIA, Randall, Ken, Co., 121 N. Broad St., LO 4-2151; ● TEXAS, DALLAS, Green, J. A., Co., 7118 Envoy Ct., FL 1-9947; ● WASH., SEATTLE, Arva, Inc., 1320 Prospect St., HA 2-0177

Marjo Technical Products Co., 1150 E. Henry St., Linden, N. J., Tel: WAbash 5-9807; Sls. Mgr: M. Keck; Pur. Agt: H. Pointek

Sales Offices: ● CONN., MANCHESTER, Gates, Alexander W., 46½ Summer St., MI 9-7761; ● FLA., MIAMI BEACH, Geartner, Jack Co., 823 86th St., UN 6-6664; ● ILL., CHICAGO, Cumming, Bruce & Assoc., 6029 W. Belmont Ave., ME 7-3770; ● IND., INDIANAPOLIS, Fishman, Paul Assoc., 4440 N. Campbell Ave., LI 6-5477; ● N. Y., NEW YORK, Rand Assoc., 49 W. 32nd St., PE 6-3800, SYRACUSE, Allen, Leonard D., Box 32, 4-4196; ● N. C., WILMINGTON, Buthan, Inc., 4924 Oleander Dr., RO 2-5749; ● PA., PHILADELPHIA, Jones, Frank L., 2835 Holme Ave., OR 3-7718

Mark Producst Co., 6412 W. Lincoln Ave., Morton Grove, Ill., Tel: ORchard 5-4999; Sls. Mgr: E. Harris; Pur. Agt: A. Mueller

Markal Co., 3052 W. Carroll Ave., Chicago, Ill., Tel: SAcramento 2-6085; Sls. Mgr: B. Lytton

MARKEL, L. FRANK & SONS (Pgs. 774, 1196), Norristown, Pa., Tel: BR 2-8960; Sls. Mgr: E. Bullock; Pur. Agt: R. Dreby

Sales Offices: ● **ALA., MOBILE,** Russell Elctrc. Co., Inc., 1315 S. Washington Ave., HE 3-7475; ● **CAN., HAMILTON,** Ruggles, H. P. Co., 88 Caroline St. N., JA 2-1383; ● **COLO., DENVER,** Electric Motor Supply Co., 1646 Blake St., CH 4-4425; ● **ILL., CHICAGO,** Glenn, J. J., & Co., 605 W. Washington Blvd., ST 2-9667; ● **MD., TOWSON,** Dougherty, Jack, 111 W. Allegheny Ave., Ave., VA 3-0431; ● **MASS., WELLESLEY,** Gray, Robert W., Inc., 572 Washington St., CE 5-5296; ● **MICH., NOVI,** George, Lloyd, 40958 Malott Dr., GR 4-1505; ● **MINN., MINNEAPOLIS,** Peterson, Fred, Co., 2431 Hennepin Ave., FR 7-3025; ● **MO., WEBSTER GROVES,** Hippler Sales Co., 1135 Cheshire La., WO 1-8499; ● **N. J., HADDONFIELD,** Winnemore, Samuel, 1201 Wyndmoor Rd., **RUTHERFORD,** Elctrcl. Inslatn. Sales Co., Box 315, GE 8-5349; ● **N. Y., LYNBROOK,** Heft, Harold B., Box 623, LY 9-3351, **ROCHESTER,** Gislason Sales, Inc., 617 Case Bldg., LO 2-8323; ● **N. C., CHARLOTTE,** Altman, Harry T., Co., Box 8031; ● **OHIO, CLEVELAND,** Electrolock, Inc., 20475 Farnsleigh Rd., WY 1-4353, **TOLEDO,** Sallade, Andrew, 3683 River Rd., CH 1-1141; ● **OKLA., OKLAHOMA CITY,** Cole, John H., Co., 1825 W. Main St., CE 2-3171; ● **ORE., PORTLAND,** Riggs, C. E., Inc., 317 N. W. Broadway, CA 6-3286; ● **PA., PHILADELPHIA,** Newson, C. H., & Assoc., 150 Terminal Ave., CH 8-0770, **PITTSBURGH,** Pitts. Electl. Insltn. Co., 3000 Bigelow Blvd., MU 3-1313; ● **TEXAS, HOUSTON,** Houston Ind. Supply Co., 1101 Chenevert St., CA 8-6663; ● **UTAH, SALT LAKE CITY,** Christensen, J. R., Agcy., 247 E. 5th S., EM 4-4419

Markem Machine Co., Keene, N. H.

Markite Corp., 155 Waverly Pl., New York, N. Y., Tel: ORegon 5-1384; Sls. Mgr: H. A. Gottschall; Pur. Agt: J. Livingston

Sales Offices: ● CALIF., LOS ANGELES, Miller-Joyce, Inc., 5919 W. Third St., WE 6-7281; ● TEXAS, DALLAS, Jo-Joyce Engrg. Sales, 137 Walnut Hill

Markwik Mfg. Co., Inc., 31 Sexton Road, Plainview, N. Y.

Marlin-Rockwell Corp., Jamestown, N. Y., Tel: 61-541; Sls. Mgr: B. J. Shallow; Pur. Agt: C. A. Berg

Marsh Stencil Machine Co., 46 Marsh Bldg., Belleville, Ill.

Marshall, John Assoc., Box 2463, Bridgeport, Conn., Tel: EDison 5-9401; Sls. Mgr: M. M. Bassick

Martin, R. W. & Co., 10111 Woodman Ave., San Fernando, Calif., Tel: EMpire 2-7192; Sls. Mgr: R. W. Martin

Martindale Electric Co., Edgewater Branch, Box 617, Cleveland, Ohio, Tel: LAkewood 1-8567; Sls. Mgr: H. McFarland; Pur. Agt: C. H. Rueter

Marvellum Co., Holyoke, Mass.

Maryland Electronic Mgf. Corp., College Park, Md.

Maryland Etching Co. Inc., Andewood Lane, Towson, Md., Tel: VAlley 5-0700; Sls. Mgr: H. J. McCaughin; Pur. Agt: V. M. Stinchcomb

Maryland Lava Co., Ceramic Dept.—Box 205, Bel Air, Md., Tel: BEl Air, MD. 1441; Sls. Mgr: E. L. Dinning III

Sales Offices: ● CALIF., BEVERLY HILLS, Mitchell, C. H. Co., 9015 Wilshire Blvd.; ● N. Y., FLUSHING, Lux, E. A., 132-25 Pople Ave.

Maryland Precision Instru. & Optical Co., 12 East Lanvale St., Baltimore, Md.

Mason Engineering, 1031 Post Road, Darien, Conn.

Mason Instrument Co., 29 Elm Ave., Mt. Vernon, N. Y.

Masonite Corp., 111 W. Washington St., Chicago, Ill., Tel: FRanklin 2-5644; Sls: Mgr: F. O. Marion

Mass Gear Co., Sub. Geartronics Corp., 4 Nashua St., Woburn, Mass., Tel: WOburn 2-1400; Sls. Mgr: F. H. Kean; Pur. Agt: W. Reed

Sales Offices: ● D. C., WASHINGTON, Mount, Stuart W., National Press Bldg., ME 8-0221

Massa Labs Inc., 5 Fottler Rd., Hingham, Mass., Tel: RIverview 9-4800; Sls. Mgr: E. A. Massa; Pur. Agt: R. R. Thomas

Sales Offices: ● ARIZ., PHOENIX, McCarthy Assoc., 1014 E. Carnebback Rd., CR 9-1891; ● CALIF., MENLO PARK, McCarthy Assoc., 635 Oak Grove Ave., DA 6-7937, PASADENA, McCarthy Assoc., 1055 E. Walnut St., RY 1-0439, SAN DIEGO, McCarthy Assoc., 934 W. Laurel St., BE 9-4015; ● COLO., DENVER, Lahana and Co., 1886 S. Broadway; ● N. Y., NEW YORK, RMC Assoc., 236 E. 75th St., SYRACUSE, Ryerson, J. D. Assoc., Box 1400; ● PA., PITTSBURGH, Ransford, H. E. Co., 5400 Clairton Blvd.; ● TEXAS, DALLAS, Barnes, Arnold Co., 3603 Lemmon Ave.

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Micacraft Products, Inc., 703 McCarter H'way, Newark, N. J., Tel: MArket 3-6921; Sls. Mgr: C. E. Garneau, Jr.

Micamold Electronics Mfg. Corp., 65 Gouverneur St., Newark, N. J.; Sls. Mgr: A. S. Gartner; Pur. Agt: A. Leepson
Sales Offices: ● ARIZ., PHOENIX, Gramer & Co., 1014 E. Camelback Rd., CR 9-1231; ● CALIF., SAN FRANCISCO, Logan & Stone, 256 Magellan Ave., OV 1-7575, VAN NUYS, Mann, Martin Assoc., 14751 Keswick St., ST 3-2850; ● CAN., WATERLOO, General Instrument, 151 Weber St., SH 5-7317; ● CONN., WEST HARTFORD, Jopson, J. L., 85 Waterside Lane, AD 2-9532; ● D. C., WASHINGTON, Electronic Spec., Co., 4301 Alton Pl. N. W., NO 7-6000; ● FLA., ORLANDO, Small, Chris, Box 1346, GA 2-6196; ● GA., ATLANTA, Joyner, J. E., Assoc., Box 10821 Sta. A, PL 5-4336; ● ILL., CHICAGO, Engineered Sales Co., 3592 Milwaukee Ave., PE 6-0555, CHICAGO, General Instrument Corp., 5249 W. Diversey Pkwy., NA 2-6140, CHICAGO, Gianaras Sales Co., 5435 Northwest Hwy., SP 4-4600; ● IND., BLOOMINGTON, Septer, Les, Box 16, IN 6034, FORT WAYNE, Tyler, E. B., 2618 E. Drive, AN 7344; ● MD., TOWSON, Dougherty, Jack, 111 W. Allegheny, VA 3-0431; ● MASS., NEEDHAM, Todino, F., Sales Co., 31 Webster St., HI 4-7925; ● MINN., ST. PAUL, Ragon, R. G., Inc., 1406 W. Idaho Ave., MI 6-6937; ● MO., KANSAS CITY, Harris-Hanson Co., 7916 Paseo Ave., ST. LOUIS, Harris-Hanson Co., 2814 S. Brentwood Blvd.; ● N. J., LEONIA, Kohl, Bert, 1690 Fort Lee Rd., WI 4-6488; ● N. Y., KENMORE, McDonough, J. K., Assoc., 2070 Sheridan Dr., BU 6681, NEW YORK, Camber, M. A., 1700 York Ave., EN 9-4222, NEW YORK, Donert Assoc., 353 W. 57th St., CI 6-2360, NEW YORK, Ginsbury, Sylvan, 8 W. 40th St., LO 4-7585, NEW YORK, Saftler, Perry, Assoc., 157 W. 57th St., CI 7-3855; ● OHIO, DAYTON, Kohler, Ernest, 2600 Far Hills Ave., AX 9-2813, DAYTON, Siff, R. G. Assoc., 341 Robert Blvd., CR 5-8512; ● PA., RYDAL, Clarke, I. A., 1064 Lindsay Lane, TU 7-2433; ● TEXAS, DALLAS, Southwest Electronic Ind., 4515 Prentice St., FO 8-8306; ● WASH., SEATTLE, Backer, J. J., Co., 221 W. Galer St.

Micarta Fabricators, Inc., 5324 Ravenswood Ave., Chicago, Ill.

Michigan Chemical Corp., 569 N. Bankson St., St. Louis, Mich.

Michigan Magnetics, Inc., Vermontville, Michigan, Tel: CLifford 9-8911; Sls. Mgr: G. J. Beach; Pur. Agt: F. E. Larner
Sales Offices: ● CALIF., PASADENA, Ellis, David Co., 919-D E. Calif. St., RY 1-9108, SAN BRUNO, Marco, Ron, 2880 Ridgeway Ave., JU 3-3955; ● CAN., TORONTO, Armstrong, A. T. R., Box 38, RO 2-7535, VANCOUVER, Merritt, Ron Co., 355 Burrard St., MU 1-3367; ● FLA., NORTH MIAMI BEACH, Benz Sales Co., Box 178, FR 4-1391; ● ILL., CHICAGO, Twist, John G., 5232 W. Diversey Ave., SP 7-2250; ● KAN., WICHITA, Aviation Prods. Co., 1015 E. Second, AM 5-7955; ● MICH., Lansing, Schulte, Paul H., 536 Dinsmore Dr., IV 5-3838; ● N. J., EAST PATERSON, Nemeth, Ed. Assoc., 261 Elm St., SW 7-7500; ● N. Y., NORTH SYRACUSE, Franklin, Wm., A., 3 Holly Rd., GL 4-3414; ● ORE., PORTLAND, Merritt, Ron Co., 1238 N. W. Glisan, CA 2-7337; ● PA., HAVERTOWN, Fairbanks, H. J., 1615 Darby Rd., GR 2-2467; ● WASH., SEATTLE, Merritt, Ron Co., 1320 Prospect St., MU 2-7337, SPOKANE, Merritt, Ron Co., E. 127 Augusta, FA 5-2557

Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass., Tel: KI 7-8660; Sls. Mgr: R. F. Walker; Pur. Agt: F. E. Beede

Micro Balancing, Inc., 191 Herricks Rd., Garden City Park, N. Y., Tel: PI 6-0851; Sls. Mgr: D. A. Francis; Pur. Agt: L. Santora

Micro-Circuits Co., New Buffalo, Mich., Tel: 272W1; Sls. Mgr: R. F. Bradley

Micro Electro Magnetic Insts., 1511 Colorado St., Santa Monica, Calif., Tel: EX 3-0449; Sls. Mgr: B. D. Lipps

Micro Gear, Box 6, Prophetstown, Ill., Tel: 2361; Sls. Mgr: R. W. Shine; Pur. Agt: D. G. Dewey
Sales Offices: ● CONN., WEST HARTFORD, Tarpy, R. M., Box 297, AD 2-9436; ● IOWA, CEDAR RAPIDS, Warner, C. Dudley, 1220-33rd S. E., EM 2-4922

MICRO GEE PROD., INC. (Pg. 792), 6319 W. Slauson Ave., Culver City, Calif., Tel: EXmont 1-1716; Sls. Mgr: B. W. McFadden; Pur. Agt: D. S. York

Micro Electric Div., 19 DeBevoise Ave., Roosevelt, N. Y.; Tel: FReeport 8-3222; Sls. Mgr: A. J. Thompson
Sales Offics: ● D. C., WASHINGTON, Short, Blaine, Box 4534; ● FLA., WINTER PARK, Engstrom, Robert, 1816 Maywood Rd.; ● MICH., DETROIT, King, Robert W., 2 Keelson Dr.; ● N. J., CAMDEN, Moler, George W., 300 Broadway; ● OHIO, CLEVELAND, Brawer, Walter J., 15631 Lakewood Hgts.

MICRO SWITCH—See Minneapolis-Honeywell, Micro Switch Div.

Micro-Wire Co., 301 Crooks Ave., P. O. Box 387, Clifton, N. J.

MICRODOT, INC. (Pg. 571), 220 Pasadena Ave., South Pasadena, Calif., Tel: RYan 1-3351; Sls. Mgr: G. M. Martin, Jr.; Pur. Agt: R. Holzhauer
Sales Offices: ● **COLO., DENVER,** McLoud & Raymond Co., 5403 E. Evans, SK 6-1589; ● **D. C., WASHINGTON,** Hatfield, R. E. Co., National Press Bldg., ME 8-0221; ● **FLA., FORT MEYERS,** Lynch, Arthur H., & Assoc., 35 W. North Shore Ave., WY 5-2151, **ORLANDO,** Wallace, S. K., Assoc., 5525 Embassy Dr., OR 4-1294; ● **ILL., CHICAGO,** Stemm, R. Edward, 5681 W. Lake St., ES 9-2700; ● **MASS., BEDFORD,** Waters & Drew, Inc., Box 467, CR 4-7232; ● **MICH., DETROIT,** Teplitz, Harvey, & Co., 19942 Inkster Rd., KE 7-9058; ● MINN., MINNEAPOLIS, Aaron, I. I. & Assoc., 1302 Fifth Ave., So., **MINNEAPOLIS,** Stemm, R. Edward, 123 S. Third St., FE 5-7172; **MO., KANSAS CITY,** Harris-Hanson Co., 7916 Paseo Ave., HI 4-9494; ● N. J., **SUMMIT,** Luce, R. P., & Co., 7 Beechwood Rd., CR 3-9250; ● **N. Y., NEW YORK,** Frathom & Co., 33 W. 42nd St., BR 9-9442, **ROCHESTER,** Reed-Tollefson Corp., 2815 Monroe Ave., HI 5-0450, **WESTBURY,** Luce, R. P. & Co., 340 Maple Ave., ED 3-4550; ● **N. C., CHARLOTTE,** Wallace, S. K. Assoc., 5621 Murrayhill Rd., JA 3-6109; ● **OHIO, CLEVELAND,** Jay Engrg., 5413 Pearl Rd., TU 4-4080, **DAYTON,** Jay Engg. Co., 1721 E. 3rd St., CL 3-2151, **DAYTON,** Teplitz, H. & Co., 3543 Cornell Dr., CR 7-9178; ● **PA., LANCASTER,** Hatfield, R. E., Co., 165 E. King St., EX 7-5177, **PHILADELPHIA,** Luce, R. P. & Co., 8604 Fayette St., CH 7-6988, **PHILADELPHIA,** Microdot, Inc., 101 N. 33rd St., BA 2-2350; ● **TENN., NASHVILLE,** Wallace, S. K. Assoc., 638 Rochelle Dr., VE 2-0794; ● **TEXAS, DALLAS,** Schoonmaker, J. Y., Co., 5328 Redfield Ave., LA 6-7238, **HOUSTON,** Schoonmaker, J. Y., Co., 9918 Tolman Ave., HU 6-4611, **SAN ANTONIO,** Schoonmaker, J. Y. Co., 838 Steves Ave., LE 3-7717; ● **WASH., SEATTLE,** Dooley, James K., Co., 3215 Western Ave., MU 8313; ● **WISC., MILWAUKEE,** Aaron, Irvin I., & Assoc., 829 N. Marshall St., BR 6-8515

Microdyne, 300 W. Washington St., Chicago, Ill.
Sales Offices: ● CALIF., LOS ANGELES, Geist, W. K., Co., 3177 Glendale Blvd., NO 5-5219, MENLO PARK, Ault Assoc., 906 Willow Rd., DA 6-1760; ● CAN., OTTAWA, Computing Devices of Can., Box 508, PA 8-1761; ● COLO., DENVER, Posakony, Paul, R., 1460 Pennsylvania St., AM 6-2779; ● FLA.,

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Microflect Co., 2300 S. 25th St., Salem, Ore., Tel: EMpire 2-3562; Sls. Mgr: G. F. Kreitzberg

MICROLAB (Pg. 817), 71 Okner P'kway, Livingston, N. J., Tel: WYman 2-5700; Sls. Mgr: R. C. Hess; Pur. Agt: A. Alexander
Sales Offices: ● **CALIF., NORTH HOLLYWOOD,** Edwards, Jackson Co., 4101 Lankershim Blvd., ST 7-9603

Micromach Mfg. Corp., Div. Sanford Mfg. Corp., 1020 Commerce Ave., Union, N. J.

Micrometrical Mfg. Co., 345 S. Main St., Ann Arbor, Mich., Tel: NOrmandy 2-5626; Sls. Mgr: F. W. Kabat; Pur. Agt: H. Demarco
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Micron Gear Mfg. Co., 73 Rushmore St., Westbury, N. Y., Tel: EDgewood 4-8880; Sls. Mgr: M. Amorosia; Pur. Agt: B. Benjamin
Sales Offices: ● ILL., HILLSIDE, Aero Engineering Co., 4302 Warren Ave., AU 7-5446; ● IND., INDIANAPOLIS, Aero Engineering Co., 3440 N. Meridian St., WA 5-3528; ● MD., BALTIMORE, Aero Engineering Co., 7215 York Rd., VA 3-4101; ● MASS., WALTHAM, Aero Engineering Co., 951 Main St., TW 4-9165; ● MICH., DETROIT, Aero Engineering Co., 15800 W. McNichols Rd., BR 3-7238; ● MO., ST. LOUIS, Aero Engineering Co., Box 6247, Lambert Fld.; ● N. Y., MINEOLA, Aero Engineering Co., 220 Old Country Rd., Pi 7-8686, SYRACUSE, Aero Engineering Co., 2360 James St., HO 3-8531; ● OHIO, COLUMBUS, Aero Engineering Co., 911 S. James Rd., BE 1-2758, DAYTON, Aero Engineering Co., 410 W. First St., BA 4-0728, READING, Aero Engineering Co., 1800 Reading Rd., PO 1-0666

Microphase Corp., 1 Seneca Pl., P.O. Box 1166, Greenwich, Conn.

Microsonics Inc., Hingham Center, Route 3A, Hingham, Mass., Tel: RIverview 9-3100; Sls. Mgr: F .Baker; Pur. Agt: F. Baker
Sales Offices: ● CALIF., INGLEWOOD, Gilbert, M. B. Co., 1608 Centinela Ave., OR 8-5767; ● ILL., OAK PARK, Racine, L. S. Co., 6617 W. North Ave., VI 8-7899; ● IND., MARKLE, Williams, A. E., RR1

Microtech, Inc., 2975 State St., Hamden, Conn., Tel: ATwater 8-9297; Sls. Mgr: G. R. Houk; Pur. Agt: M. R. Rossi
Sales Offices: ● CALIF., LOS ANGELES, Heim & Scheer, 11169 Santa Monica, GR 7-3208; ● FLA., ST. PETERSBURG, Raymund E. C. & Assoc., 1221 Arlington Ave., 7-6126; ● ILL., CHICAGO, Magnuson Assoc., 3347 W. Irving Pk. Rd., KE 9-7555; ● KAN., WICHITA, D & O Engrg. Co., Box 3107, AM 2-3052; ● MASS., WALTHAM, Gostenhofer, G. & Assoc., 7 Wellington St., TW 4-9500; ● MD., TOWSON, Maguire, J. A. & Co., 29 Alleghany Ave., VA 5-3836; ● N. J., CAMDEN, Maguire, J. A. & Co., 116 N. Seventh St., WO 6-3118; ● OHIO, CENTERVILLE, Schmidt, Edward, Box 572, TU 5-2930, CLEVELAND, Clark Sls. Co., Box 708, TE 1-8369; ● TEXAS, DALLAS, D & O Engrg. Co., Box 8053 Dallas, EM 8-5606; ● WASH., BELLEVUE, Hall Engrg. Co., 1430 120th, N. E., GL 4-9511

Micro-Time, Inc., 16799 Schoenhorn, Sepulveda, Calif., Tel: DIckens 2-5043; Sls. Mgr: C. Rubin; Pur. Agt: P. Kliebert
Sales Offices: ● ARIZ., SCOTTSDALE, Fryco, 478 N. Scottsdale Rd., WH 5-2261; ● FLA., ST. PETERSBURG, Raymund, E. C. & Assoc., 1221 Arlington Ave., 7-6126; ● ILL., WESTCHESTER, Brouillette, W. G., 1558 Newcastle, FI 5-6500; ● MASS., BRAINTREE, Bordewieck Engrg., VI 3-0845; ● N. J., SUMMIT, Luce, R. P. & Co., 7 Beechwood Rd., CR 3-9250; ● N. Y., BINGHAMTON, Rakowski, Robert S., 9 Ivan La., 3-5889, BUFFALO, Lynn, Ferdinand J., 422 N. Falls Blvd., AM 4591, FAYETTEVILLE, Pilcher, Jim, 404 E. Genessee, NE 7-9383, ROCHESTER, Johnson, H. C., 111 Mount Hope, HA 6-1090, WESTBURY, Boziwick, George, 340 Maple Ave., ED 3-4550; ● PA., PHILADELPHIA, Neubauer, Dann, 8604 Fayette St., CH 7-6988; ● TEXAS, DALLAS, Edmiston, Harry D., 2717 Swiss St., TA 7-2853; ● WASH., SEATTLE, Howell Sls. Co., Box 1328, EA 3209

MICROTRAN, (Pgs. 1133-1135), 145 E. Mineola Ave., Valley Stream, N. Y., Tel: LOcust 1-6050; Sls. Mgr: A. J. Eisenberg; Pur. Agt: B. Bell
Sales Offices: ● **CALIF., SAN FRANCISCO,** Lebell, Frank Co., 1485 Bayshore Blvd., JU 7-8700, **VAN NUYS,** Nelson-Mann Assoc., 14751 Keswick St., ST 3-2850; ● **CAN., MONTREAL,** Gould, E. S. Sls., 353 St. Nicholas St., AV 8-5716, **SCARBOROUGH,** Hudson Randell, 123 Manville Rd., PL 9-2291; ● **COLO., COLO. SPRINGS,** Peyser & Co., 1501 N. Weber St., ME 4-3401; ● **CONN., MERIDEN,** Lavin, Henry Assoc., Box 196, BE 7-5527; ● **FLA., BRADENTON,** Cummings, C. T., Box 507, BR 2-6767; ● **ILL., GLEN ELLYN,** Kleker, Jerome H. Co., 177 Sunset Ave., GL 2297; ● **MASS., NEEDHAM,** Lavin, Henry Assoc., 82 Curve St., HI 4-3446; ● **MICH., DETROIT,** Holton Sales, 17534 W. 7 Mile Rd., KE 5-1472; ● **MINN., MINNEAPOLIS,** Hagestad, E. O. & Assoc., 4513 Laguna Dr., WA 2-2034; ● **MO., ST. LOUIS,** McGary, W. T., 6635 Delmar Blvd., PA 5-6430; ● **N. Y., HOLLIS,** Friedman, Al Assoc., 188-16 Jamaica Ave., SP 6-4800, **NEW YORK,** Glass, Ed Assoc., 250 W. 57th St., JU 6-8440, **ROCHESTER,** Brown, Jack Assoc., 157 Rawlinson Rd., CO 6-2728, **YONKERS,** Brown, J. Assoc., 207 Rosedale Rd., SP 9-7330; ● **N. C., WILMINGTON,** Buthan Sales, 4924 Oleander Dr., WI 5749; ● **OHIO, CINCINNATI,** Olsen, John O. Co., 4016 Diehl Ave., SY 1-1297, **CLEVELAND,** Olsen, John O. Co., 16201 Shaker Bldv., SK 2-5444; ● **ORE., PORTLAND,** Minthorne, Roger M. Co., 0673 S. W. Taylors Rd., CH 6-4556; ● **PA., CHELTENHAM,** Arnold Assoc., 528 Ryers Ave., Pi 2-0600, **PITTSBURGH,** Olsen, John O. Co., 104 Elatan Dr., BR 9-2550; ● **TEXAS, GRAND PRAIRIE,** Tex-O-Koma Sls., 2325 B. W. Jefferson, CR 4-4530

Microtronics, Inc., Porete Ave., North Arlington, N. J.

MICROWAVE ASOCIATES, INC. (Pg. 1062), Burlington, Mass., Tel: BRowning 2-3000; Sls. Mgr: G. Kariotis; Pur. Agt: H. Merchant
Sales Offices: ● **ALA., BIRMINGHAM,** Specialized Elect. Corp., 1801 6th Ave., N., FA 4-1615; ● **CALIF., SAN GABRIEL,** Hachten, J. E. Co., 8413 Las Tunas Dr., CU 3-3860; ● **CAN., OTTAWA,** Lomas, E. G., 227 Laurier Ave., W., CE 2-8504; ● **COLO., DENVER,** Pease, Fred A., Co., 4921 E. 38th Ave., FR 7-2336; ● **FLA., CLEARWATER,** Wimberly, W. B., Co., 432 So. Ft. Harrison, CL 3-7072; **ORLANDO,** Wimberly, W. B., Co., 203 N. Lucene Cir., GA 5-3083; ● **ILL., CHICAGO,** Gassner & Clark Co., 6644 N. Western Ave., RO 4-6121; ● **MD., BALTIMORE,** Randall, Ken, Co., 1303 Midvale Ave., RI 7-5260; ● **MASS., WATERTOWN,** P. J. Engrg. Sales Co., Box 212, WA 4-5950; ● **MINN., ST. PAUL,** Engrg. Prod. Assoc., 1821 University Ave., MI 6-3443; ● **MO., ST. LOUIS,** Kinrick Co., 222 Olympia Dr., JA 1-4877; ● **N. Y., ALEXANDER,** Reed-Tollefson Corp., 32 Main St., FI 3-5898, **GREAT NECK,** E. R. A., Inc., 340 Great Neck Rd., HU 2-9320, **ROCHESTER,** Red-Tolefson Corp., 2815 Monroe Ave., HI 5-0450; ● **OHIO, DAYTON,** Teplitz, Harvey, Co., 3543 Cornell Dr., CR 7-9178; ● **PA., PHILADELPHIA,** Randal, Ken, Co., 121 N. Broad St., LO 4-2151; ● **TEXAS, DALLAS,** Scanlon, P. J., Co., 2608 Inwood Rd., FL 1-1184

MICROWAVE DEVELOPMENT LABS, INC. (Pg. 818), 92 Broad St., Babson Park 57 Wellesley, Mass., Tel: CE 5-6252; Sls. Mgr: J. D. Hall; Pur. Agt: W. H. Davis
Sales Offices: ● **CALIF., SAN GABRIEL,** Hachten, J. E., Co., 8413 Las Tunas Dr., CU 3-3860 ● **D. C., WASHINGTON,** Brimberg Assoc., 221 Investment Bldg., DE 2-8000; ● **FLA., ORLANDO,** Lehmann, W. R., Co., Box 1224, MI 4-8150; ● **KAN., WICHITA,** Engrg. Services, 8325 E. Indianapolis, MU 3-3751; ● **MO., KANSAS CITY,** Engrg. Services, 4550 Main St., JE 1-7765, **ST. LOUIS,** Engrg. Services, 6635 Delmar Blvd., VO 3-3661 ● **N. Y., HICKSVILLE,** Hunter & Salsbury, Inc., 87 Broadway, WE 8-1080, **ROCHESTER,** Reed-Tollefson Corp., 2815 Monroe Ave., HI 5-0450 ● **PA., PHILADELPHIA,** Slubin, L. & Co., 2305 Fairmount Ave., ST 7-2075

Microwave Eng. Labs., 943 Industrial Ave., Palo Alto, Calif., Tel: DA 6-9500; Sls. Mgr: P. H. Vartanian; Pur. Agt: A. C. Glaros

Microwave Radiation Co., 19223 S. Hamilton St., Gardena, Calif., Tel: FAculty 1-3507; Sls. Mgr: M. Ehrlich; Pur. Agt: T. Williams
Sales Offices: ● CALIF., LOS ANGELES, Thorson, G., Co., 7361 Melrose, WE 4-1191, PALO ALTO, Thorson, G., Co., SAN DIEGO, Thorson, G., Co., 455 Olive St., CY 8-8386; ● WASH., SEATTLE, Thorson, G., Co.

Mid-Century Instrumatic Corp., 611 Broadway, New York, N. Y., Tel: SPring 7-4016; Sls. Mgr: C. B. Husick; Pur. Agt: E. Nawrockr
Sales Offices: ● CALIF., LACANDA, Ruby, H. W., Assoc., 927 Foothill Blvd., SY 0-3195 ● MICH., WARREN, Electro-Mec Assoc., 4012 E. Nine Mile, JE 6-4040 ● MINN., ST. PAUL, Engrg. Prod. Assoc., 1821 University Ave., MI 6-3443; ● TEXAS, HOUSTON, Gay Sales Co., 420 Sul Ross, JA 9-3479

Middlesex Paper Tube Co., 345 Chelmford St., Lowell, Mass., Tel: Glenview 7-7687; Sls. Mgr: J. Porton
Sales Offices: ● CONN., BRIDGEPORT, Connecticut Assoc. Sales, Box 6004, FO 7-5668 ● MASS., Holyoke, Judd Paper Co., JE 4-5661 ● N. Y., NEW YORK, Cohen I., 261 Broadway, CO 7-3201; ● PA., PHILADELPHIA, Fisher, H. E., 278 S. 60th St., GR 4-2550

Middlesex Wood Products Corp., Newton Road, Littleton, Mass., Tel: HUnter 6-3515; Sls. Mgr: E. Livingston
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Sales Offices: ● CALIF., DALY CITY, Chapman, L., 548 Skyline Dr., LOS ANGELES, Blackwood, Gordon, 3609 E. Olympic Blvd., AN 8-2811; ● CONN., WOODBURY, Hart, P., Painter Hill Rd., CO 3-3327; ● MICH., DEARBORN, Dean, R. H., 23874 Kean Ave., LO 3-7396, KALAMAZOO, Peck, W., 522 N. Burdick, FI 5-7469, ● MO., ST. LOUIS, Shutt, G., 5627 Manchester, MI 7-0908; ● N. J., S. ORANGE, Domber, E. A., Box 142, SO 2-2606; ● N. Y., N. SYRACUSE, Thomas, N. P., 101 Woods Rd., HA 2-0194; ● OHIO, DAYTON, Connors, E. J., 59 Central Ave., BA 4-4577, MENTOR, Higgins, W. L., 1293 Salida Rd., BL 7-7657, VANDALIA, Sprecher, L., 24 N. Perry St., TW 8-4812; ● PA., PAOLI, Moorhouse, W. H., Box 523, PA 3407, WYNNEWOOD, Keene, E. P., Box 171, MI 2-7400

Modern Industries, Inc., 5755 Camille Ave., Culver City, Calif., Tel: TExas 0-2020; Sls. Mgr: C. D. Slaten; Pur. Agt: J. Shepard
Sales Offices: ● CALIF., HOLLYWOOD, Snyder, Lee Grant Co., 1418 N. Highland Ave., HO 9-6278; ● TEXAS, DALLAS, Thomson Engrg. Serv., 2520 Oaklawn, LA 6-8741

Modern Laboratory Equip Co., 1811 First Ave., New York, N. Y., Tel: TR 6-4700; Sls. Mgr: S. Birk; Pur. Agt: F. F. Brown
Sales Offices: ● CALIF., SAN GABRIEL, Ferris, W. E., 422 West Roses Rd., AT 1-8389, SAN FRANCISCO, Laboratory Equip. Co., 649 Bryant St.; ● CAN., TORONTO, Canadian Lab. Suppl., W. MONTREAL, Canadian Lab. Suppl., 403 St. Paul St.; ● CONN., S. NORWALK, Douglas, Robert P., Hollowspring Rd., VO 6-8257; ● D. C., WASHINGTON, Gedney, Ralph, 1809 - 20th St.; ● GA., ATLANTA, Surgical Selling, 139 Forrest Ave., N.E.; ● ILL., CHICAGO, Daigger, A. & Co., 159 W. Kinzie St., CHICAGO, Andrew Tech. Supp. Co., 7058 N. Clark St., AM 2-4005, CHICAGO, Lapine, Arthur S. Co., 6001 S. Knox Ave.; ● MASS., CAMBRIDGE, McAllister Bicknell Co., 243 Broadway; ● MO., KANSAS CITY, Greiner, A. J. Co., 1827 McGue St., ST. LOUIS, Aloe, A. S., 5655 Kinsbury; ● N. Y., IRVINGTON-ON-HUDSON, Tenso Labs., IR 9-8900, ELMHURST, American Scientific, Box 51, IL 8-8896, ROCHESTER, Dynalab Corp., 850 Clinton Ave.; ● OHIO, CLEVELAND, Chemcial Rubber, 2310 Superior Ave.; ● PA., PITTSBURGH, Boder Scientific, 810-14 Penn Ave.; ● TEXAS HOUSTON, Moore Instr., 511 Broadway, WA 6-7125

Modern Supply Co., 206 Fulton St., New York, N. Y.

Modern Wire Co., 39-30 Review Ave., Long Island City, N. Y., Tel: STillwell 4-0870; Sls. Mgr: H. Stern; Pur. Agt: S. Stern
Sales Offices: ● CALIF., PALO ALTO, Rudat Sales Co., 1477 Dana Ave.; ● ILL., CHICAGO, Wiley, Samuel J. Co., 2060 W. Birchwood Ave.; ● IND., INDIANAPOLIS, Sheffler, Charles Co., 3929 Barnor Dr.; ● N. Y., HEMPSTEAD, Kubrick & Yurman, 475 S. Franklin St.

Modine Mfg. Co., 1500 De Kovan Ave., Racine, Wisc., Tel: ME 3-2411; Sls. Mgr: C. C. Wilson; Pur. Agt: L. Floyd

Moffatt Products, Inc., 3124 Washington Ave. N., Minneapolis, Minn., Tel: JAckson 1-1454; Pres: D. Moffatt

Mohawk Business Machs. Corp., 944 Halsey St., Brooklyn, N. Y.

Mohawk Electronic Res. Labs., Inc., 31 Maple Ave., Saratoga Springs, N. Y.

Mohawk Mfg. Co., The, P.O. Box 1110, Middletown, Conn., Tel: Diamond7-2571; Sls. Mgr: J. B. Boden; Pur. Agt: G. A. Comer
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Mohawk Wire & Cable Corp., 320 River St., Fitchburg, Mass., Tel: Diamond 3-3569; Sls. Mgr: J. W. Resseguie; Pur. Agt: O. D. Lavigne
Sales Offices: ● CALIF., LOS ANGELES, Harris, Bucky Co., 3440 Overland Ave., TE 0-4647; ● COLO., GREELEY, Moss, G. G. Sales Co., Box 428, EL 3-1452; ● GA., EAST POINT, Hayden, Paul, Assoc., Box 331; ● MASS., MELROSE, MacInnis, Norman R., 53 Youle St.; ● N. J., FAIR LAWN, Schwartz, Mel, 39-16 Tierney Pl., SW 7-3435; ● OHIO, CINCINNATI, Schlemmer, Roger E., 8442 Curzon Ave., PO 1-2916; ● PA., PHILADELPHIA, Nolan, John J. Assoc., 314 W. Sparks St., WA 4-1595

Moisture Register Co., 1510 W. Chestnut St., P.O. Box 910, Alhambra, Calif., Tel: CU 3-3143; Sls. Mgr: R. J. McLean
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Molded Fiberglass Co., 4401 Benefit Ave., Ashtabula, Ohio

Molded Insulation Co., 335 E. Price St., Philadelphia, Pa., Tel: VIctor 4-2626; Sls. Mgr: D. B. Strasburger; Pur. Agt: M. Halamar
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Molding Tool Co., 1200 Southard St., Trenton, N. J.

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Mona Industries, Inc., Paterson, N. J., Tel: ARmory 4-8220-21; Sls. Mgr: W. O. Schlimbach; Pur.. Agt: Harry H. Schat

Monadnock Mills, 1977 First Ave., San Leando, Calif., Tel: ELgin 7-3700; Sls. Mgr: G. A. Gianandrea; Pur. Agt: G. R. MacLaughlin
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Monarch Electric Corp., 118 E. First St., Jamestown, N. Y., Tel: JAmestown 3-1565; Sls. Mgr: J. N. Francis; Pur. Agt: A. Sommers
Sales Offices: ● CALIF., LOS ANGELES, Hayjax Co., 436 Colyton St., MA 8-6279, SAN FRANCISCO, Keeler-White Co., 615 Seventh St., HE 2900; ● COLO., DENVER, Nelson, A. J. Co., 1639 Blake St., KE 4-6751; ● CONN., GREENWICH, Seaboard Assoc., 1 E. Putnam Ave., TO 9-4281; ● FLA., CLEARWATER, Shaw, L. W., Box 273, CL 3-7008; ● GA., ATLANTA, Lloyd, J. A., 375 Whitehall, S.W., JA 4-1977; ● ILL., CHICAGO, Buchal, Fred J., 5522 W. Division St., MA 6-6163; ● IND., KOKOMO, Terwilliger, V. W., Box 693, GL 2-7511; ● KAN., PRAIRIE VILL, Walker, Harry, Box 9211, EN 2-0922; ● MASS., BOSTON, Hudson, H. E. Co., 80 K St., AN 8-2424; ● MICH., DETROIT, Deperro, G. N. Co., 13936 Dexter, TO 9-1266; ● MO., ST. LOUIS, Stadnyk, Steve, 9100 Wood Ave., HA 8-5062; ● N. Y., BUFFALO, Eberhardt Elec. Co., 278 Johnson St., SU 6194, NEW YORK, Graf, Andrew J., 254 W. 31st St., PE 6-7837 ; ● OHIO, CLEVELAND, Griesser, Louis Sales, 2163 St. Clair Ave., PR 1-6120; ● ORE., PORTLAND, Keeler-White Co., 322 N.W. 4th Ave., AT 1-2015; ● PA., KINGSTON, Stone, J. K., 388 River St., BU 7-3891, PHILADELPHIA, Cunningham, R. L. Elec., 843 S. Front St., DE 4-6800, PITTSBURGH, Gamble, W. D. & Co., 839 W. North Ave., FA 2-0494; ● TEXAS, DALLAS, Anderson, George E. Co., 1901 Griffin St., RI 1-5931; ● WASH., SEATTLE, Keeler-White Co., 1041 Sixth Ave., S., EL 2367

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MONITOR PRODUCTS CO., (Pg. 593), 815 Fremont Ave., South Pasadena, Calif., Tel: RYan 1-1174; Sls. Mgr: J. W. Blasier; Pur. Agt: H. E. Blasier, Jr.
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Monsanto Chemical Co., Plastics Div., Springfield, Mass.

Montgomery Co., Windsor Locks, Conn., Tel: NAtional 3-3336; Sls. Mgr: S. Montgomery, Jr.; Pur. Agt: J. R. Montgomery, Sr.

Montgomery Mfg. Co., 204 S. Main St., Owensville, Ind., Sls. Mgr: M. Montgomery

Montrose Div., Bendix Aviation Corp.—See Bendix Aviation Corp.

Moody Machine Products Co., P.O. Box 2248, Providence, R. I., Tel: GAspee 1-3317; Sls. Mgr: J. H. Moody; Pur. Agt: J. H. & W. S. Moody
Sales Offices: ● CALIF., DOWNEY, Skahill, E. H., 8643 Bockles St., SAN FRANCISCO, Walter Industries, 725 Second St.; ● CAN., TORONTO, Finkler, L. & Co., 1794 Avenue Rd.; ● CONN., WEST HARTFORD, Maher, F. S., 106 Woodlawn St.; ● ILL., MORTON GROVE, Zuckert, L. I., 7532 Churchill St.; ● MO., NORTH KANSAS CITY, Riggs, I. P., Box 7427; ● N. Y., NEW ROCHELLE, Mizner, A., 640 Pelham Rd.; ● OHIO, TOLEDO, Chilcote, J., 636 Nesslewood Ave.; ● ORE., PORTLAND, Minthorne, R. M., 0673 S. W. Taylors Ferry; ● PA., NORTH HILLS, Henryh, R., 766 N. Hills Ave.

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Mooradian High Frequency Labs., 13 W. Fort Lee Rd., Bogota, N. J., Tel: Diamond 2-2115

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Moran Co., 115 Main St., El Segundo, Calif., Tel: OR 8-3444; Sls. Mgr: T. Moran; Pur. Agt: K. Kiebert

Moran Products Co., 2925 E. 55th St., Cleveland, Ohio, Tel: MIchigan 1-4600; Sls. Mgr: J. W. Moran

Morefield, John A. Co., 441 N. 25th St., Camp Hill, Pa.

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Sales Offices: ● CALIF., CULVER CITY, Stevens, T. L. Co., 5333 S. Sepulveda, EX 8-5768; ● CONN., COVENTRY, Robinson, R. H., Co., Box 157, PI 2-7323, NEW CANAAN, Warren, Grant, White Oak Shade Rd., WO 6-1218; ● ILL., CHICAGO, Holland, J. B., 5875 N. Lincoln Ave., UP 8-4646; ● MASS., PITTSFIELD, McKenzie Co., Box 604, HI 3-6255; ● MINN., MINNEAPOLIS, Hamilton, D. V. & Co., 3359 Republic Ave., WE 9-7891; ● N. Y., NEW YORK, Marketers, Technical Inc., 550 Fifth Ave., PL 7-6454; ● N. C., CHARLOTTE, Missiletronics Inc., 1043B Providence Rd., ED 4-7090, WINSTON SALEM, Dula, Clyde H., 3389 Nottingham Rd., PA 3-4205; ● OHIO, DAYTON, Whitby, H. W., Co., 25 S. Main Bldg., BA 8-6377; ● PA., ARDMORE, Wright, A. L., Co., Box 561, MI 2-5113; ● WASH., SPOKANE, Paramount Agencies, Box 835, TE 8-2287

New England Oven & Furnace Co., Orange Conn.

New England Scientific Instruments Co., Box 408, Cambridge, Mass., Tel: KI 7-1997; Sls. Mgr: G. Kngiht

New England Tape Co., Hudson, Mass., Tel: Hudson 965; Sls. Mgr: H. M. Wilkoff; Pur. Agt: F. A. Keay

New England Transformer Co., 47 McGrath H'way, Somerville, Mass., Tel: Somerset 6-6100; Sls. Mgr: H. F. S. Morris
Sales Offices: ● CAN., MONTREAL, Hooker, Samuel C., 2425 Grand Blvd.; ● MASS., WINCHESTER, Hooker, Samuel C., 397 Highland Ave.; ● MO., ST. LOUIS, Zac-Cowen & Assoc., 7730 Corondelet Ave., ● VA., LYNCHBURG, Grunes, Irving, Box 4124

New Hampshire Ball Bearings, Peterborough, N. H.

New Haven Clock & Watch Condenser Prod. Div., 140 Hamilton St., New Haven, Conn., Tel: SP 7-5411; Sls. Mgr: I. Small; Pur. Agt: R. Munson
Sales Offices: Slubin, L. & Co., 2305 Fairmount Ave., ST 7-2072; ● ARIZ., SCOTTSDALE, Fryco, 478 N. Scottsdale Rd., WH 5-2261; ● CALIF., SAN GABRIEL, Hachten, J. E. Co., 8413 Las Tunis Dr., SAN FRANCISCO, Featherstone & Salisbury, 607 Market St.; ● COLO., ENGLEWOOD, Cox Sales Co., 3413 S. Bannock St., PE 3-6772; ● GA., ATLANTA, Faucett, F. & Co., 777 Pinehurst Terr. SW, ● ILL., CHICAGO, Sacks, L. & Assoc., 2949 W. Touhy; ● MASS., BOSTON, Anderson Sales, 177 State St.; ● MICH., DETROIT, Merchant, R. C. & Co., 18411 W. McNichols Rd., KE 5-6000; ● MO., KANSAS CITY, Schryver, C. H. Sales Co., Norwood Dr.; ● N. Y., FOREST HILLS, Miller, Jack Co., 1 Continental Ave., BO 3-4446, NEW YORK, Pickett, J., 205 E. 66th St.; ● TEXAS, DALLAS, Packard Assoc., 404 Love Field, FL 7-5713

New Hermes Engraving Machine Corp., 13-19 University Pl., New York, N. Y., Tel: SPring 7-7220; Sls. Mgr: H. Susskin; Pur. Agt: P. Kahn
Sales Offices: ● CALIF., LOS ANGELES, Flamm, K. J., 1346 N. Highland Ave., WE 3-0440; ● COLO., DENVER, Mine & Smelter Supply Co., 3800 Race St., Box 9041; ● FLA., PINELLAS PK., George, Joseph W., Box #429; ● GA., COLUMBUS, Collins, George, Box #1051, FA 2-4861; ● ILL., CHICAGO, Kamin, W. C., 7905 S. Ada, AB 4-2629; ● KAN., OVERLAND PK., Ricketson, J. J., 7914 W. 77th St., NI 2-5445; ● LA., BATON ROUGE, Van Horn, Oliver H. Co., 1200 Neosho St.; ● MO., ST. LOUIS, McLeod Machinery Co., 1539 N. Broadway, CH 1-6100; ● N. Y., LIVERPOOL, Hub City Fctry & Mill Sup., Oswego Rd., OL 2-5100; ● OHIO, BEREA, Davis, H. G., 37 East Bridge, BE 4-5836, DAYTON, Richie, C. K., 3236 Little York Rd., TW 8-5283, LAKEWOOD, Cleveland Duplex Co., 1495 Warren Rd., AC 6-4740; ● OKLA., OKLA. CITY, Hart Industrial Supply, 726 W. Grand Ave.; ● PA., HOMESTEAD, Wolfson, M., 207 E. 8th Ave., HO 1-1500, JENKINTOWN, Laird Equipment Co., 204 Wyncote Rd., Bx 108, TU 4-8198, PITTSBURGH, Commercial Products, 4602 Clairton Blvd., TW 1-6004; ● TENN., CHATTANOOGA, Dreyer Sales Co., 1478 Market St., AM 7-5021; ● TEXAS, DALLAS, Hamilton, Al G. & Assoc., 3808 Bryn Mawr, EM 8-0329, DALLAS, Jacbos, Richard C., Box #12051, FL 2-2745; ● UTAH, SALT LAKE CITY, Todd Machinery Co., 140 W. Second Street

New Jersey Wood Finishing Co., Amboy Ave., Woodbridge, N. J.

New Jersey Zinc Co., 160 Front St., New York, N. Y., Tel: WH 3-5700
Sales Offices: ● CALIF., LOS ANGELES, 4560 E. 50th St., OAKLAND, 95 Market St.; ● ILL., CHICAGO, 221 N. La Salle St.; ● OHIO, CLEVELAND, 1007 National Bank Bldg.

New London Engineering Co., 1700 Division St., New London, Wisc., Tel: 1000; Sls. Mgr: L. J. Nash; Pur. Agt: W. A. Schlise

New London Instrument Co., Inc., 82 Union Street - Box 189, New London, Conn., Tel: GIbson 3-8451; Sls. Mgr: T. R. West; Pur. Agt: A. Franco
Sales Offices: ● CALIF., LOS ANGELES, Stone, Carl A. Assoc., 1102 S. Western Ave., RE 2-8103, LOS ANGELES, Stone, Carl A. Assoc., 8971 Natl. Blvd., TE 0-7771; ● CAN., AJAX, Stark Electronic Inst., Box 240; ● COLO., DENVER, Hyde Engrg. Assoc., 1341 Cherokee St., CH 4-7471; ● GA., ATLANTA, Scientific Sales Engr., 2162 Piedmont Rd., NE, TR 5-7291; ● ILL., CHICAGO, Lang, Robt. L. Assoc., 6733 W. Olmstead Ave., SP 4-3610; ● MD., BALTIMORE, Engineering Assoc., 2125 Maryland Ave., HO 7-1966; ● MICH., FERNDALE, Electro-Mech. Assoc., 109 E. Nine Mile Rd., JE 6-4040; ● N. M., ALBUQUERQUE, Hyde Engrg. Assoc., 220 Utah St., AX 9-0721; ● N. Y., NEW YORK, Telesco Intnl. Corp., 36 W. 40th St., PE 6-2165; ● WASH., SEATTLE, Dooley, J. K., Co., 3215 Western Ave., AT 4-8313

New Process Metals, Inc., 45-65 Manufacturers Place, Newark 5, N. J., Tel: MArket 4-1380; Sls. Mgr: B. M. Berzon

New Products Co., 3756 May St., Los Angeles, Calif.

New Rochelle Tool Corp., 320 Main St., New Rochelle, N. Y.

New York Air Brake Co., Vacuum Equip. Div., 1325 Adm. Wilson Bldg., Camden, N. J., Tel: WOodlawn 6-0782; Sls. Supv: V. J. Leonetti
Sales Offices: ● CALIF., LOS ANGELES, Kinney Mfg. Div., 5058 Venice Blvd., WE 8-7292; ● ILL., LA GRANGE, Kinney Mfg. Div., 17-19 So. LaGrange Rd., FL 2-1280; ● MASS., BOSTON, Kinney Mfg. Div., 3529 Washington St., JA 4-3220; ● N. Y., NEW YORK, Kinney Mfg. Div., 230 Park Ave., LE 2-1900; ● OHIO, WILLOWICK, Kinney Mfg. Div., 240 E. 305th St., WH 3-6802

New York Coil Co., Phoenixville Pa., Tel: WEllington 3-3114; Sls. Mgr: J. R. Zikmund; Pur. Agt: D. Darlington
Sales Offices: ● PA., ARDMORE, Rothenherber & Co., 53 Cricket Ave., MI 2-6911

New York Solder Co., 684 E. 133rd St., Bronx, N. Y., Tel: CYpress 2-3740; Sls. Mgr: B. Genteil

New York Testing Labs Inc., 47 West St., New York, N. Y., Tel: BOwling Green 9-6220; Sls. Mgr: G. J. Harvey
Sales Offices: ● CONN., NORWALK, Neuman, George, Blue Mountain Rd., VI 7-4618; ● N. Y., KEW GARDENS, Maholchi, Paul, 83-15 Lefferts Blvd., VI 9-6433

New York Transformer Co., Third Ave., Alpha, N. J., Tel: Phillipsburg, N. J. 5-1143; Sls. Mgr: T. B. Amstrong; Pur. Agt: C. Seefer
Sales Offices: ● N. Y., SYRACUSE, Zimmerman, W. H., 112 Dewitt St., GR 4-4889; ● PA., AMBLER, Quinlan, D. G., National Bank Bldg., MI 6-7250

Newark Controls Co., 15 Ward St., Bloomfield, N. J., Tel: PIlgrim 8-2971; Sls. Mgr: B. A. Hicks; Pur. Agt: D. Hess
Sales Offices: ● CALIF., LOS ANGELES, Meriam, Charles Co., 5017 Telegraph Rd.

Newark Spinning & Stamping Co., 472 Bloy St., Hillside, N. J.

Newark Wire Cloth Co., 351 Veron aAve., Newark, N. J., Sls. Mgr: J. L. Campbell
Sales Offices: ● CALIF., LOS ANGELES, Pacific Metals Co., 2187 S. Garfield Ave., RA 3-5431, SAN FRANCISCO, Pacific Metals Co., 1900 Third St ., UN 3-5600; ● SAN DIEGO, Pacific Metals Co., Ltd., 1533 India St.; ● ILL., CHICAGO, Folkening, Simmonds, 165 N. Canal St., CE 6-5242; ● LA., NEW ORLEANS, Huey, William S., 202 Bd. of Trade Annex; ● MICH., DETROIT, Gitre Co., 1209 W. 8th Mile Rd., DI 1-9270; ● MO., ST. LOUIS, Burke, Halpin D., & Co., 210 S. Bemiston Ave., VO 3-5562; ● N. Y., WARSAW, Metallic Operations, Box 172, WA 227; ● OHIO, CINCINNATI, Hare Equip., 1720 Section Rd., ME 1-4703; PA., LEVITTOWN, Green, Wallace E., 21 Circle Rd., WI 5-7724; ● TEXAS, HOUSTON, Brinton, Robert H., Box 1970, HA 2826; ● UTAH, SALT LAKE CITY, Pacific Metals Co., 261 W. Fifth St., DA 2-3461

Newberg Industrial Case Co., 61 Greenpoint Ave., Brooklyn, N. Y., Tel: EV 3-8282; Sls. Mgr: P. Newdow; Pur. Agt: M. Kayston
Sales Offices: ● N. Y., NEW YORK, Breuer, R. E., Co., Inc., 10 Columbus Circle, CO 5-0440

Newcastle Fabrics Corp., 80 Wythe Ave., Brooklyn, N. Y., Tel: STagg 2-5560; Sls. Mgr: G. Backer
Sales Offices: ● CALIF., LOS ANGELES, Davis, George Sales Co., 5630 E. Beverly Blvd., RA 3-3594, SAN FRANCISCO, Logan Sales Co., 154 Eighth St., HE 0692; ● CAN., MONTREAL, Cohen, William Ltd., 7000 Park Ave., CR 2-5719, TORONTO, Finkler, Len, 1794 Avenue Road, EM 8-5222, VANCOUVER, McLennan, D. Eldon, 1624 W. Third Ave.; ● COLO., BOULDER, Golliher, W. B., 1003 Grandview Ave.; ● CONN., WESTPORT, Nief, Paul W. Assoc., 15 Oak St.; ● GA., EAST POINT, Hayden Assoc., Box 331; ● ILL., CHICAGO, Caine Sales Co., 3020 No. Cicero Ave., SP 7-4022, HIGHLAND PARK, Rose, J. K. & Co., 1116 Linden Ave., AM 2-5584; ● IND., INDIANAPOLIS, Thomas & Sukup, Inc., 5226 No. Keystone Ave., CL 1-6915; ● KAN., OVERLAND PARK, Terwilliger Sales Co., 7133 W. 80th St., NI 2-2421; ● MASS., REVERE, Mandell, Herb Co., 148 Campbell Ave., AS 7-5675; ● MICH., DETROIT, Beitel, Wayne Co., 13209 Fenkell; ● MINN., MINNTAPOLIS, Ripley, Ray, 6937 Penn Ave., S., UN 6-8682; ● N. J., TEANECK, Laub Assoc., 841 Palisades Ave., PL 1-6336; ● N. Y., BROOKLYN, Verter, Sol, 2352 E. 66th St., HI 4-3880, NEW YORK, Breuer, R. E., Co., 10 Columbus Circle, CO 5-0440, YONKERS, Brown, Jack Assoc., 207 Rosedale Road, SP 9-7330; ● OHIO, CLEVELAND, Daugherty, F. A., & Co., 1120 Croyden Road, HI 2-3311; ● PA., PHILADELPHIA, Blumenstein, Hal, 14 Trent Road, MI 9-9523; ● TEXAS, DALLAS, Texport Co., The, 2147 Farrington, RI 7-6886

Newcomb Electronics Corp., 6824 Lexington Ave., Hollywood, Calif., Tel: HO 9-5381; Sls. Mgr: R. Newcomb; Pur. Agt: G. Balog
Sales Offices: ● CALIF., SAN FRANCISCO, Purdy, William J., Co., 312 7th St., UN 3-4321; ● COLO., DENVER, Cox Sales Co., Box 4201 S. Denver St., PE 3-6772; ● IND., INDIANAPOLIS, Thomas & Sukup, Inc., 5226 N. Keystone Ave., CL 1-6915; ● MASS., BROOKLINE, Brown, Kenneth L., 54 Atherton Rd., BE 2-3969; ● MD., SILVER SPRING, Taylor, Morris F., Co., Box 111, JU 9-4002; ● MICH., FERNDALE, Shalco, 23525 Woodward Ave., LI 7-4771; ● MO., CLAYTON, Maynard, Lee W., Co., 139 N. Central, PA 5-3723; ● N. Y., EAST MEADOW, Reizes, Harry N., 1473 Sylvia Lane, IV 3-1928, SYRACUSE, Paston-Hunter Co., 609 Demong Dr., GI 6-2180; ● ORE., PORTLAND, Burcham, Don H. Co., Box 4098, CA 7-7333; ● TEXAS, DALLAS, Wyborny & Yount Co., 2731 Taylor St., RI 8-2158

Newcomb Spring of Conn., Inc., Route #10, Southington, Conn., Tel: MArket 8-5581; Sls. Mgr: C. R. Porter; Pur. Agt: R. V. Nigro
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Newcomb Spring Corp., 177 E. Hawthorne Ave., Valley Stream, N. Y., Sls. Mgr: O. W. Syvertsen
Sales Offices: ● CONN., SOUTHINGTON, Newcomb Spring; ● GA., ATLANTA, Smith, G. W., Co., 394 Williams St., N. W.; ● N. Y., BINGHAMTON, Indusutrial Serv. Sup., Co., 79 Main St.; ● PA., PHILADELPHIA, Scott, E. T., 5005 N. 10th St., DA 9-7140

Newth Rubber Co., Barrington, R. I., Tel: CHerry 5-8050; Sls. Mgr: R. T. Shortle; Pur. Agt: C. F. Gladding

Newton Co., 55 Elm St., Manchester, Conn., Tel: MItchell 3-1543; Sls. Mgr: N. A. Nelson; Pur. Agt: E. Ehlers
Sales Offices: ● N. Y., MINEOLA, Barker Co., 288 Old Country, PI 6-0481

Newton Insert Co., 6500 Avalon Boulevard, Los Angeles, Calif, Tel: PL 2-4157; Sls. Mgr: M. F. Best; Pur. Agt: P. Wells
Sales Offices: ● ARIZ., SCOTTSDALE, Hower, Carl, 369 N. Craftsman Ct.; ● CALIF., SAN DIEGO, Cashin-Tipton, 3270 Rosecrans St., AC 2-0408; ● MO., ST. LOUIS, Strother, R. A., & Assoc., Box 3, PA 1-5997; ● OHIO, CINCINNATI, G & H Sales, Roselawn Center Bldg., JE 1-0553; ● TEXAS, DALLAS, Dahlin,

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Nicholas Prods. Co., 325 W. Main St., Moorestown, N. J., Tel: BElmont 5-0877; Sls. Mgr: E. B. Nichols; Pur. Agt: E. B. Nichols, Jr.
Nichols Wire & Aluminum Co., 1725 Rockingham Rd., Davenport, Ia.
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Nobel & Westbrook Mfg. Co., 20 Westbrook St., E. Hartford, Conn., Tel: BU 9-2717; Sls. Mgr: R. H. Gunther
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Nopco Chemicaal Co., Plastics Div., 175 Schuyler Ave., North Arlington, N. J., Tel: KEarney 3-3555; Sls. Mgr: B. Collins
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Norbute Corp., 405 Park Ave., New York, N. Y.
Norgren Stemac, 5400 So. Delaware, Littleton, Colo., Tel: PYramid 4-4271; Sls. Mgr. C. C. Haney; Pur. Agt: J. W. Evert
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Nuclear Development Lab., P. O. Box 7034, Kansas City, Mo., Tel: DE 3-7692; Sls. Mgr: M. J. Test; Pur. Agt: M. J. Test

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Omega Laboratories, Inc., Box 308, Rowley, Mass., Tel: WHitney 8-7757-58; Sls. Mgr: H. B. Ribbel

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ORBITRAN CO., INC. (Pgs. 548, 549), 11487 Woodside Ave., Lakeside, Calif., Tel: Hickory 3-5832; Pur. Agt: E. W. Fischer

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Pentron Corp., The, 777 S. Tripp Ave., Chicago, Ill., Tel: SAcramento 2-3201; Sls. Mgr: I. Rossman; Pur. Agt: N. Alex
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Perfection Electric Co., 2717 So. Michego, Chicago, Ill.

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Perkin-Elmer Corp., Instrument Div., Main Ave., Norwalk, Conn., Tel: Victor 7-2422; Sls. Mgr: P. C. Hutchinson; Pur. Agt: W. P. Ogroman
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Permaluster, Inc., 2012 W. Burbank, Burbank, Calif., Sls. Mgr: H. Walker

Permanent Label Corp., 49 Ackerman St., Bloomfield, N. J., Tel: EDison 8-6200; Sls. Mgr: C. A. Liloia

Permoflux Products Co., Div. Linlar. Inc., 4101 San Fernando Rd., Glendale, Calif., Tel: CHapman 5-5135; Sls. Mgr: L. M. Heineman; Pur. Agt: S. H. Ise

Permonite Mfg. Co., 444 Lake Shore Dr., Chicago, Ill., Tel: MIchigan 2-1915; Sls. Mgr: A. L. Kaye; Pur. Agt: S. J. Boss

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PESCHEL ELECTRONICS, INC. (Pg. 742), Towners, RFD 1, Patterson, N. Y., Tel: TR 8-3251; Sls. Mgr: S. S. Peschel

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Pesco Prod. Div., Western Br., Borg-Warner Corp., 3310 Vanowen, Burbank, Calif., Tel: THornwall 5-7411; Sls. Mgr: R. H. Collier; Pur. Agt: L. Harvey

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Pesco Products Div., Borg-Warner Corp., 24700 N. Miles Road, Bedford, Ohio, Tel: MOntrose 2-2100; Sls. Mgr: M. W. Nesbitt; Pur. Agt: H. L. Sanders

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Peter Partition Corp., 124 Boerum Pl., Brooklyn, N. Y., Tel: TRiangle 5-4033; Sls. Mgr: L. P. Raubenheimer; Pur. Agt: A. A. Viola

Peters-Dalton, Inc., 17872 Ryan Rd., Detroit, Mich.

Petersen Radio Co., Inc., 2800 W. Broadway, Council Bluffs, Ia.

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Peterson & Neville, Inc., 365 Dorchester Ave., Boston, Mass., Tel: AN 8-2548; Sls. Mgr: W. N. Weickert; Pur. Agt: D. Dufresne

Pettinos, Charles, Inc., 1 42 St., New York 17, N. Y., Tel: MUrray Hill 7-7337

Petz-Emery, Inc., Pleasant Valley, N. Y., Tel: MErcury 5-2171; Sls. Mgr: P. Crump; Pur. Agt: J. L. Petz

Pfanstiehl Chemical Corp., 104 Lake View Ave., Waukegan, Ill., Tel: MAjestic 3-1360; Sls. Mgr: B. Wight; Pur. Agt: W. O. Bell

Pfingst & Co., 62 Cooper Sq., New York, N. Y.

Pfleger Products, 3901 W. 54th St., Los Angeles, Calif

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Sales Offices: ● CALIF., LOS ANGELES, Strassner, Richard A., Co., 1557 N. Western Ave., HO 3-5694, REDWOOD CITY, Strassner, Richard A., Co., 3662 Farm Hill Blvd.; ● CAN., SCARBOROUGH, Lake Eng. Co., Ltd., 767 Warden Ave.; ● CONN., MERIDEN, Lavin, Henry, Assoc., Box 196, BE 7-5527; ● FLA., NORTH MIAMI, Mark Electronic Sales Co., N. E. 147th Terr., WI 7-5080; ● ILL., CHICAGO, Green, Loren F., & Assoc., 5218 W. Diversey Ave., PA 5-6824; ● MD., BALTIMORE, Randall, Ken, Co., 1303 Midvale Ave., RI 7-5260; ● MASS., NEEDHAM, Lavin, Henry, Assoc., 82 Curve St., NE 3-3446; ● MICH., DETROIT, Holton Sales Co., 21373 Stahelin, EL 6-9275; ● MINN., MINNEAPOLIS, Bonament Heyda, 6101 Auto Club Rd., TU 1-9166; ● MO., KANSAS CITY, Elliott, Arthur K., Co., 211 West Port Rd., LO 1-9594; ● N. Y., MOUNT VERNON, Sonkin, David, Assoc., 10 Fiske Pl., MO 8-9809, TONAWANDA, Components for Industry, 103 Greenhaven Terrace, JA 7900; ● OHIO, CLEVELAND, Components, Inc., 5451 Broadview Rd., FL 1-1202; ● PA., PHILADELPHIA, Randall, Ken, Co., 121 N. Broad St., LO 4-2151; ● TEXAS, DALLAS, Barnum Sales Inc., Box 10204, RI 1-4995; ● WASH., SEATTLE, Howell Sales Inc., 2029 McGilvra Blvd., EA 3209

Plastic-Craft Products Corp., 1 Station Plaza, W. Nyack, N. Y., Tel: NYack 7-2595; Sls. Mgr: F. Armano; Pur. Agt: S. Babcock
Sales Offices: ● N. Y., ROME, Bradt, D. C., Potters Rd.

PLASTIC MOLD & ENGRG. Co., INC., (Pg. 463) 157 Clifford St., Providence, R. I., Tel: GA 1-9260; Sls. Mgr: T. A. Scanlon
Sales Offices: ● **CALIF., CULVER CITY,** Stevens, T., Co., 5333 S. Sepulveda Blvd., EX 8-5768 ● **CAN., TORONTO,** Willets, M., 565 Davenport Rd., WA 4-7513; ● **ILL., CHICAGO,** Saba & Co., 6962 W. North Ave., ME 7-1000; ● **IND., FORT WAYNE,** Meilly, W. A., Co., 4017 S. Harrison Blvd., KE 2461; ● **N. J., MEDFORD,** Mechelec Sales Co., 81 Union St., OL 4-8209; ● **R. I., PAWTUCKET,** Scanlon, J., 50 Vivian Ave., PA 3-0994

Plastic Welding Corp., 780 Freylinghuysen Ave., Newark, New Jersey, Tel: TAlbot 4-1015; Sls. Mgr: S. Zelnick

Plastics Engineering Co., 1607 Geele Ave., Sheboygan, Wis., Tel: GLencourt 8-2121; Sls. Mgr: R. T. Brotz; Pur. Agt: W. F., Selsmeyer

PLASTOID CORP., (Pgs. 1200-1204) 42-61 24th St., L. I. City, N. Y., Tel: Stillwell 6-6200; Sls. Mgr: W. Grant; Pur. Agt: E. Brown
Sales Offices: ● **CALIF., CULVER CITY,** Stevens, Thomas L., Co., 5333 S. Sepulveda Blvd., EX 8-5768; ● **CAN., VANCOUVER,** Merritt, Ron., Co., 355 Burrard St., MU 1-3367; ● **CONN., MERIDEN,** Lavin, Henry Assoc., Box 196, BE 7-5227; ● **FLA., MIAMI,** Hemminger, W. F., 619 N. E. 78th St., PL 9-0300; ● **ILL., CHICAGO,** Whitmore, R. C., & Assoc., 605 N. Michigan Ave., MO 4-1904; ● **MO., FENTON,** Wellman, W. N., Co., Box 166, DA 6-0313, **HYATTSVILLE,** Peel, Robert, 6811 Riggs Manor Dr., HA 2-4372; ● **N. J., HAMBURG,** Plastoid Corp., VA 7-7141; ● **OHIO, LAKEWOOD,** Andrews, P. & Co., 16408 Madison Ave., AC 6-5610; ● **ORE., PORTLAND,** Merritt, Ron Co., 1238 N. W. Gilsan, CA 2-7337; ● **PA., CHESTER,** Moffet, Warren, 935 Pottstown Pike, OW 6-3325; ● **TENN., MEMPHIS,** Cartwright & Bean, 1336 Madison Ave., BR 5-1714; ● **TEXAS, DALLAS,** Wyborny & Yount, 2731 Taylor St., RI 8-2158; ● **WASH., SEATTLE,** Merritt, Ron Co., 1320 Prospect St., MU 2-7337; **SPOKANE,** Merrit, Ron Co., E. 127 Augusta, FA 5-2557

Plectron Corp., Overton, Nebr., Tel: 4241; Sls. Mgr: A. H. Collins; Pur. Agt: K. H. Wycoff
Sales Offices: ● ARK., LITTLE ROCK, Fire Appliance & Safety, 1114 W. Markham, 2-4981; ● CALIF., SACRAMENTO, Plectron Elctrn. Sys., Box 4113; ● COLO., DENVER, Western Fire Dept., Supp., 1011 Larimer St.; ● ILL., ALEXIS, Alexis Fire Equip., HU 2-3121, NORTHBROOK, Flamestop, Inc., 1900 Shermer Ave., CR 2-1800, PERORIA, Bass Radio Coms. Serv., 2516 N. Knoxville Ave., 2-3329; ● IND., INDIANAPOLIS, Midwest Equip., 1605 Prospect St., ME 2-9338; ● LA., EUNICE, Ledoux, Horace H., WEST LAKE, Meisner, G. M., 1207 Matilda; ● MICH., BENTON HARBOR, Platte, Joseph M., 1461 Ogden Ave., WA 6-2317; ● MINN., ROCHESTER, Fire & Safety Inc., 1906-08 S. Broadway, AT 9-5476; ● MO., CARROLLTON, Safety Prods. Co., KANSAS CITY, Edcor Safety Equip., 811 W. 17th, ST. LOUIS, Forsting, C. J., 5647 Rosa Ave., FL 3-6425; ● MONT., BILLINGS, Big Horn Supp., 2116 3rd Ave., N., 2-4154; ● NEB., GERING, Sowerwine, Dick, 800 R St.; LINCOLN, Hwy. Equip. & Supply, 21 St. & N. St.; ● N. J., CLIFTON, Shirdan, Corp., 685 Van Houten Ave., PR 9-3589; ● ORE, PORTLAND, Neep Equip., 326 N.W. Broadway, CA 3-2679; ● PA., READING, Electrn Coms., 710 Weiser St., FR 2-1000; ● TEXAS, CORPUS CHRIST, Pittman, Mel, Box 771, TU 2-3201; ● WISC., MILWAUKEE, Bendin, Arthur F. & Son, 2763 N. 60th St., CU 3-1451

Plymouth Rubber Co., Inc., Canton, Mass., Tel: CAnton 6-0220; Sls. Mgr: J. E. Fenn; Pur. Agt: S. Coleman
Sales Offices: ● ARIZ., PHOENIX, Benndorf, William Co., 221 E. Camelback Rd.; CALIF., LOS ANGELES, Eckert-Lloyd Co., 1950 Naomi Ave,, SAN FRANCISCO, Eckert-Lloyd Co., 1225 Sixth St.; ● COLO., DENVER, Clark, Ben T., 211 Wazee Market; ● CONN., NEW HAVEN, Paynter-MacPherson, 7 Whitney Ave.; ● GA., ATLANTA, Chapman, Cary & Co., 62 Whitehall St., S. W.; ● ILL., CHICAGO, Fresen, Shumway, Co., 7001 N. Clark St.; ● IND., INDIANAPOLIS, Marshall, Virgil E., 922 N. Audobon; ● MICH., HIGHLAND PARK, Hemphill & Co., 12638 Hamilton Ave., ● MINN., ST. PAUL, Neurauter, Al, 1210 Hartford Ave.; ● MO., KANSAS CITY, Terry, Wm. B. Org., 614 W. 26th St., ST. LOUIS, Arbeiter-Steele Co., 3721 Wash. Ave.; ● N. Y., MARCELLUS, Fox, John C., E. Senaca Tpk., NEW YORK, Thea & Schoen, 542 W. Broadway; ● OHIO, CLEVELAND, Morrow, Leslie, 3123 W. 117th St.; ● OKLA., TULSA, Nott, Bert, 2532 E. Admiral Blvd.; ● PA., GLENSIDE, Johnson, R. A., 124 S. Easton Rd., PITTSBURGH, Succop, Frank W., 230 Blvd. of Allies; ● TEXAS, DALLAS, Morgan, Jack, 1013 Slocum, HOUSTON, Morgan, Jack, 1803 Dallas Ave. ● WASH., SEATTLE, Proby, Wm. O., Assoc., 2915 N. W. Everett

Pneumafil Corp., 2516 Wilkinson Blvd., P. O. Box 8336, Charlotte, N. Carolina

Poinsettia Co., Inc., 112 Cedar Ave., Pitman, N. J., Tel: LU 9-7666; Pur. Agt: E. P. Carter

Polacoat, Inc., 9750 Conklin Rd., Blue Ash, Ohio; Tel: SYcamore 1-1300; Sls. Mgr: L. M. Heath

Polan Industries, Inc., P. O. Box 1720, Huntington, W. Va.

POLARAD ELECTRONICS CORP., (Pgs. 825, 829) 43-20 34th St., L. I. City, N. Y., Tel: EXeter 2-4500; Sls. Mgr: A. A. Goldberg; Pur. Agt: L. Lieberman
Sales Offices: ● **ALA., HUNTSVILLE,** Murphy & Cota, 250 5th Ave., E., JE 6-9121; ● **CALIF., LOS ANGELES,** Snitzer, T. Louis & Co., 5354 W. Pico Blvd., WE 8-2074, **LA JOLLA,** Snitzer, T. Louis & Co., 510 S. Mathilda Ave., GL 4-2191; ● **CAN., ARNPRIOR,** M. E. L. Sales Ltd., AR 400, **DON MILLS,** M. E. L. Sales Ltd., P. O. Box 50, HI 4-8172, **MONTREAL,** M. E. L. Sales Ltd., P. O. Box 1352 Sta. O, ST 9198; ● **COLO., DENVER,** McLoud & Raymond, 5403 E. Evans, SK 6-1589; ● **D. C., WASHINGTON,** Brimberg Assoc., 221 Investment Bldg., DE 2-8000; ● **FLA., ORLANDO,** Murphy & Cota, 1220 Edgewater Dr., GA 4-2167; ● **GA., ATLANTA,** Murphy & Cota, 2110 Peachtree Rd., TR 3020; ● **ILL., CHICAGO,** Green, Loren F. & Assoc., 5218 W. Diversey Ave., PA 5-6824; ● **IOWA, CEDAR RAPIDS,** Eng. Services Co., 3742 Kencrest Dr., N. E., EM 5-6183;

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Pollak, Joseph Corp., 85 Freeport St., Boston, Mass., Tel: AVenue 2-9550; Sls. Mgr: H. A. MacDonald; Pur. Agt: J. J. Burns
Sales Offices: ● GA., ATLANTA, Craft, Allan C., Box 11716, TR 2-5395; ● MD., TOWSON, Trainor, W. R., 115 Greenbrier Rd., VA 3-6184; ● MASS., BOSTON, Brookdale Engrg. & Serv., 6 Beacon St., CA 7-1515; ● N. J., HADDONFIELD, White, H. J., Co., Inc., 121 Covered Bridge Rd., HA 8-2304; ● N. Y., VALLEY STREAM, Bittan, D. R., Co., 104 S. Central Ave., LO 1-2444;● TEXAS, DALLAS, Dahlin, R. E., Box 2375, LA 1-2939; ● WISC., MILWAUKEE, Hokans, Carl, 5241 Fond Du Lac Ave., HI 2-5110

Polson, I. L., Co., Carmel, Ind.

Poly-Scientific Corp., P.O. Box 723, Blacksburg, Va., Tel: PR 2-8042, Sls. Mgr: A. S. Hackley; Pur. Agt: H. H. Albert
Sales Offices: ● ARIZ., Scottsdale, Foley, E. J., 3840 N. Jokake Dr.; ● CALIF, LOS ANGELES, Pacific Electro-Sales, 6053 Whittier Blvd., RA 3-3396; ● CONN., GULIFORD, Whitehead, R. H., Assoc., 57 Whitfield St., GL 3-3762; ● FLA., ST. PETERSBURG, Mil. Packaging of Fla., Box 10302, PI 5-7608; ● MASS., BOSTON, Cross, John H., 2 Brimmer St., CA 7-2590; ● MICH., GRAND RAPIDS, Roller, C. H., 5249 Stage, N. W., EM 1-9629; ● MINN., MINNEAPOLIS, Peterson, Fred, 2431 Hennepin Ave., FR 7-3025; ● N. Y., BINGHAMTON, Allen, Ned Inc., Box 575, CH 4261, BRONX, Sheeran, John, 3220 Netherlands Ave., KI 6-2965, ROCHESTER, Kennedy, Robert P., 182 Mayflower Dr., SYOSSET, Par Dist., Box 352, WA 1-5290; ● N. C., CHARLOTTE, Brown, Chester E., Box 6062, EM 6-3337, GREENSBORO, Brown, K. O. & Co., Box 1791, BR 3-5973; ● PA., BROOMALL, Cashman & Norton, Box 124 EL 7-7703

Polyken Sales Div. of Kendall Co., 309 W. Jackson Blvd., Chicago, Ill., Tel: WEbster 9-7100; Merch. Mgr: D. H. Crawford: Pur. Agt: J. F. Karl

Polymer Corp., The, 2120 Fairmount Ave., Reading, Pa., Tel: FRanklin 6-7241; Sls. Mgr: R. E. Barthold; Pur. Agt: P. T. Border
Sales Offices: ● CALIF., LOS ANGELES, Brookes, E. Jordan Co., 6601 Telegraph Rd., RA 3-8431, SAN DIEGO, Brookes, E. Jordan, Co., 3564 30th St., CY 5-2161, SAN FRANCISCO, Brookes, E. Jordan, Co., 571 Howard St., YU 6-2974; ● CAN., CALGARY, Lovsted, C. M. & Co., 3035 Morley Trail, EDMONTON, Lovsted, C. M. & Co., 10330/4 108th St., MONTREAL, Peckovers, Ltd., 2052 St. Catherine W., WE 6-717, TORONTO, Peckovers, Ltd., 115 McCormack St., RO 2-8272, VANCOUVER, Lovsted, C. M., & Co., Box 459, BA 6-541; ● COLO., DENVER, Plasticrafts, Inc., 2800 N. Speer Blvd., GE 3-3368; ● CONN., BRANFORD, Vancleef & Co., Inc., Box 247, HU 8-1656; ● ILL., CHICAGO, Polymer Corp., The, 3760 W. Devon Ave., CO 7-8050; ● MASS., NEWTON, Black & Webster Sales, 445 Watertown St., BI 4-6370; ● MICH., DETROIT, Conrad, W. B., Co., 13438 Fenkell Ave., BR 3-4050; ● MINN., MINNEAPOLIS, Eiler Equipment, Co., 1107-09 S. Second St., FE 2-8881; ● MO., ST. LOUIS, Ring, F. H., Co., 2030 Delmar Blvd., MA 1-8777; ● N. J., WESTMONT, Bancroft, H. S., & Co., 209 Cooper St., CO 5-5215; ● N. Y., NEW YORK, Polymer Corp., The, 168 Ninth Ave., WA 9-7901, ROCHESTER, Beach Plastics, Inc., 739 Powers Bldg., BA 5-8701; ● N. C., GREENSBORO, Brown, K. O., & Co., Box 1791, BR 3-5973; ● OHIO, CINCINNATI, Polymer Corp., The, 2552 Madison Rd., CH 1-7010, KENT, Polymer Corp., The, 230 E. Main St., WY 1-7474; ● PA., MONROEVILLE, Polymer Corp., The, 258 Youngs Dr., VA 3-5341; ● WASH., SEATTLE, Allied Agencies, 4321 Linden Ave., ME 2-4814

Polymer Industries Inc., Springdale, Conn.
Sales Offices: ● S. C., GREENVILLE, Polymer Southern, Inc., Box 2184

Polymica & Insulation Co., 683 Main St., Willimantic, Conn., Tel: HA 3-0584; Sls. Mgr: M. Kronenberg

Polyphase Instrument Co., E. 4th St., Bridgeport, Pa., Tel: BRroadway 9-4660, Sls. Mgr: D. J. Seifert Pur. Agt: D. C. Morris
Sales Offices: ● CALIF., LA JOLLA, Snitzer, T. L., Co., 7814 Ivanhoe Ave., LOS ANGELES, Snitzer, T. L., Co., 5354 W. Pico Blvd., WE 8-2074, SUNNYVALE, Snitzer, T. L., Co., 510 S. Mathilda Ave., RE 6-6733; ● CONN., SOUTH NORWALK, Wells, N. W., 15 Chatham Dr., TE 8-3111; ● ILL., CHICAGO, Pic Sales 2054 N. Cicero Ave., ME 7-7466; ● MD., BALTIMORE, Stemier, W. C., & Assoc., 511 N. Charles St., PL 2-3211, SILVER SPRING, EFI Agency, 880 Bonifant St., JU 5-3111; ● N. J., HADDONFIELD, Hitchens, R. R., 323 Homestead Ave., HA 9-2491; ● N. Y., FLUSHING, Weiland, G. H., 76-49 168th St., OL 8-4061, ROCHESTER, Young Assoc., 520 East Ave., HI 4468; ● UTAH, SALT LAKE CITY, Intermountain Time, 1067 E. 2nd S. St., EM 3-9570

Polytechnic Res. & Dev. Co., Inc., 202 Tillary St., Brooklyn, N. Y., Tel: UL 2-6800; Sls. Mgr: H. C. Nelson; Pur. Agt: W. A. Cuskie
Sales Offices: ● CALIF, LOS ANGELES,, Polytechnic Res. & Dev., 2639 S. Lacienega Blvd., MENLO PARK, Ault Assoc., 906 Willow Rd., DA 6-1760 ● COLO., DENVER, Barnhill Assoc., 1170 S. Sheridan, WE 5-4646; ● ILL., CHICAGO, Meyers, K. W., Co., 6713 N. Oliphant, SP 4-6440; ● MD., BALTIMORE, Engineering Assoc., 2125 Maryland Ave., HO 7-1966; ● MASS., READING, Technical Instr., Inc., 90 Main St., RE 2-3930; ● N. Y., HICKSVILLE, CDB Enterprises, 501 B'way, WE 8-8644; ● WASH., SEATTLE, Dooley, J. K., Co., 3251 Western Ave., AT 4-8313

Polytron Engrg. Inc., P. O. Box 5024 Emala Ave., Middle River, Md., Tel: SAratoga 7-6116; Sls. Mgr: S. W. Goodman
Sales Offices: ● MD., BALTIMORE, Polytron Engg. Inc., 32 W. Biddle St., SA 7-6116

Polytronic Research, Inc., 7326 Westmore Rd., Rockville, Md., Tel: HA 7-7400; Sls. Mgr: T. L. Thomas; Pur. Agt: N. B. Phelps

POMONA ELECTRONICS CO., INC., (Pgs. 574-577) 1126 W. 5th Ave., P. O. Box 729, Pomona, Calif., Tel: NAtional 9-9549; Sls. Mgr: C. W. Musarra
Sales Offices: ● **ARIZ., PHOENIX,** Moore, H. A., Sales Co., Box 7245 CR 4-0060; ● **CALIF., PASADENA,** Nurches, Paul Co., 3250 Rida St., SY 6-5844, **SAN FRANCISCO,** Belchamber & French Co., 1485 Bayshore Blvd., JU 6-0406, **SAN GABRIEL,** Rissi, Al J. Sales Co., 8417 E. Las Tunas Dr., AT 6-1476; ● **COLO., BOULDER,** Golliher, Wm. B., Co., 1003 Grandview Ave., HI 2-7899; ● **CONN., WEST HAVEN,** Reiss, R. S., Assoc., 70 Jessie Dr., WE 4-5261; ● **GA., ATLANTA,** Joyner, J. E., & Assoc., Box 10821, Sta., A, PL 5-4336; ● **ILL., AURORA,** Smith, Dwight & Assoc., 391 Lakelawn Ave., 7-5752, **CHICAGO,** Linz, Wm. M., Assoc., 6322 N. Cicero Ave., MU 5-2022; ● **MICH., DETROIT,** Shaffer, Grant Co., 14241 Fenkell Ave., BR 3-5390; ● **MINN., MINNEAPOLIS,** Northern States Sls. Co., 1400 Park Ave., FE 6-4808; ● **KANSAS CITY,** Clemensen-Larrabee Co., 436 E. 79th St., JA 3-3005; ● **N. Y., NEW YORK** Weber, Jack Assoc., 63 E. 9th St., 5753 GR 3-7813; ● **OHIO, CLEVELAND,** Edwards-Lohse & Co., 2123 E. 9th St., TO 1-5753; ● **PA., PHILADELPHIA,** Ling, D. S., Assoc., 238 Shelmire St., ES 9-0734, **PITTSBURGH,** Yarussi, F. P. Co., 312 Spring Valley Rd., CA 1-4676; ● **TEXAS, DALLAS,** Electronic Sales Co., 531 Kirkwood Dr., DA 1-1745; ● **WASH., SEATTLE,** Haight, Fred H., Co., 3212 Eastlake Ave., EA 2-1818

Poole Instruments Inc., 150 Express St., Dallas, Texas, Tel: RIverside 7-2353; Sls. Mgr: F. M. Poole; Pur. Agt: F. M. Poole, Jr.

Popper & Sons, Inc., 300 Fourth Ave., New York, N. Y., Tel: OR 4-5500; Sls. Mgr: R. G. Illner
Sales Offices: ● CALIF., LOS ANGELES, Leser, J. W., Co., 4408 Jefferson Blvd., ● MASS., BOSTON, Federal Stamp, 19 High St.; ● TEXAS, DALLAS, Anderson, R. P., Co., 2503 W. Mockingbird La.

Porcelain Products, Inc., 225 N. Patterson St., Carey, Ohio, Tel: 6-2211; Sls. Mgr: R. T. Shontz; Pur. Agt: J. A. Windau
Sales Offices: ● CALIF., LOS ANGELES, Allied Industries, 412 Seaton St., MU 2244, SAN FRANCISCO, Gray, Geo. A., Co., 2720 17th St., HE 1-1526; ● COLO., DENVER, Olmstead, H. M., Co., Box 5512 Terminal Ann., TA 5-6264; ● GA., ATLANTA, Koeln, George R., Co., 144 Walker St., S. W., MU 8-7077; ● ILL., CHICAGO, Johnson, R. H., 100 W. Monroe, FR 2-9854; ● IOWA, DES MOINES, Midwest Equip., Co., 842 Fifth Ave., CH 3-1203; ● KY., LOUISVILLE, Chick, L. P., & Co., 900 W. Dumesnil, ME 5-7911; ● MD., BALTIMORE, Butts, Frank Assoc., 2301 N. Charles St., CH 3-8290; ● MASS., BOSTON, Electrical Agencies, 49-51 D St., AN 8-9300; ● MICH., DETROIT, Miner, J. J., Co., 535 Larned St., WO 3-1405; ● MINN., MINNEAPOLIS, McCulloch Sales Co., 714 Portland Ave., FE 2-3644; ● MO., KANSAS CITY, Bettis, F. A., Co., 4610 Troost Ave., Je 1-1530, ST. LOUIS, Painter, Dale J., Box 3434; ● NEB., OMAHA, Midwest Equip., Co., 1614 Isard St., AT 7600; ● N. Y., NEW YORK, O'Brien Sales Co., 810 Second Ave., MU 4-5425; ● PA., EMMANUS, Jones, L. H., Co., Box 92, SW 7-4663, PITTSBURGH, Crescent Sales Co., 4830 McKnight Rd., FO 4-3700; ● TEXAS, DALLAS, Anderson, George E., Co., 1901 Griffin St., RI 1-5931, EL PASO, Assoc., Engineers, 511 Hawkins Way PR 2-3233; ● UTAH, SALT LAKE CITY, Slusser, Leonard M., 318 Dooly Bl., EL 5-2322; ● VA., RICHMOND, Simpson, Paul M. & Son, 717 Byrd Park Ct., EL 3-0287; ● W. V., PARKERSBURG, Porcelain Prod., Inc., HU 5-5494; ● WASH., SEATTLE, Smith & Thomas Co., 568 1st Ave., S., MU 2-6934

Poroloy Equipment, Inc., 14943 California St., Van Nuys, Calif.

Port-O-Vox Corp., 521 W. 43 St., New York, N. Y., Tel: LO 3-4073; Sls. Mgr: W. C. Merrill; Pur. Agt. A. Reiburn
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Production Tool & Fixture Co., 37 Main St., Oyster Bay, N. Y.

Products Research, 3126 Los Feliz, Los Angeles, Calif., Tel: NO 5-5951
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Professional Electronics Co., P.O. Box 1181, La Jolla, Calif.

Progress Electronics Co., 296 Broadway, New York, N. Y.

Progressive Mfg. Co., 50 Norwood St., Torrington, Conn.

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Propulsion Research Corp., 1806 Franklin St., Santa Monica, Calif.

Protective Coatings Co., 64 Ackerman Ave., Clifton, N. J.

Proto Tool Co., 2209 Santa Fe Ave., Los Angeles, Calif., Tel: LUdlow 9-3311; Sls. Mgr: R. E. Reich; Pur. Agt: J. Dysert

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Railway Communications, 9351 E. 59th St., Raytown, Mo., Tel: FLeming 3-2100; Sls. Mgr: E. E. Tuel
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Ram Electronics Co., 600 Industrial Ave., Paramus, N. J., Tel: COlfax 1-6900; Sls. Mgr: R. W. Mayersohn; Pur. Agt: R. Rubin
Sales Offices: ● ALA., BIRMINGHAM, Threlkeld-Duckett, Box 733; ● CALIF., SAN CARLOS, Ross, David R. Co., 534 El Camino Real, LY 1-4411, SO. PASADENA, Osborne, R. E., 1757 Garfield Ave., RY 1-3175; ● COLO., DENVER, Cluphf, Stan, 75 S. Cody Court, BE 3-6025; ● FLA., JACKSONVILLE, Smith-Duckett, 816 S. Shores Rd., EX 8-1001; ● GA., ATLANTA, Giddings-Duckett, 26 E. Andrews Dr., CE 3-5308; ● ILL., RIVERSIDE, McBride, J. J. Sls. Co., 328 Burlington St., RI 7-8131; ● IND., ANGOLA, Clancy, Joe Co., Box 269, AN 793, INDIANAPOLIS, Clancy, Bernie, 5750 No. Ewing, GL 1-7669; ● MASS., SOMERVILLE, Near, Inc., 99 Highland Ave., PR 6-2262; ● MICH., DETROIT, Kurtz, Paul Co., 17181 Appoline; ● MINN., MINNEAPOLIS, Gibb, Clark R., 2400 Hennepin Ave., FE 8-2550; ● MO., ST. LOUIS, Winkeler, H. F., 3938 Lindell Blvd., OL 2-6455; ● N. Y., BUFFALO, Jacobson, Leo, 1366 Kenmore Ave., DE 0442, HOLLIS, Friedman, A. Assoc., 188-16 Jamaica Ave., SP 6-4800; ● N. C., CHARLOTTE, Fanning-Duckett, Box 11402; ● OHIO, AKRON, Carney, Tom, Box 8007, UN 4-0848, DAYTON, Harding, Wm. C., 1940 W. Shantz St.; ● PA., LEWISBERRY, Eberle-Schaar Co., R. D. #1, PO 6-3995, PITTSBURGH, Mates, Hy, 5510 Hobart, HA 1-8998; ● TENN., NASHVILLE, Turner, Charles L., 4709 Illinois Ave.; ● TEXAS, DALLAS, Hayes, W. R. Co., 3416 Rosedale, EM 3-2021, HOUSTON, Ryser, Don, 2022 Chippendale, RICHARDSON, Gibbs, Stan, 612 Lockwood Dr.; ● WASH., SEATTLE, Porter, Burt Co., 1209 Poplar Pl., EA 3-8330

Ram Mfg. Co., 7270 Beverly Blvd., Los Angeles, Calif.

Ram Meter, Inc., 1100 Hilton Rd., Ferndale, Mich., Tel: LI 7-1000; Sls. Mgr: G. C. Hale; Pur. Agt: R. Whalen

Ramo-Wooldridge Corp., The, 5500 W. El Segundo Blvd., Hawthorne, Calif.

Ramo Woolridge Div., Thompson Ramo Woolridge, Box 90215, Los Angeles, Calif.,

Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland, Ohio, Tel: MU 1-2300; Sls. Mgr: J. F. Rampe; Pur. Agt: W. C. Rampe

Ramsey Corp., Sub. Thompson Ramo-Woolridge, 3693 Forest Pk., St. Louis, Mo., Tel: CApital 7-5371; Sls. Mgr: K. T. Walden; Pur. Agt: R. Righter

RAMYR MFG. Co ., (Pg. 964), 1781 N. Main St., Los Angeles, Calif., Tel: AN 2-8863; Sls. Mgr: B. G. Rhodes; Pur. Agt: C. A. Auerbach
Sales Offices: ● **FLA., COCOA BEACH,** Specialized Equip. Corp., Box 323; ● **GA., ATLANTA,** Specializied Equip. Corp., 254 E. Paces Ferry Rd.; ● **KY., LOUISVILLE,** Bilray, 3615 Brownsboro Rd., ● **MASS., MELROSE,** MacDowell, R. F. Co., 58 Orient Ave.; ● **TEXAS, DALLAS,** Hamilton, R. F. & Assoc., 4515 Prentice St., ● **WISC., MILWAUKEE,** Donald Sales & Mfg., 6601-5 W. State St.

Randall, Douglas Inc., 6 Pawcatuck Ave., Westerly, R. I., Tel: LYric 6-3108; Sls. Mgr: R. Parnigoni; Pur. Agt: R. G. Stokes
Sales Offices: ● N. J., IRVINGTON, Alber, Edwin F., 64 Union Ave.

Rangerton, Inc., 73 Winthrop St., Newark, N. J.

RANSOM RESEARCH, (Pg. 553), Box 269 — 323 W. 7th St., San Pedro, Calif., Tel. TErminal 2-6848; Sls. Mgr: D. H. Rauson, Jr.; Pur. Agt: N. Grannis
Sales Offices: ● **CALIF., LOS ANGELES,** West Eleven, Inc., 6022 Wilshire Blvd., WE 8-3588, **PALO ALTO,** Collins Elctrns. Sales, 535 Middlefield Rd., DA 6-0647; ● **N. Y., NEW YORK,** Bradley Assoc., 215 W. 88th St., SU 7-7227; ● **TEXAS, DALLAS,** Kantenberger Co., 711 Reverchon Dr., WH 8-9535

Rantec Corp., 23999 Ventura Blvd., Calabasas, Calif., Tel: Diamond 7-5446; Sls. Mgr: J. D. Wills; Pur. Agt: M. Shipman
Sales Offices: ● CALIF, N. HOLLYWOOD, O'Halloran & Assoc., 11636 Ventura Blvd., ST 7-2621

Rapid Die & Molding Co., 3901 Wesley Ter., Schiller Park, Ill.,

Rapid Electric Co., 2881 Middletown Rd., Bronx, N. Y., Tel: TA 8-2200; Sls. Mgr: R. Tedeschi; Pur. Agt: P. Pucciarelli
Sales Offices: ● MICH., DETROIT, Rapid Electric, 12838 Fenkell Ave., DI 1-8537

Rapid Electroplating Process, 1414 S. Wabash Ave., Chicago, Ill., Tel: WAbash 2-0952; Sls. Mgr: C. Andrews; Pur. Agt: R. Woods
Sales Offices: ● CALIF., LOS ANGELES, Butcher, L. H. Co., 3628 E. Olympic Blvd., AN 2-4101, SAN FRANCISCO, Butcher, L. H. Co., 15th & Vermont Sts., MA 1-4210; ● MO., ST. LOUIS, Davies Supp. & Mfg., 4160 Meramec St., MO 4-9332; ● WASH., SEATTLE, Butcher, L. H. Co., 1703 Sixth Ave. S., EL 1856

Rapid Specialties Co., 327 W. Huron, Chicago, Ill., Tel: DElaware 7-1440; Sls. Mgr: E. M. Tate; Pur. Agt: M. Tate

Rascher & Betzeld, Inc., 730 N. Franklin St., Chicago, Ill.

Ratelco, Inc., 820 Minor Ave., N., Seattle 9, Wash., Tel: MAin 4-7770; Sls. Mgr: P. Duryee; Pur. Agt: B. Lince

Ratigan Electronics, Inc., P.O. Box 591, Glendale, Calif.

Rattan Mfg. Co., 10 Wall St., New Haven, Conn., Sls. Mgr: G. H. Miller
Sales Offices: ● N. J., JERSEY CITY, Hatheway & Co., 75 Montgomery St., CO 7-0410

Ratray G. & Co., Div. Hardwick-Hindle, 116-08 Myrtle Ave., Richmond Hill, N. Y., Tel: VIrginia 6-8250; Sls. Mgr: I. Hansen; Pur. Agt: R. Mandel
Sales Offices: ● CALIF., LOS ANGELES, Holmes, C. E., Co., 107 N. Ave., 64, CL 6-2255, MENLO PK., Holmes, C. E., Co., 1436 El Camino Real, DA 6-3762; ● CAN., TORONTO, Herring, J. & Co., 3468 Dundas St., W., MU 9824; ● COLO., DENVER, Franklin Sales Co., 1219 California St., AM 6-1152; ● ILL., OAK PARK, Hill & Gray 41½ Harrison St., ES 8-0373; ● IND., FT. WAYNE, Scott

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& Steffen, 200 Standard Bldg., EA 1586, INDIANAPOLIS, Scott & Steffen, 915 Pennsylvania Ave., ME 5-8951; ● MD., SILVER SPRING, Ansell Engrg. Co., 11212 Grandview Ave., LO 5-0960; ● MICH., HIGHLAND PK., Morrow, J., 85 Louise Ave., TO 8-0649; ● MINN., ST. PAUL, Hoffman, E. Co., 216 Liberty Bank Bldg., MI 5-4662; ● N. J., CAMDEN, Barrett, J. N. Assoc., 704 Federal St., EM 5-2680; ● N. Y., ROCHESTER, Kennedy, R. P. & Co., 182 Mayflower Dr., BR 1-6322, SYRACUSE, Launt, D. S. & Co., 200 Sunney Crest Rd., HO 3-0006; ● OHIO, CLEVELAND, Scott & Steffen, 1836 Euclid Ave., TO 1-2626, COLUMBUS, Scott & Steffen, 81 E. State St., CA 8-2313, DAYTON, Scott & Steffen, 120 W. Second St., BA 3-2652; ● PA., PITTSBURGH, Scott & Steffen, 507 Liberty Ave., GR 1-5233; ● WASH., SEATTLE, Johnston, R., Co., 11009 Evanston Ave., EM 0956

Rauland-Borg Corp., 3535 W. Addison St., Chicago, Ill., Tel: CO 7-1300; Sls. Mgr: E. W. Arehart; Pur. Agt: W. Swanson
Sales Offices: ● ARIZ., PHOENIX, Shefler-Kahn Co., 240 S. First Ave.; ● CALIF., LOS ANGELES, Stone, R. L. Sales Co., 8971 National Blvd., TE 0-5973, PALO ALTO, Nickerson-Gray & Assoc., 2434 Park Blvd.; ● GA., ATLANTA, Smith, M. C., 208 14th St., N. W.; ● ILL., RIVERSIDE, McBride, J. J. Sales Co., 328 E. Burlington St., RI 7-8131; ● IND., ANGOLA, Southern Sales Co., Box 105, AN 777, FT. WAYNE, Paul Sales Co., 2609 Broadway, HA 0589; ● LA., NEW ORLEANS, Redmann, S. M., 2322 Valmont St.; ● MASS., WELLESLEY HILLS, Pray, W. B. Sales Co., 44 Washington St., WE 5-3199; ● MICH., DETROIT, A B M Sales Co., 10116 Puritan Ave.; ● MINN., MINNEAPOLIS, Warner, A. J. Co., 5022 29th Ave. S., PA 9-7371; ● MO., KANSAS CITY, Schmitz, J. O., Jr., 34th & Broadway, LO 1-9824; ● N. J., MERCHANTVILLE, Trinkle Sales, 7675 Maple Ave.; ● N. Y., HICKSVILLE, Baume Electronic Sls. Co., 20 Jerusalem Rd., OV 1-2490, ROCHESTER, Wolf-Marsey Sales Co., 74 Park Ave.; ● TEXAS, DALLAS, Branum Co., 1518 Slocum St., RI 4995; ● WASH., SEATTLE, Jensen, V. O. Co., 2616 2nd Ave.

Raven Screen Corp., 124 E. 124 St., New York, N. Y., Tel: LEhigh 4-8408; Sls. Mgr: E. D. Reif

Raway Bearing Co., 8 Forsyth St., New York, N. Y., Tel: WAlker 5-8150; Sls. Mgr: A. Baskin; Pur. Agt: R. Yarmush

Rawson Electrical Inst. Co., 126 Potter St., Cambridge, Mass., Tel: KIrkland 7-4041; Sls. Mgr: M. J. Lush

Ray-O-Vac Co., 212 E. Washington Ave., Madison, Wisc., Tel: ALpine 5-7201; Sls. Mgr: O. R. Slauson; Pur. Agt: G. P. Wiedenbeck
Sales Offices: ● CALIF., SAN FRANCISCO, 111 Sutter St., ● N. Y., NEW YORK, 1775 Broadway, JU 2-0460;; ● TENN., MEMPHIS, 1388 Madison Ave., BR 8-5147; ● WISC., MADISON, 317 W. Johnson St., AL 5-7201

Ray Proof Corp., P.O. Box 1454, Stamford, Conn., Tel: DAvis 5-2201; Sls. Mgr: S. A. Barnett; Pur. Agt: G. R. Brownridge

Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J., Tel: GRegory 3-2000; Sls. Mgr: H. H. Burrows; Pur. Agt: A. J. Van Benschoten
Sales Offices: ● ALA., BIRMINGHAM, 1108 N. Fifth Ave., AL 1-5272; ● CALIF., LOS ANGELES, 4651 Pacific Blvd., LU 8-4254, S. SAN FRANCISCO, 168 Beacon St.; ● COLO., DENVER, 4500 York St., AC 2-8264; ● ILL., CHICAGO, 6010 Northwest Hwy., RO 3-2400; ● LA., NEW ORLEANS, 1523 St. Ferdinand St., WH 7-5509; ● MINN., MINNEAPOLIS, 6113 Excelsior Blvd., WE 9-7007; ● PA., PHILADELPHIA, 1138 Suburbn. Sta. Bldg., RI 6-8310, PITTSBURGH, 810 Empire Bldg., AT 1-3544; ● TEXAS, DALLAS, 2809 Taylor St., RI 1-5446, HOUSTON, 3012 Canal St., CA 2-9951

Rayline, Inc., 161 First St., Mineola, N. Y., Tel: PI 2-5353; Sls. Mgr: E. B. Eulner
Sales Offices: ● COLO., BOULDER, Golliher, W. P., 1003 Grandview Ave., HI 2-7899; ● ILL HIGHLAND PK., Rose, J. K. & Co., 1116 Linden Ave., ID 3-1116;; ● MINN., MINNEAPOLIS, Bussell, A. L. Co., 4950 Knox Ave., S., WA 2-9182; ● MO., JEFFERSON CITY, Carmine-Vignola Assoc., Box 569, JE 5-1023; ● N. Y., NEW YORK, Surpless, Dunn & Applyard, 57 Leonard St., BA 7-4770; ● TEXAS, DALLAS, Delzell-Maynard Sls., 2013 Cedar Springs, HOUSTON, Delzell-Maynard Sls., 8165 Milredge St., MI 4-5724

Raymond Engrg. Lab., Inc., Smith St., Middletown, Conn.

Raymond Mfg. Co. Div., Associated Spring Corp., Corry, Pa.

Raypar, Inc., 7800 W. Addison St., Chicago, Ill., Tel: TUxedo 9-3700; Sls. Mgr: M. P. Fieldman; Pur. Agt: A. Clemento
Sales Offices: ● CALIF., LOS ANGELES, Ungar-Mueller Sales Co., 3225 Exposition Pl., AX 5-3239; ● CAN., WINNIPEG, Jeanes, E., 266 Aubrey St., SU 3-5442; ● CONN., W. HARTFORD, Marer, F. S., 106 Woodlawn St., AD 2-0119; ● DELA., NEWARK, Carmine, F. S., Co., 14 Knickerbocker Dr., NE 8-7603; ● GA., EAST POINT, Hayden, P., Assoc., Box 331, PO 7-9646; ● ILL., CHICAGO, Champion, E. T., Assoc., 6459 N. Sheridan Rd., AM 2-3565, CHICAGO, Golten, J., 2750 W. North Ave., EV 4-5959, RIVER FOREST, Roussey, R., Assoc., 426 Edgewood Pl., FO 9-6523; ● IND., INDIANAPOLIS, Fishman Assoc., 4440 N. Campbell, LI 6-5477; ● MICH., DETROIT, Milsk, R., Co., 19371 James Couzen Hwy., BR 3-3652; ● MISS., GREENWOOD, Massey, L. R., Co., 304 E. Jefferson; ● MO., KANSAS CITY, Kelly, W. G., Co., 5934 Prospect, HI 4-2013; ● N. Y., HEMPSTEAD, Kubrick & Yurman, 475 S. Franklin St., IV 3-7230, ROSLYN, Lichter, W., Co., 26 Teakwood Lane, RO 3-2636; ● OHIO, STOW, Blocki, W., Assoc., 2280 Liberty Rd., OV 8-4277; ● TEXAS, DENTON, Cole, L. C., Box 504, DU 2-6017

RAYTHEON MFG. CO., COMMUNICATIONS PRODUCTS DEPT., 100 River St., Waltham, Mass., Tel: TWinbrook 3-5860; Sls. Mgr: J. J. Sedik

RAYTHEON, INDL. APP. DIV. (Pg. 950), Magnetic Comp. Prod. Dept., Dept. 6120MP, Waltham, Mass., Tel: TWinbrook 3-5860; Sls. Mgr: E. H. Clark
Sales Offices: ● **CALIF., LOS ANGELES,** 5236 Santa Monica, NO 5-4221; ● **ILL., FRANKLIN PK.,** 9501 Grand Ave., NA 5-4000; ● **MD, GLEN BURNIE,** 100 Roesler Rd., SO 1-1237; ● **MO., KANSAS CITY,** 406 W. 34th St., PL 3-5330; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900; ● **OHIO, CLEVELAND,** 2076 W. 117th St., WI 1-7005

RAYTHEON, INDL. APP. DIV., (Pg. 597), Production Apparatus Prod. Dept., 6120MC, Waltham, Mass., Tel: TWinbrook 3-5860; Sls. Mgr: B .B. Stuart
Sales Offices: ● **CALIF., LOS ANGELES,** 5236 Santa Monica, NO 5-4221; ● **ILL., FRANKLIN PK.,** 9501 Grand Ave., NA 5-4000; ● **MD., GLEN BURNIE,** 100 Roesler Rd., SO 1-1237; ● **MO., KANSAS CITY,** 406 W. 34th St., PL 3-5330; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900; ● **OHIO, CLEVELAND,** 2076 W. 117th St., WI 1-7005

RAYTHEON MANUFACTURING CO., INDUSTRIAL TUBE DIV., 55 Chapel St., Newton Mass., Tel: Bigelow 4-7500; Sls. Mgr: J. Dorfman
Sales Offices: ● **CALIF., LOS ANGELES,** 5236 Santa Monica, NO 5-4221; ● **ILL., FRANKLIN PK.,** 9501 Grand Ave., NA 5-4000; ● **MD., GLEN BURNIE,** 100 Roesler Rd., SO 1-1237; ● **MO., KANSAS CITY,** 406 W. 34th St., PL 3-5330; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900; ● **OHIO, CLEVELAND,** 2076 W. 117th St., WI 1-7005

RAYTHEON MFG. CO., MARINE PRODUCTS DEPT., 100 River St., Waltham, Mass., Tel: TWinbrook 3-5860; Sls. Mgr: H. L. Herndon

RAYTHEON MICROWAVE & POWER TUBE DIV., (Pg. 1163), Ceramic Sales Dept., Waltham 54, Mass., Tel: TWinbrook 3-5860; Sls. Mgr: H. A. McGettigan
Sales Offices: ● **CALIF., LOS ANGELES,** 5236 Santa Monica Blvd., NO 5-4221; ● **ILL., FRANKLIN PK.,** 9501 W. Grand Ave., NA 5-4000; ● **MD., GLEN BURNIE,** 100 Roesler Rd., SO 1-1237; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900

RAYTHEON MFG., CO., MICROWAVE HEATING PRODUCTS DEPT., Waltham, Mass., Tel: TWinbrook 3-5860; Sls. Mgr: R. Leader
Sales Offices: ● **CALIF., WILMINGTON,** 114 West B St., TE 4-8575; ● **FLA., MIAMI,** 216 N. East Second, FR 4-5834; ● **ILL., CHICAGO.,** 7107 W. Addison St., MU 5-6575; ● **MICH., DETROIT,** 3049 E. Grand Blvd., TR 2-5171; ● **N. J., CAMDEN,** 216 Penn St., WO 4-0346; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900; ● **TEXAS, HURST,** 1036 Mary Dr.

RAYTHEON MANUFACTURING CO., RECEIVING TUBE DIV., 55 Chapel St., Newton, Mass., Tel: Bigelow 4-7500; Sls. Mgr: J. J. Grabiec
Sales Offices: ● **CALIF., LOS ANGELES,** 5236 Santa Monica Blvd., NO 5-4221; ● **ILL., FRANKLIN PK.,** 9501 Grand Ave., NA 5-4000; ● **MD., GLEN BURNIE,** 100 Roesler Rd., SO 1-1237; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900; ● **OHIO. CLEVELAND,** 2076 W. 117th St., WI 1-7005

RAYTHEON SEMICONDUCTOR DIV., 215 First Ave., Needham Heights, Mass., Tel: Hillcrest 4-6700; Sls. Mgr: K. C. Moritz
Sales Offices: ● **CALIF., LOS ANGELES,** 5236 Santa Monica, NO 5-4221: ● **ILL., FRANKLIN PK.,** 9501 Grand Ave., NA 5-4000; ● **MD., GLEN BURNIE,** 100 Roesler Rd., SO 1-1237: ● **MO.. KANSAS CITY,** 406 W. 34th St.. PL 3-5330; ● **N. Y., NEW YORK,** 589 Fifth Ave., PL 9-3900; ● **OHIO, CLEVELAND,** 2076 W. 117th St., WI 1-7005

Ravthem Corp., Oakside at Northside, Redwood City, Calif., Tel: EMerson 9-3376; Sls. Mgr: R. M. Halperin; Pur. Agt: G. Carsella
Sales Offices: ● CALIF., LOS ANGELES, Ravtherm Corp., 11313 W. Washington Bl., TE 0-7688; ● D. C., WASHINGTON, MacDonald, S. K., Inc., 217 Riggs Bank Bldg., CO 5-3938; ● ILL., CHICAGO, Diethert, R. Co., 2030 W. Montrose Ave.; ● MD., BALTIMORE, MacDonald, S. K., Inc., 2016 Winford Rd., ID 5-1792; ● MASS., LEXINGTON, Schaal Assoc., 11 Muzzev St., VO 2-3578; ● N. Y., DE WITT, Tavlor, F. W. Co., Box 222. GI 6-3354. PELHAM, Masin, O. F. Co., 1 Wolfs La., PE 8-4510; ● N. C., GASTONIA, Diethert, R. Co., Box 510; ● PA., PHILADELPHIA, MacDonald, S. K., Inc., 1531 Spruce St., KI 5-1205, PITTSBURGH, MacDonald, S. K., Inc., 715 2nd Federal Bldg., AT 1-2253; ● TEXAS, FT. WORTH, Neelv, J. S., Box 9822; ● WASH., SEATTLE, Porter, R. C. Co., 1209 Poplar Pl., CO 9708; ● WISC., MILWAUKEE, Diethert, R. Co., 1130 N. Water St.

Rea, J. B. Co., 1723 Cloverfield Blvd., Santa Monica, Calif.

Rea Magnet Wire Co., Inc., East Pontiac St., Fort Wayne, Ind., Tel: Anthony 5201; Sls. Mgr: J. L. McKinley; Pur. Agt: W. W. Bonham
Sales Offices: ● CALIF., LOS ANGELES, Rea Magnet Wire Co., Inc., 3136 E. 11th St., AN 1-8101; ● ILL., CHICAGO, Rea Magnet Wire Co., Inc., 4808 N. Lavergne Ave., AV 3-2608; MASS., ASHLAND, Muddle, J. V. & Assoc., Box 346, TR 3-7091; ● MINN., MINNEAPOLIS, Lenmark, O. J., 610 Plymouth Bldg., FE 3-3388; ● MO., CLAYTON, Rea Magnet Wire Co., Inc., 111 S. Bemiston Ave., VO 1-6455; ● N. J., SOMERVILLE, Rea Magnet Wire Co., Inc., Box 529, RA 2-2300

Ready Power Co., 11231 Freud Ave., Detroit, Mich., Tel: VAlley 2-1717; Sls. Mgr: W. S. Jewell; Pur. Agt: H. J. Craska
Sales Offices: ● CALIF., HUNTINGTON PK., Stephenson, R. W., 3370 E. Florence Ave., LU 5-2883; ● GA., ATLANTA, Schumaker, E. P., 68 Peachtree St., JA 3-4646; ● ILL., CHICAGO, Hayden, F. E., 8043 S. Stony Isl. Ave., SO 8-9232; ● LA., NEW ORLEANS, Edwards, G. H., 1835 Upperline St., TW 5-5794; ● MASS., BOSTON, Verney, A., 258 Park Souare Bldg., DE 8-7174; ● MO., ST. LOUIS, Bowers, J.E., 1110 Brentwood Blvd.; ● N. J., RIDGEWOOD, Williams, H., Box 344, GI 4-5392; ● PA., PHILADELPHIA, Gilbert, W. T., 18 W. Chelton Ave., VI 8-5511, PITTSBURGH, Frampton, G. W., 1915 Brownsville Rd., TU 2-1300; ● TEXAS, DALLAS, Tomasi, M., 5122 Gaston Ave., TA 7-4308; ● WISC., MILWAUKEE, Seidel, A. R., 4250 N. 72nd St., HO 3-1812

Reagon Co., 449 Victoria Blvd., Buffalo, N. Y.

Recora Co., The, Box 68 — Powis Rd., St. Charles, Ill.

Recording Tape Co., 125 E. 88th St., New York, N. Y., Tel: EN 9-6218; Sls. Mgr: E. E. Saieh; Pur. Agt: C. A. Kooper

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Scientific Electronic Laboratories, Inc., 866 Bergen Street, Newark, N. J.

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Sales Offices: ● CALIF., LOS ANGELES, Tri-State Supp. Corp., 544 S. San Pedro St., LOS ANGELES, La Moree, C. D., Co., 2433 Birkdale St., SAN FRANCISCO, Tri-State Supp. Corp., 554 Bryyant St.; ● CAN., TORONTO, Dow Corning Silicones, Tippet Rd., Wilson Hts., TORONTO, Paisley Products of Can., Box 159, Station H, VILLE ST. LAURENT, Gilchrist, Andrew, 155 Decarie Blvd.; ● GA., ATLANTA, Brownell Distr., Inc., 690 Murphy Ave., S. W., ATLANTA, Elect., Insul., Supp., 500 Means St.; ● ILL., CHICAGO, Prehler Elect. Insul. Co., 2300 N. Kilbourn Ave., CHICAGO, Stranco Products, 1534 W. Van Buren St., CHICAGO, Glenn, J. J., & Co., 605 W. Washington Blvd.; ● IND., FORT WAYNE, Haffey, Ralph J., Co., 6629 Coldwater Rd.; ● KY., LOUISVILLE., E. & H. Elect. Supp., Co., 626 S. 12th St.; ● MASS., PEABODY, Huse- Liberty Mica Co., Peabody Indst. Center; ● MICH., DETROIT, McNaughton-McKay Elect., 7000 Intervale Ave.; ● MINN., MINNEAPOLIS, Schultz, Don A., Co., 801 S. E. Eighth St.; ● MO., KANSAS CITY, Bossert Co., 17th & Main St., ST. LOUIS, White Supp., Co., 4343-47 Ducan Ave.; ● N. J., NEWARK, McKeown, Robert, Co., 6 Atlantic St., RUTHERFORD, Electrcl. Insul. Sales, Co., Box 315; ● N. Y., NEW YORK, Brownell Distr., Inc., 308 Canal St., NEW YORK, Mitchell-Rand Mfg., Corp., 51 Murray St.; ● OHIO, CINCINNATI, Haffey, Ralph J., Co., 1243 Garden Circ., CLEVELAND, Consumers Rubber Co., 410 Lakeside Ave., N. W., CLEVELAND, Insulaiton Mfrs. Corp., 565 W. Washington Blvd., DAYTON, Insulation Mfrs., Corp., 120 W. 2nd St.; ● OKLA., OKLA. CITY., Butts Electric Supp. Co., Main & Pennsylvania St.; ● ORE., PORTLAND, Riggs, C. E., Inc., 317 N. W. Broadway; ● PA., PHILADELPHIA, Elect. Maint. Equipt., 915-17 N. Broad St., PITTSBURGH, Beach, Earl B., Co., Box 76, Verona Rd.; ● TEXAS, DALLAS, Summers Elect. Co., 2001 Griffin St., DALLAS, Andy & Assoc., 5834 Waggoner Dr., HOUSTON, Houston Industl. Supp., Co., 1101 Chenevert St.; ● UTAH, SALT LAKE CITY, Christensen, J. R. Agcy., 247 E. 5th S.; ● WASH., SEATTLE, Tri-State Supp. Corp., 322 Occidental Ave.; ● WISC., MILWAUKEE, Glenn, J. J., & Co., 7915 N. Boyd Way, MILWAUKEE, Insulation Mfrs., Corp., 367 Bockl Bldg.

Silicone Seals, Inc., 3694 Wilwaukee Ave., Chicago, Ill., Tel: AEenue 2-3787; Sls. Mgr: L. E. Brown; Pur. Agt: R. Shattow

Sillcocks Miller Co., 10 W. Parker Ave., Maplewood, N. J., Tel: SOuth Orange 2-6171; Sls. Mgr: J. F. Herslow; Pur. Agt: R. W. Davis

Sales Offices: ● CALIF., OAKLAND, Ponten, Jean S., Co., 600 16th St., TE 2-1745; ● N. Y., NEW YORK, Posner, L. H., 511 Fifth Avenue, MU 2-7048

Simmonds, Aerocessories, Inc., Tarrytown, N. Y., Tel: MEdford 1-7500; V. Pres. G. J. McCaul; Pur. Agt: T. J. McAdams

Sales Offices: ● CALIF., GLENDALE, 1515 S. Gardena Ave., CI 1-7773; ● CAN., HAMILTON, 637 Parkdale Ave., N., LI 9-1381; ● MICH., DETROIT, 20131 James Couzens Hwy., BR 3-7651; ● MO., ST. LOUIS, 9124 Sioux Dr., FL 1-4688; ● OHIO, DAYTON, 2801 Far Hills Ave., AX 8-6011; ● TEXAS, DALLAS, 214 Amer. Bank & Trust, WH 3-9224; ● WASH., BELLEVUE, Ditty Bldg., GL 4-5211

Simmons Fastener Corp., 1752 N. Broadway, Albany, N. Y., Tel: ALbany 62-5431; Sls. Mgr: H. H. Rose; Pur. Agt: T. Teneyck

Sales Offices: ● CALIF., HAWTHORNE, Pelham Corp., 12848 Weber Way, OS 9-2556; ● CAN., TORONTO, Aviquipo, 109 Eglinton Ave., E., HU 3-1211, MONTREAL, Aviquipo, 1980 Sherbrooke W., WE 7-9531; ● COLO., DENVER, Vinson, R. E., Box 8363, SU 9-2851; ● ILL., CHICAGO, Bennett, N. C., 5306 W. Lawrence Ave., SP 7-9009; ● MASS., NEEDHAM, White Sales Co., 945 Great Plain Ave.; ● MICH., DETROIT, Peterson, W. T. Co., Box 22, TU 4-2530; ● MINN., MINNEAPOLIS, Kenny, R. E., 5090A Excelsior Blvd.; ● MO., ST. LOUIS, Leander & Boardman, 4053 Lindell Blvd., OL 2-0566; ● N. Y., NEW YORK, Bent, C. Co., 120 Liberty St.; ● N. C., GASTONIA, Bivens & Hunt Co., 1003 Woodland Ave., UN 7-9879; ● OHIO, LOCKLAND, Wahl, A. C. Co., Box 213, VA 1-3270; ● PA., PHILADELPHIA, Stratton, C. H. Co., 514 E. Wadsworth St., CH 7-7869, PITTSBURGH, Dietrich, L. Co., 1404 Swantek St., WA 1-2959; ● TEXAS, DALLAS, Teves-Barrier, 2712 W. Mockingbird La., FL 2-6084; ● WISC., MILWAUKEE, Melcher, C. E. Co., 1020 E. Congress St., WO 2-5603

Simplatrol Products Corp., 24 Salisbury Street, Worcester, Mass., Tel: PL. 6-8361; Sls. Mgr. W. H. Ware; Pur. Agt: F. J. Woodbury

Sales Offices: ● CALIF., LOS ANGELES, Del Mar, W. H. Co., 3925 W. Slauson Ave., AX 3-5301, SAN FRANCISCO, Power-Mac Corp., 467 S. Van Ness Ave., UN 1-1430; ● COLO., DENVER, Kaub, H. & Co., 1025 Santafe Dr., AL 5-7192; ● ILL., CHICAGO, Yarline, F. W. & Co., 20 N. Wacker Dr.; ● IND., INDIANAPOLIS, Young, A. R. Co., 520 N. Dorman St., ME 6-6351; ● KY., LOUISVILLE, Halliday, A. Co., 719 S. Preston St., JU 2-2462; ● MASS., LEXINGTON, Stevens, K. C. & Co., 235 Bedford St., VO 2-1812, WINCHESTER, Farrell, A. G., 6 Sargent Rd., 6-1668; ● MD., BALTIMORE, Durling Elec., 301 E. 25th St., HO 7-5560; ● MICH., GROSSE ILE, Miller, C. D. & Son, Box 36, DU 6-0900; ● N. J., WEST ORANGE, Mansfield, George E., 9 Coolidge Ave., RE 1-2308; ● N. Y., PORT WASHINGTON, Aaron, Paul D., Pt. Washington Blvd., PO 7-5670, ROCHESTER, Keller Ind. Prods., 217 East Ave., HA 6-3255; ● OHIO CLEVELAND, Outterson G. Co., 15104 Detroit Ave., AC 1-8666; ● PA., DREXEL HILL, Whiddett, J. C. Co., 3850 Garrett Rd., CL 9-3636, PITTSBURGH, Shields, W. D., Investment Bldg., GR 1-6946; ● TEXAS, DALLAS, Koch Engrg. Sls., Meadows Bldg., EM 1; ● UTAH, SALT LAKE CITY, Electrical Sls., 818 E. 21st St., HU 5-0531; ● WASH., SEATTLE, Parsons, C. B. & Co., 3028 First Ave., MU 2-6780

Simplex Co., The, Springfield, Ill.

Simplex Wire & Cable Co., 79 Sidney St., Cambridge, Mass., Tel: KIrkland 7-9000; Sls. Mgr: J. M. Murray; Pur. Agt: F. G. Kennedy

Sales Offices: ● ARIZ., PHOENIX, Young, G. & Co., 345 E. Pasadena, CR 4-5483; ● CALIF., LOS ANGELES, Young, G. & Co., 3775 S. Broadway, AD 1-4337, SAN FRANCISCO, Young, G. & Co., 390 Fourth St., DO 2-4220; ● GA., ATLANTA, Simplex Wire & Cable Co., 1231 Healey Bldg., JA 5-2959; ● ILL., CHICAGO, Simplex Wire & Cable Co., 564 W. Monroe St., FR 2-4193; ● MICH., DETROIT, Simplex Wire & Cable Co., 1222 Un. Artists Bldg., WO 1-9127; ● N. Y., NEW YORK, Simplex Wire & Cable Co., 100 Park Ave., LE 2-1157; ● OHIO, CLEVELAND, Simplex Wire & Cable Co., Union Commerce Bldg., CH 1-0050; ● ORE., PORTLAND, Young, G. & Co., 1238 N. W. Glisan St., CA 8-8478; ● PA., PHILADELPHIA, Simplex Wire & Cable Co., 1203 Fidelity, KI 5-0186, PITTSBURGH, Stickle, E. S. Co., Union Trust Bldg., AT 1-5055; ● TEXAS, HOUSTON, Simplex Wire & Cable Co., 2444 Times Blvd., JA 3-7486; ● WASH., SEATTLE, Young, G. & Co., 1928 First Ave., S., MA 3-0123

Simplicity Tool Co., 2850 N. Mississippi Ave., Box 3723, Portland, Ore., Tel: ATlantic 2-6605; Sls. Mgr: W. R. Bruce

Sales Offices: ● ORE, PORTLAND, Burcham, D. H., Box 4098, CA 7-3830

Sims Casting Corp., 2174 E. Erie Blvd., Syracuse, N. Y., Tel: GRanite 2-2489; Sls. Mgr: C. L. Sims

Simpson Electric Co., 5200 W. Kinzie St., Chicago, Ill., Tel: ES 9-1121; Sls. Mgr: M. Buehring; Pur. Agt: J. Werner

Sales Offices: ● CALIF, LOS ANGELES, Lynch, C. R. & Son, 3307 Glendale Blvd., NO 3-8236, SAN FRANCISCO, Purdy, W. J. Co., 312 Seventh St., UN 3-3300; ● CAN., TORONTO, Bach-Simpson Ltd., 109 Eglinton Ave., MO 2585, LONDON, Bach-Simpson Ltd., 1255 Brydges St., 4-8458; ● COLO., DENVER, Bowen, R. G. Co., 721 S. Broadway, RA 2-4641; ● CONN., MILFORD, Sturgeon, P. R. Inc., Box 170, TR 4-4080; ● D. C., WASHINGTON, MacDonald, S. K. Inc., Riggs Bk. 14th & Pk. Rd., CO 5-3938; ● FLA., ORLANDO, Murphy & Cota, 1220 Edgewater Dr., GA 4-2167; ● GA., ATLANTA, Cartwright & Bean, 3223 Cains Hill Pl., N.W., CE 7-2273, ATLANTA, Murphy & Cota, 2110 Peachtree St., N.W., TR 6-3020; ● ILL., CHICAGO, Hill, J. C. & Co., Inc., 549 W. Washington, AN 3-6420; ● IND., INDIANAPOLIS, Thomas & Sukup, Inc., 5226 N. Keystone Ave., CL 1-6915; ● KAN., KANSAS CITY, Kathrinus, N. W. & Co., 4306 Cambridge Ave., JO 2-4108; ● LA., NEW ORLEANS, Cartwright & Bean, 821 Pontalba St., AU 2264; ● MD., BALTIMORE, MacDonald, S. K. Inc., 2016 Winford Rd., ID 5-1760; ● MASS., BOSTON, Sturgeon, P. R. Inc., 25 Huntington Ave., CO 6-7705; ● MICH., DETROIT, Merchant, R. C. Co., 18411 W. McNichols Rd., KE 5-6000; ● MINN., MINNEAPOLIS, Foster, M. Co., 2402 Hennepin Ave., FE 6-5622; ● MO., ST. LOUIS, Kathrinus, N. W. & Co., 4356 Duncan Ave., OL 2-7005; ● N. J., BASKING RIDGE, Forshay Sales Corp., Box 2; ● N. M., ALBUQUERQUE, Bowen, R. G. Co., 2228A San Mateo Blvd., 6-6828; ● N. Y., BUFFALO, Wink, W. 235 Hendricks Blvd., AM 6426, GREAT NECK Simpson Instr. Sales, 130 Cutter Mill Rd., HU 2-3103, SYRACUSE, Wink, W., 105 S. Lane, GR 6-2035; ● N. C., CHARLOTTE, Cartwright & Bean, 625 Harwyn Dr., FR 6-8648, CHARLOTTE, Murphy & Cota, 2036 Norton Rd., ED 2-7356, WINSTON-SALEM, Murphy & Cota, 1106 Burke St., PA 4-0750; ● OHIO, CINCINNATI, Baehr, Greenleaf & Assoc., 7960 Mitchell Farm La., CLEVELAND, Baehr, Greenleaf & Assoc., 14700 Detroit Ave., LA 1-8468, DAYTON, Baehr, Greenleaf & Assoc., 4096 Fer Don Rd., CR 5-4655; ● ORE, PORTLAND, Burcham, D. H. Co., 510 N. W. 19th Ave., CA 7-3830; ● PA., PHILADELPHIA, MacDonald, S. K. Inc., 1531 Spruce St., KI 5-1205, PITTSBURGH, MacDonald, S. K. Inc., 335 Fifth Ave., AT 1-2253; ● TENN., MEMPHIS, Cartwright & Bean, 1336 Madison Ave., BR 5-1914; ● TEXAS, DALLAS, Schoonmaker, J. Y. Co., 5328 Redfield St., LA 6-7238, HOUSTON, Schoonmaker, J. Y. Co. 9918 Tolman St., HU 6-4611, SAN ANTONIO, Schoonmaker, J. Y. Co., 88 Steves Ave., LE 3-7717; ● UTAH, SALT LAKE CITY, Bowen, R. G. Co., 2022 S. Main St.; ● WASH., SEATTLE, Burcham, D. H. Co., 422 First Ave. W.; ● WISC., MILWAUKEE, Dickinson, E. A. & Assoc., 744 N. Fourth St., BR 2-0517

Simpson Mark Mfg. Co., Inc., 32-28 49th St., L. I. City, N. Y., Tel: YEllowstone 2-3400; Sls. Mgr: W. Jablon; Pur. Agt: W. Rogers

Sales Offices: ● CALIF., LOS ANGELES, Colman, E. & Assocs., 1503 S. Maple Ave., RI 9-6591, SAN FRANCISCO, Cahn, B. L. Co., 420 Market St., SU 1-7981; ● CAN., VANCOUVER, Emerson Record Sales, 154 Alexander St., PA 6418, MONTREAL, McIntyre Ags., 7365 Mountain Sights, RE 7-7672; ● COLO., DENVER, Cluphf, S. & Assocs., 75 S. Cody Ct., BE 3-6025; ● GA., EAST POINT, Hayden, P. Assocs., Box 331, PO 6-0261; ● ILL., CHICAGO, Karet-Margolin, 13 W. Hubbard St., WH 4-6345; ● IND., INDIANAPOLIS, Schulz, E. A. Co., 721 Sherwood Dr., BR 1993; ● MASS., BOSTON, Anderson Sales Co., 177 State St., CA 7-2980; ● MICH., DETROIT, Zaffina, L. & Co., 7351 Gratiot Ave., WA 1-2885; ● MO., HICKMAN MILL, Scholz, P. G., 8402 Longview Rd., WI 2773; ● N. J., HOBOKEN, Simberkoff Sales Co., 68 Hudson St., WH 3-7023; ● N. Y., FLUSHING, Harris, A. M., 42-34 195th St., FL 7-7350; ● OHIO, CLEVELAND, Andrews, T. P., 3066 Livingston Rd., AC 1-2561; ● TEXAS, DALLAS, Corry, H. F. Co., 6315 Hillcrest Ave., LA 8-9172; ● WASH., SEATTLE, Stroum, S. N. Co., Box 1339, EA 3-6117

Simpson Optical Mfg. Co., 3200 W. Carroll Ave., Chicago, Ill., Tel: VAn Buren 6-3030; Sls. Mgr: J. E. Curtin; Pur. Agt: W. A. Wisser

Sales Offices: ● CALIF., LOS ANGELES, Shoemaker, H. M. & Assoc., 1127 Wilshire Blvd., HU 2-4672; ● MASS., SOUTH LINCOLN, Burton, William De K.,

Concord Rd., CL 9-9532; ● TEXAS, DALLAS, Southern Ind. Elctrns., 429 Exchange Bank, FL 2-8995

Sinclair Mfg. Co., Chartley, Mass., Tel: ATtleboro 1-2627; Sls. Mgr: H. C. Brownell; Pur. Agt: R. S. Sparks

Singer Mfg. Co., Military Products Div., 149 Broadway, New York, N. Y.

Single Crystal Corp. of America, Saxonburg Blvd., Saxonburg, Pa., Tel: FLanders 2-2548; Sls. Mgr: J. V. Fisher
Sales Offices: ● PA., PITTSBURGH, Ransford, H. E. Co., 5400 Clairton Blvd., TU 4-3425

Sioux Radio Products, 100 Douglas Ave., Yankton, S. Dak., Tel: NOrth 5-3507; Sls. Mgr: M. Bolluyt; Pur. Agt: C. J. Harm
Sales Offices: ● CALIF., SAN MARINO, Yarbrough Sales Co., 2636 Mission St., RY 1-3331; ● FLA., ORLANDO, Lehmann, W. R. Co., Box 1224, GA 4-0131; ● N. Y., FLUSHING, SK Engineering Sales, 189-30 37 Ave., FL 8-0822

Sittler Corp., 18 N. Ada St., Chicago, Ill., Tel: SEeley 3-4616; Sls. Mgr: T. J. Kroeger; Pur. Agt: S. J. Lanasa
Sales Offices: ● FLA., ST. PETERSBURG, Smith, Arthur E., 3663 4th Ave. N.; ● GA., GLENNVILLE, Harvey, J. D., Box 206; ● N. Y., NEW YORK, Hoyt Equip. Co., 87 Walker St., CA 6-5859; ● PA., PITTSBURGH, Hanson, R. L., 2958 W. Liberty Ave.

Skinner Electric Valve, Div. Skinner Chuck, 95 Edgewood N.E., W. Britaain, Conn., Tel: BAldwin 9-4826; Sls. Mgr: W. J. Bloudek; Pur. Agt: C. Nelson
Sales Offices: ● ALA., BIRMINGHAM, Wheelock, C. F. & Assoc., 205 S. 32nd St., FA 2-6283; ● ARIZ., SCOTTSDALE, Western Control Equip., 3840 N. Jokake Dr., WH 5-4290; ● CALIF., SAN FRANCISCO, Western Control Equip., 3573 Pierce St., WE 1-2155, SHERMAN OAKS, Western Control Equip. 14615 Ventura Blvd., ST 3-3040; ● CAN, EDMONTON, Petro-Automation Ind., Box 72, LACHINE, Cowper Co., 515 4th Ave., ME 7-6746, TORONTO, Dycon Ltd., 25 Carson St.; ● COLO., DENVER, Autmoatic Control, 5750 Pecos St., GE 3-6436; ● CONN., NORFOLK, Lee, Wilbur G., Box 472, KI 2-5506, NORWALK, Harrah, George R., James St., VI 7-3344; ● GA., ATLANTA, Equipment Sls. Co., Inc., 649 Ashby St., N.W., TR 2-6605; ● ILL., CHICAGO, Skinner Electric Valve, 549 W. Randolph St., CE 6-6876, ELBURN, Stevenson, Malcolm, 410 W. Pierce St., 5311; ● LA., NEW ORLEANS, Maguire, J. P. Co., 3144 Paris Ave., EV 2392; ● MICH., DETROIT, Ernest, Ralph D. Assoc., 12818 Puritan Ave., UN 1-7311; NORTHVILLE, Williams, Archie, 547 W. Main FI 9-3372; N. J., RIDGEWOOD, Hinze, Roger S., 136 Woodside Ave., GI 4-7505; ● N. Y., BUFFALO, Lane Engrg. Co., 1807 Elmwood Ave., RI 0770; ● N. C., CHARLOTTE, Hudgnis, Robert S. Co., Box 6091, ED 3-8446; ● OHIO, CINCINNATI, Hughes, Edward C. Jr., Box 124, SOLON, Bowers, Richard A., 6677 Solon Blvd., EX 1-8115; ● OKLA., TULSA, Burke, J. G. & Co., 3209 W. 21st St., DI 3-9161; ● ORE., PORTLAND, Hydraulic & Air Equip., 2316 N.W. Savier St., CA 2-3295; ● PA., ARDMORE, Rothenheber & Co., 53 Cricket Ave., MI 2-6911; ● TENN, KINGSPORT, Abernathy-Thomas Engrg., 341 W. Market St., CI 5-6151, MEMPHIS, Dilworth, J. E. Co., 730 S. 3rd St., JA 7-0261; ● TEXAS, DALLAS, Womack Mach. Supp., 2010 Shea Rd., FL 7-3871, HOUSTON, Air-Dreco, Box 9443, WA 3-2525; ● VA., RICHMOND, Summerell, H. M. Co., 3414 W. Broad St., EL 5-3205; ● W. VA., WHEELING, Scott Equip. Co., 3825 Jacob St., CE 2-6006

Skottie Electronics, Inc., 204 Bridge St., Peckville, Pa., Tel: HUnter 9-4726; Sls. Mgr: P. M. Maler; Pur. Agt: N. Leaf
Sales Offices: ● CALIF., LOS ANGELES, Shepard-Winters Co., 7407½ Melrose Ave., WE 8-2996, SAN BRUNO, Kolans, B. & Co., 499 El Camino Real S., JU 8-8363; ● GA., EAST POINT, Hayden, P. Assoc., Box 331, PO 7-9646; ● ILL., CHICAGO, Swinke, W. F., 541 Diversey Pkwy., BI 8-4343; ● IND., FORT WAYNE, Needler, E. S., 5302 Fairfield Ave., HA 9726; ● MASS., BOSTON, Akeroyd, Arthur E., John Hancock Bldg., HA 6-2433; ● MICH., DETROIT, Lohmann, R. S., 12730 Fenkell, WE 3-1128; ● MO., KANSAS CITY, Kay Sales Co., 2600 Grand Ave., BA 1-3800; ● N. J., JERSEY CITY, Shulan, Wally, 880 Bergen Ave., SW 5-2220; ● N. Y., DEWITT, Taylor, F. W. Co., Box 222, GI 6-3354, SEAFORD, Abbott, H. J., 3939 Wicks Ave., SU 1-5256; ● OHIO, CINCINNATI, Needles, William F., 4016 Diehl Ave., SY 1-1625, CLEVELAND, Olsen, J. O. Co., 16201 Shaker Blvd., SK 2-5444, TROTWOOD, Atkind, I. & Assoc., 821 Bruman Ave., TE 7-4750; ● PA., NARBETH, Jeffries, Samuel A., 105 Forrest Ave., MO 4-8500; ● TEXAS, DALLAS, Texport Co. The, 2147 Farrington, RI 7-6886; ● WASH, SEATTLE, Stroum, S. N. Co., 1612 Bdwy., EA 3-6117

Skycraft Tool Engrg. Co., 2610 Willo Lane, Costa Mesa, Calif., Tel: EXmont 8-6898; Sls. Mgr: R. M. Harrison; Pur. Agt: D. M. Harrison

Skydyne, Inc., River Rd., Port Jervis, N. Y., Tel: -2241; Sls. Mgr: R. L. Weill; Pur. Agt: W. F. MacCallum
Sales Offices: ● ARIZ., PHOENIX, Roberts, E. V. & Assoc., 909 N. First St., AL 4-4664; ● CALIF., LOS ANGELES, Roberts, E. V. & Assoc., 5068 W. Washington, WE 8-2541, SAN CARLOS, Roberts, E. V. & Assoc., 1560 Laurel St., LY 3-7878, SAN DIEGO, Roberts, E. V. & Assoc., 4379 30th St., AT 1-6787; ● CAN., TORONTO, Atlas Radio Corp., 50 Wingold Ave., RU 1-6174; ● COLO., LOS ANGELES, Stiokel-Garrett, 4357 Melrose Ave., NO 5-6621; ● IND., FORT MYERS, Lynch, A. H. & Assoc., 35 W. N. Shore Ave., WY 5-2151; ● ILL., CHICAGO, Magnuson, Edward Co., 3349 W. Irving Park, KE 9-7555; ● MASS., BEDFORD, Waters & Drew, Box 467, CR 4-7232; ● MICH., ROYAL OAK, Satullo Co., 4512 N. Woodward, JO 6-2375; ● N. M., ALBUQUERQUE, Roberts, E. V. & Assoc., 5100 Grand Ave., N. E., AL 5264; ● N. Y., NEW YORK, Porter, E. M. Wraps, Inc., 853 Broadway, GR 3-7876; ● OHIO, CINCINNATI, Satullo Co., 7374 Readig Rd., JE 1-3094, CLEVELAND, Satullo Co., 16801 Euclid Ave., IV 1-6200 ● PA., SPRING CITY, Clevenstine, Walter, 711 Arch St., RO 608; ● TEXAS, DALLAS, Norvell Assoc., 3603 Lemmon Ave., FO 8-4180

Skysweeper, Inc., McHenry, Ill., Tel: MC Henry 1090; Sls. Mgr: J. W. Bullock; Pur. Agt: W. T. Peterson
Sales Offices: ● ARIZ., PHOENIX, Moore, H. A. Sls., Box 7245; ● CALIF., LOS ANGELES, Stickel-Garrett, 4357 Melrose Ave., NO 5-6621; ● IND., FORT WAYNE, Valentine, F. C. Inc., 511 Ft. Wayne Bank Bl., AN 9122; ● KAN., WICHITA, Harris, G. E. & Co., 3241 E. Douglas, MU 2-2731; ● MICH., DETROIT, A.B.M. Sls., 10116 Puritan Ave., UN 2-1300; ● MINN., ST. PAUL, Hoffman, E. Co., 216 Liberty Bank Bldg., MI 4-1244; ● N. J., HADDONFIELD, Hitchens, R. R. Co., 323 Homestead Ave., HA 9-2491; ● N. Y., PORT WASHINGTON, Aaron, P. D., Pt. Washington Blvd., PO 7-5670, ROCHESTER, Schomberg, E. J. Co., 830 Linden Ave., LU 6-0725; ● TEXAS, DALLAS, Packard Assoc, Love Fld Air Ter Bldg., FL 7-5713

Slater Electric & Mfg. Co., 45 Sea Cliff Ave., Glen Cove, N. Y., Tel: ORiole 6-1100; Sls. Mgr: N. C. Hilborn; Pur. Agt: L. Laurence

SLAUGHTER CO (Pg. 747), Piqua, Ohio, Tel: PRospect 3-5936
Sales Offices: ● **CALIF., LOS ANGELES,** Peninsula Assoc, **REDWOOD CITY,** Peninsula Assoc., 1345 Hancock St., EM 9-1226; ● **WASH., SEATTLE,** Peninsula Assoc., **SPOKANE,** Peninsula Assoc.

Slepian, Arthur & Co., 2 Burroughs St., Bridgeport, Conn., Tel: EDison 5-5138; Pur. Agt: J. Hennessey

Slideways Mfg. Co., 8075 Woodley Ave., Van Nuys, Calif., Tel: STate 2-3393; Sls. Mgr: W. H. Johnston; Pur. Agt: F. Caylor
Sales Offices: ● CALIF., HOLLYWOOD, Miller, Gerald B. Co., 1550 N. Highland Ave., HO 2-1195; ● COLO., DENVER, Howell Sales, 1065 Pearl St., AL 5-4231; ● FLA., ORLANDO, Phelps, Don, 1401 Ceylon Dr., GA 4-9716; ● ILL., CHICAGO, Magnuson & Assoc., 3347 W. Irving Pk. Rd., KE 9-7555; ● MASS., SAUGUS, Cirolia, Andy, 39 Lodge Ave.; ● MD., TOWSON, Hancock, Dick, 1415 Providence, VA 5-0619; ● MICH., BIRMINGHAM, Nordstrum & Co., 580 N. Woodward Ave., JO 4-6129; ● MO., ST. LOUIS, Fixman, Gordon, 8160 Stanford Ave., PA 5-5219; ● N. J., JERSEY CITY, Shulman & Co., 880 Bergen Ave., SW 5-2220; ● TEXAS, DALLAS, Campion Sales, 9002 Chancellor Row, FL 7-4095

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Spencer Mfg. Co., 3701 Durand, Racine, Wisc.

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Sperry Gyroscope Co., Microwave Electronics Div., Great Neck, N. Y., Tel: REdwood 6-4161; Sls. Mgr: F. J. Lavelle
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Sperti-Faraday, Cooper Hewitt Electric Co. Div., 720 Grand St., Hoboken, N. J., Tel: SWarthmore 2-2800; Sls. Mgr: J. S. Graule; Pur. Agt: D. Cuozzo

SPHERE CO., INC., THE, (Pg. 642), 25 Amity St., Little Falls, N. J., Tel: CLifford 6-2550; Sls. Mgr: A. D. Travis; Pur. Agt: C. E. Beronio
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Sales Offices: ● DELA., WILMINGTON, Lilly, David B. Co., 102 N. Cleveland Ave., OL 4-8844

Spindler & Sauppe, 2201 Beverly Blvd., Los Angeles, Calif., Tel: DUnkirk 9-1288; Sls. Mgr: E. E. Eisenlohr

Spinform Inc., 65 Mechanic St., Attleboro, Mass., Tel: ATtleboro 1-2788; Sls. Mgr: R. J. Gillespie; Pur Agt: F. Spinard

Spirling Products, Henrietta St., Box 411, Hicksville, N. Y., Tel: WEIls 1-6550; Sls. Mgr: M. Spirt
Sales Offices: ● CAN., MONTREAL, Cohen, William Ltd., 7000 Park Ave., CR 2-5719; ● FLA., NORTH MIAMI, Winfield Electronic Sls., 666 N.E. 125th St., PL 1-5566; ● MD., BALTIMORE Selnick, A. E. Assoc., 6605 Baythorne Rd., HU 6-5685; ● MASS., BOSTON, Anderson Sales Co., 177 State St., CA 7-2980; ● MICH., DETROIT, M. R. Assoc., 12551 Grand River, TE 4-5834; ● N. Y., BROOKLYN, Fisher, Steve Sales, 800 Greenwood Ave., CH 2-5825, SYRACUSE, Callan, W. J., 156, S. Edwards Ave., HO 3-2151; ● PA., PHILADELPHIA, Selnick, A. E. Assoc., 3225 Princeton Ave., MA 4-9406

Spivey, James S., Inc., 4908 Hampden Lane, Washington, D. C., Tel: OL 6-8608; Sls. Mgr: J. S. Spivey; Pur. Agt: C. Vanderslice
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Sprague Electric Co., 91 Marshall St., No. Adams, Mass., Tel: MOhawk 3-5311
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Stamford Metal Specialty, 429 W. Broadway, New York, N. Y.

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Standard Cabinet Co., 60 Washington Ave., Carlstadt, N. J., Tel: GEneva 8-1500; Sls. Mgr: E. S. Brown; Pur. Agt: R. Norton

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Standard Electrical, Div. Standard Dayton Corp., Box 1001, Dayton, Ohio

Standard Electrical Mfg., Co., Haddon Ave., W. Berlin, N. J., Tel: BErlin 7-0207; Sls. Mgr: H. A. Cohen

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Strand Laboratories, Inc., 217 California St., Newton, Mass., Tel: DEcatur 2-7600; Sls. Mgr: C. Batson
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Stromberg-Carlson, Special Prod. Div., 1700 University Ave., Rochester, N. Y., Tel: FIllmore 2-8000; Sls. Mgr: W. E. Cutler; Pur. Agt: R. Yaeger
Sales Offices: ● ARIZ., TUCSON, Blazo, W. W., 2457 N. Richet Blvd., EA 6-5160; ● CALIF., LOS ANGELES, Alt, Roy A., 5415 York Blvd., CL 7-3939, LOS ANGELES, Goodwin, Earl V., 5415 York Blvd., CL 7-3939, LOS GATOS, Wainwright, Wayne, Box 926, EL 4-4889; COLO., LAKEWOOD, Gedney, James A., 6895 W. 5th Ave., BE 7-4095; ● GA., ATLANTA, Stromberg-Carlson, 750 Ponce De Leon Pl., N.E., TR 3-2158, ATLANTA, Smith, John B., 2924 Westminster Circle, CE 3-6360, NORTH ATLANTA, Ralston, B. C., 3398 Dunwoody, CE 7-5796; ● ILL., ELGIN, Samuelson, Arch V., 839 Oak St., SH 1-6979, SILVIS, Stone, Clarence A., 2016 8th St., 3-9566; ● MD., BETHESDA, Spurway, E. W. J., 8206 Osage Lane, EM 5-0684; ● MASS., BOSTON, Massara, Arthur J., 368 Longwood Ave., LO 6-6472; ● MICH., ROYAL OAK, Morrison, James E., 4407 Groveland Ave., LI 9-5749; ● MINN., MINNEAPOLIS, Franklin, Merrill K., 338 E. Franklin St., FE 6-2315; ● MO., WEBSTER GROVES, Cochran, Clayton L., 34 E. Jackson Rd., WO 1-2950; ● N. Y., NEW YORK, Ross, Donald G., Jr., 507 5th Ave., OX 7-8355, ROCHESTER, Flood,, Elmer G., 71 Balsam St., BU 8-9047; ● OHIO, CINCINNATI, Schuler, O. J., 8615 DeSoto Dr., WE 1-6061; ● PA., PHILADELPHIA, Schulhoff, A. A., 1611-A Church Lane, LI 8-2873; ● TEXAS, DALLAS, Stromberg-Carlson, 2918 Blackburn St., FORT WORTH, Padgett, Fred R., 4245 Forbes St., JE 6-0328, FORT WORTH, Rader, Dale, 1615 Bluebonnet Dr., TE 8-7125; ● WASH., SEATTLE, Marsh, Lloyd D., 2601 1st St., MA 2-8761

Strong Electric Corp., 87 City Park Ave., Toledo, Ohio, Tel: CHerry 8-3741; Sls. Mgr: H. E. Brown; Pur. Agt: D. Schaefer

Struthers-Dunn, Inc., Lambs Rd., Pitman, N. J., Tel: LUther 9-7500; Sls. Mgr: G. B. Conger, Jr.; Pur. Agt: G. M. Herb
Sales Offices: ● CALIF., LOS ANGELES, Nash, A. W. Co., 2112 S. Atlantic Blvd., AN 9-7304, SAN FRANCISCO, Elchorn & Melchior Co., 749 Bryant St., DO 2-1038; ● GA., ATLANTA, Thornwall, E. A., Inc., 15730 Howell Mill Rd., TR 5-7895; ● ILL., WILMETTE, Struthers-Dunn Inc. 1167 Wilmette Ave. AL 1-5722; ● MASS. BOSTON, Electrical Apparatus Co., 1200 Soldiers Field Rd., ST 2-7440; ● MICH., DETROIT, Adams, Carman, Inc., 15760 James Couzens Hwy., UN 3-9100; ● MO., KANSAS CITY, Lohr, Carl P. Co., 2205 Grand Ave., HA 1-6624, ST. LOUIS, Lohr, Carl P. Co., 1110 S. Brentwood Ave., PA 5-9794; ● N. J., CAMDEN, Moler, George W., 300 Broadway, EM 5-5020, PITMAN, Struthers-Dunn, Inc., Lambs Rd., LU 9-7500; ● N. Y., BUFFALO, Zang, Herbert C., 99 Crestwood Ave., VI 3677, NEW YORK, Kahant Assoc., 11 Park Pl., CO 7-5326; ● OHIO, CINCINNATI, Beedle Equipment Co., Roselawn Center Bldg., JE 1-2640, CLEVELAND, Finnicum, J. L. & Assoc., 4500 Euclid Ave., HE 1-7477, DAYTON, Beedle Equipment Co., 379 W. First St., BA 3-6522; ● PA., PITTSBURGH, Clark, Rusell F. Co., 1409 Clark Bldg., AT 1-8089; ● TEXAS, DALLAS, Schoonmaker, J. Y. Co., Box 35266, LA 6-7238; ● WASH., SEATTLE, Eicher & Co., 5 W. Harrison St., MU 2411

Studebaker Hydraulic Products Co., 1733 N. 33 Ave., Melrose Park, Ill.
Sales Offices: ● CONN., FAIRFIELD, Horen, Robert H. Co., Box 1112; ● DELA., WILMINGTON, Pyles East Coast Co., 2711 Market St., OL 8-7502; ● ILL. OAK PARK, Dvorak Machinery Co., 7001 W. North Ave., ES 9-5188; ● MO., ST. LOUIS, Air Hydraulics Co., 1236 Hampton St., MI 7-5271; ● N. J., NEW MILFORD, Pyles East Coast Co., 631 Fermery Dr., DU 5-1467

Studio TV Product Sales, 342 W. 40 St., New York, N. Y., Tel: OXford 5-2199; Sls. Mgr: J. B. Tharpe

Stueck, Inc., Box 355E, Old Saybrook, Conn., Tel: EV. 8-9309; Sls. Mgr: W. Stveck

Sturrup, Inc., 50 Silver St., Middletown, Conn., Tel: DIamond 6-9681; Sls. Mgr: A. B. Sturrup, Jr.; Pur. Agt: R. B. Sturrup

Sturtevant Div., Westinghouse Electric Corp., Hyde Park, Boston, Mass.

Sturtevant, P. A. Co., Addison, Ill., Tel: TErrace 4-2000; Sls. Mgr: L. A. Sturtevant; Pur. Agt: J. Esposito
Sales Offices: ● CALIF., LOS ANGELES, Stevens, Dillon & Co., 1348 Venice Blvd., DO 2-2518; ● CAN., TORONTO, Monahan Supply Corp., 189-191 Queen St., E., VANCOUVER, Singer, Eric, 345 W. 13th Ave.; ● COLO., DENVER, C. F. L. Co., 1871 S. Broadway, SP 7-4381; ● CONN., W .HARTFORD, Secor, R. W., 66 Brightwood La.; ● FLA., PINELLAS PARK, George, Joseph W., Box 429; ● ILL., CHICAGO, Russell Swanson, 7101 Stony Island, CHICAGO, Uhlhorn, Elmer H., 5216 W. Winona, SP 7-1916; ● MD., BALTIMORE, Metal-Aides, Inc., 318 Mathieson Bldg., LE 9-0706; ● MICH., DETROIT, Hodgson-Geisler Co., 18917 James Couzens Hwy., DI 1-2580; ● MO., KANSAS CITY, Holtan, Arnold G., 400 Huntington Rd., JA 3-4888; ● N. Y., DOBBS FERRY, Richardson, H. L., 110 Draper La., DO 3-7834, SYRACUSE, Fredenberg, A. E., 639 S. Warren Ave., 2-6628; ● N. C., WINSTON-SALEM, Crotts & Saunders Eng., 231 N. Main St., PA 4-0163; ● OHIO, COLUMBUS, Hanback, V. E., Box 6522; ● OKLA., OKLAHOMA CITY, Bradley, W. A., 5001 N. Miller Blvd., WI 3-5065; ● PA., PHILADELPHIA, Metal-Aides, Inc., 2314 N. 9th St., ST 2-4232

Suffolk Products Corp., Woodbine & Scudder, Northport, N. Y., Tel: ANdrew 1-7000; Gen. Mgr: W. MacLaury; Pur. Agt: F. Marin

SULLIVAN, H. W., LTD. (Pg. 752), Dept. ZY 1299, 80 Shore Rd., Pt. Washington, N. Y., Tel: POrt Wash. 7-7700; Sls. Mgr: S. Bosworth
Sales Offices: ● **CALIF., LOS ANGELES,** Berman, J. Co., 1114 S. La Cienega, OL 5-8920, **SAN FRANCISCO,** Moulthrop, F. W., Co., 575 10th St., MA 1-0722; ● **CAN., TORONTO,** Pointon, C. W., 6 Alcina Ave., LE 4-7984; ● **COLO., DENVER,** McLoud & Raymond, 5403 E. Evans; ● **GA., ATLANTA,** Millar, J., Co., Box 7116, TR 6-0919; ● **ILL., RIVER FOREST,** Pettit, G., Co., 349 N. Ashland Ave., FO 9-8940; ● **IND., INDIANAPOLIS,** Schulz, E. A., 721 Sherwood Dr., BR 1993; ● **MD., SLIVER SPRINGS,** Lienau, C. W., Co., 9427 Georgia Ave., JU 7-5888; ● **MASS., WELLESLEY HILL,** Scott, M., Co., 910 Edmunds Rd., WE 5-0102; ● **MICH., DETROIT,** Shaffer, G., Co., 14241 Fenkell, BR 3-5390; ● **MINN., MINNEAPOLIS,** Northern Sales Co., 1400 Park Ave., GE 9493; ● **MO., KANSAS CITY,** Farris, R. W .Co., 406 W. 34th St., LO 1-1495; ● **N. Y., BUFFALO,** Mitscher, R. W., Ellicott Sq. Bldg., WA 2517; ● **PA., PITTSBURGH,** Podolny, J. H., Co., 4716 Coleridge St., HI 1-0800; ● **TEXAS, DALLAS,** McKinney, J. F., Sales, 1440 N. Industrial, RI 1-1368; ● **WASH., SEATTLE,** Lee, D. M., Co., 2517 2nd Ave., MA 5512

Summers Gyroscope Co., 2500 Broadway, Santa Monica, Calif., Tel: EXbrook 3-6711; Sls. Mgr: C. Z. Becker; Pur. Agt: R. Williams
Sales Offices: ● OHIO, DAYTON, Helbig, E. M., 333 W. First, BA 4-5772

Summit Coil Co., 4 Claremont Rd., Bernardsville, N. J., Tel: BErnardsville 8-0744; Sls. Mgr: E. C. Altenberger
Sales Offices: ● N. J., MADISON, Livera, A. L. & Assoc., 2 Green Village Rd., FR 7-3220

Summit Electronics, Inc., 7 Industrial Place, Summit, N. J., Tel: CRestview 7-0584; Sls. Mgr: W. Matteson, Jr.; Pur. Agt: M. Pasiecznik

Summit Engrg. Corp., 2416 Amsler St., Torrance, Calif.

Summit Industries, Inc., 2104 W. Rosecrans Ave., Gardena, Calif., Sls. Mgr: A. S. Greenberg

Sun Capacitors, 2554 Lawrence, Chicago, Ill.

Sun Chemical Corp., Electro-Tech. Prod. Div., 113 E. Centre St., Nutley, N. J., Tel: NUtley 2-7070; Sls. Mgr: W. F. Hugger; Pur. Agt: F. Jakes

Sun Dial Corp., Passaic Ave., P. O. Box 326, Caldwell, N. J.

Sun Electric Co., 6323 Avondale Ave., Chicago, Ill., Tel: NEwcastle 1-6000; Sls. Mgr: R. T. Brown; Pur. Agt: R. E. Kane
Sales Offices: ● ARIZ., PHOENIX, Moore, Harry A. Sls., 305 E. Indiana Rd., CR 4-0060; ● CALIF., LOS ANGELES, Bray & Carter, Inc., 2234 W. Eleventh St., DU 9-3173, SAN CARLOS, Pflieger, R. L. Co., 1652 Laurel St., LY 1-0396; ● COLO., DENVER, McCloud & Raymond, 5403 E. Evans Ave., SK 6-1589; ● GA., ATLANTA, Fausett, Floyd & Co., 777 Pinehurst Ter., PL 3-3104; ● ILL., OAK PARK, Hill & Gray, Inc., 41½ Harrison St., ES 8-7050, WHEATON, Hausten, D. R. Co., 607 E. Willow, MO 8-7312; ● KY., LOUISVILLE, Cobb Sales, 1629 Portland Ave., JU 3-9406 ● MASS., NEEDHAM, White Sls. Co., 945 Great Plain Ave., HI 4-3676; ● MICH., DETROIT, Lohman, R. S. Co., 12730 Fenkell, UN 2-9465; ● MINN., MINNEAPOLIS, Murphy, Lloyd F. & Assoc., 1700 Hennepin Ave., FE 9-4851; ● MO., KANSAS CITY, Forristal-Young Sls., 4057 Broadway, VA 1-5330, ST. LOUIS, Forristal-Young Sls., 8147 Delmar; ● N. J., HADDONFIELD, Keefe Elctrn. Sls., 282 E. Kings Hwy., HA 9-4650; ● N. Y., PELHAM Masin, O. F. Co., 1 Wolfs La., PE 8-4510, SYRACUSE, Midstate Res. Lab., 327 Wellesley Rd., GR 8-8314; ● OHIO, CLEVELAND, Baier, Arthur H. Co., 12417 Cedar Rd., FA 1-5644; ● ORE., PORTLAND, Legg, Richard Co., 1633 N.W. 21st Ave., CA 3-9720; ● PA., PITTSBURGH, Yarussi, F. P. Co., 312 Spring Valley Rd., CA 1-4676; ● TEXAS, DALLAS, Klicpera, M. F. Co., 1201 Castle St., RI 2-2515, HOUSTON, Klicpera, M. F. Co., Box 3113, JA 2-8459

SUNBANK ELECTRONICS, INC., (Pg. 579), 515 S. Varney, Burbank, Calif., Tel: VIctoria 9-4286; Sls. Mgr: R. M. Summers; Pur. Agt: R. E. Coats

Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa., Tel: ORchard 3-5600; Sls. Mgr: E. I. Matthews; Pur. Agt: A. L. Stiles
Sales Offices: ● CALIF., PASADENA, Cole, D. B. & Co., 557 E. Walnut St., SUNNYVALE, Instr. For Measurement, 251 S. Murphy Ave.; ● FLA., LUTZ, Wallace, Stanley K., Box 744; ● MASS., SALEM, Forbes Engg. Co., 19 Flint St.; ● MICH., DETROIT, Rubin, Ben Z. Co., 16130 Meyers Rd., UN 4-4958; ● MINN., MINNEAPOLIS, Service Tool & Eng. Co., 629 S. 7th St.; ● N. J., GLEN ROCK, Ringer, R. L., Co., Box 114, GI 4-1434; ● OHIO, CLEVELAND, Edwards-Lohse Co., 2123 E. 9th St.; ● ORE., PORTLAND, Cottrell, W. J. & Co., 4000 S.W. MacAdam Ave.; ● TEXAS, DALLAS, Smith J. Earl, Box 35331, Airlawn

Supa Insulations, Inc., 123 East Bassett St., Rocky Mount, N. C., Tel: 6-8155; Sls. Mgr: J. M. Jones; Pur. Agt: J. E. Ettel
Sales Offices: ● ALA., BIRMINGHAM, Hagan, Willis C., 2250 Highland Ave., AL 1-1201; ● CALIF., GLENDALE, Hughes, R. S. Co., 1759 Victory Blvd., DA 6-2922, PASADENA, Space Engrg., 39 S. Euclid Ave., RY 1-6679; ● CONN., COVENTRY, Robinson, R. H. & Co., Box 157, PI 2-7323; ● ILL., CHICAGO, Kennedy, Robert J., 6713 N. Oliphant, NE 1-8283; ● MICH., DETROIT, Clark, Nelson J., 17136 E. Warren, TU 5-1723; ● N. J., CAMDEN, Maguire, J. A. & Co., 116 N. 7th St., MA 7-1670, SUMMIT, Kaiser Engrg. Assoc., 66 Railroad Ave., CA 6-5526; ● N. Y., SYRACUSE, Zimmerman, W. H., 112 DeWitt St., GR 4-4889; ● OHIO, CLEVELAND, Clark Sales Co., Box 708, TU 5-1723; ● TEXAS, DALLAS, Compton, James M., Co., 4300 Lomo Alto, LA 6-6289; ● WISC., MILWAUKEE, Brickley & Co., 241 E. Erie St.

Super Ear Products Co., 34 Deering, E. Rockaway, N. Y., Tel: FRanklin 4-5083; Sls. Mgr: S. M. Scher; Pur. Agt: L. Young

Superex Electronics Corp., 4-6 Radford Place, Yonkers, N. Y., Tel: YOnkers 5-6906; Sls. Mgr: M. L. Buchalter; Pur. Agt: S. Deerin
Sales Offices: ● ARIZ., PHOENIX, Bernstein & Co., 39 W. Adams, AL 2-4371; ● CALIF., SAN GABRIEL, Rissi, Al J., 8417 Las Tunas Dr., DO 6-2137, SAN FRANCISCO, Brandt, E. W., Co., 1122 Folsom St., HE 1-0484; ● CAN., MONTREAL, Cohen, William, Ltd., 7000 Park Ave., CR 2-5719; ● COLO., DENVER Vines & Co., Box 1025, TA 5-4471; ● MASS., BROOKLINE, Brown, Kenneth L., 54 Atherton Rd., BE 2-3969; ● MICH., DETROIT, Central Electr. Sales, 19303 Fairport, LA 6-5841; ● MISS., GREENWOOD, Massey, Leroy, Box 304; ● MO., KANSAS CITY, Somers, F. C., & Co., 17th & Main St., GR 1355; ● N. Y., BROOKLYN, Jacobs, Jack, 1800 E. 12th St., DE 9-4374, BROOKLYN, Fisher, Steve, 800 Greenwood Ave., HY 9-6691, BUFFALO, Jacobson, Leo, Co., 1366 Kenmore Ave., DE 0442; ● OHIO, CLEVELAND, Brauer, Walter J. Assoc., 15631 Lakewood Hts., LA 1-7268, COLUMBUS, Lehner, J. W., Co., 367 Brynhild Rd., LU 5260; ● ORE., PORTLAND, Minthorne, Roger M., Co., 0673 Taylors Ferry, CH 6-4556; ● PA., NARBETH, Jeffries, Samuel A., 105 Forrest Ave., MO 4-8500; ● S. C., ANDERSON, Hawthorne, Donald, Box 77, EX 5-3470; ● TEXAS, DALLAS, Smith, MacRae, Co., Box 35113, BL 3-2006, HOUSTON, Smith, MacRae, Co., Box 19387, HO 5-7780; ● WISC., MILWAUKEE, Polachek, C. S., Assoc., 1500 E. Fairy Chasm, FL 2-8650

SUPERIOR CABLE CORP., (Pg. 1208), Box 480-A, Hickory, N. Car., Tel: DIamond 5-4161; Sls. Mgr: D. W. Hoffman; Pur. Agt: M. K. Fuller
Sales Offices: ● **ARIZ., PHOENIX,** Maydwell & Hartzell, Inc., 325 S. 2nd Ave., AL 2-5858; ● **CALIF., LOS ANGELES,** Maydwell & Hartzell, Inc., 427 W. 5th St., MA 8-7245, **SAN FRANCISCO,** Maydwell & Hartzell, Inc., 870 Tennessee St., AT 8-6900; ● **GA., ATLANTA,** Dewees, H. K., Co., 654 Hemphill Ave., N.W., TR 5-2753, **ATLANTA,** Johnson, Jac N., 2118 Allaire Lane, ME 6-4663; ● **ILL., CHICAGO,** Catellier, R. D., Inc., 4908 W. Fullerton Ave., BE 7-6460; ● **KAN. KANSAS CITY,** Haizlip, Robert L., Co., 1401 Fairfax Trafficwy, MA 1-4700; ● **N. Y., NEW YORK,** Dana-Beach Co., 101 Park Ave., MU 5-1776; ● **N. C., HICKORY,** Cox, N. C., Box 480-A, DI 6-4161; ● **ORE., PORTLAND,** Maydwell & Hartzell, Inc., 2318 N. W. Vaughn St., CA 8-4173; ● **TEXAS, DALLAS,** Chenault, Marvin H., Jr., 3070 Larry Dr., BR 9-3890; ● **WASH., SEATTLE,** Maydwell & Hartzell, Inc., 306 Dexter Ave., MA 4-2368, **SPOKANE,** Maydwell & Hartzell, Inc., S. 121 Monroe St., MA 4-4326

Superior Carbon Products Co., 9115 George Ave., Cleveland, Ohio

Superior Electric Co., The, 83 Laurel St., Bristol, Conn., Tel: LUdlow 2-9561; Sls. Mgr: J. S. Louden; Pur. Agt: A. Greger
Sales Offices: ● CALIF., REDWOOD CITY, 2881 El Camino Real, EM 8-7094, VAN NUYS, 14663 Titus St., ST 6-3626; ● FLA., MIAMI, 2217 Biscayne Blvd., FR 4-4103; ● ILL., OAK PARK, 721 South Blvd., EU 3-5430; ● MD., BALTI-

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MORE, 4033 W. Rogers Ave., MO 4-8902; ● MASS., WELLESLEY HILL, 6 Abbott Rd., CE 7-0750; ● MICH., DETROIT, 154-25 Schaefer Hway., VE 8-3460; ● N. Y., NEW YORK, 250 Park Ave., YU 6-7930; ● OHIO, MEDINA, 101 Public Sq., PA 3-1515; ● TEXAS, DALLAS, 4515 Prentice St., EM 1-2174; ● WASH., SEATTLE, 810 Third Ave., MU 2-1323

Superior Electronics Corp., 208 Piaget Ave., Clifton, N. J.

Superior Flux & Mfg. Co., 1536 St. Clair Ave., Cleveland, Ohio, Tel: SU 1-9373; Sls. Mgr: R. R. Mendelson; Pur. Agt: R. E. Handler
Sales Offices: ● CALIF., GLENDALE, Michael, Claude, Ag., 703 W. Ivy St.; ● ILL., CHICAGO, Ames Metal Prod. Co., 4323 S. Western Blvd., LA 3-3230

Superior Graphite Co., 33 S. Clark St., Chicago, Ill., Tel: RA 6-7939; Sls. Mgr: W. S. Joyce; Pur. Agt: M. B. Joyce

Superior Instruments Co., 2435 White Plains Rd., Bronx, N. Y., Tel: TU 2-1530; Sls. Mgr: M. Steir; Pur. Agt: M. Hauben

Superior Insulated Wire Co., Washburns La., Stony Point, N. Y., Tel: STony Point 6-2433; Sls. Mgr: J. T. Miller; Pur. Agt: A. Clark
Sales Offices: ● GA., ATLANTA, Duckett, G. Sales Co., 26 E. Andrews Dr., N. E.; ● ILL., CHICAGO, Levy, L. Assoc., 5323 Cottage Grove Ave.; ● IND., FORT WAYNE. Homsher. B. F., 2018 Jessie Ave.; ● KAN., OVERLAND PARK, Terwilliger Sales Co., 7133 W. 80th St.; ● MASS., HAMPDEN, Rodgers Assoc., Chapin Rd.; ● N. Y., SYRACUSE, Callahan, W. J., 156 S. Edwards Ave.; ● OHIO, CLEVELAND, Midwest Sales Co., 3219 W. 117th St.; ● OKLA., TULSA, Paschen, W. H., 2219 E. 21st St.; ● VA., ALEXANDRIA, Anderson, J. F. Co., 300 Belle View Blvd.

Superior Mfg. & Inst. Co., 154-01 Barclay Ave., Flushing, N. Y.

Superior Steatite & Ceramic Corp., 83-91 W. Forest Ave., Englewood, N. J., Tel: LOwell 8-4555; Sls. Mgr: T. H. Church; Pur. Agt: A. A. Kent
Sales Offices: ● CALIF., SAN MARINO, Yarbrough Sales Co., 2636 Mission St., RY 1-3331; ● MASS., ASHLAND, Muddle, John V., P. O. Box 346, TR 5-6012; ● N. J., BARRINGTON, Dixon, Samuel, 208 Russell Ave., LI 7-7383

Superior Switch Co., 1001 W. Broad St., Richmond, Va., Tel: ELgin 5-2834; Sls. Mgr: L. W. Childrey; Pur. Agt: A. J. Dere
Sales Offices: ● FLA., TAMPA, Cartwright & Bean, 4525 S. Lois Ave.; ● GA., ATLANTA, Cartwright & Bean, 3223 Cains H. Pl. N.W.; ● ILL., CHICAGO, Hutmacher, Ray R., 6647 N. Oliphant Ave.; ● LA., NEW ORLEANS, Cartwright & Bean, 821 Pontalba St.; ● MD., BALTIMORE, Schaar, Eberle Co., 425 Stratford Rd.; ● N. Y., AMSTERDAM, Leroy & McGuire, Inc., R. D. 4, PHELPS, Leroy & McGuire, Inc., R. D. 1; ● N. C., CHARLOTTE, Cartwright & Bean, 625 Harwyn Dr.; ● OHIO, CLEVELAND, Olsen, John O., Co., 16201 Shaker Blvd.; ● PA., LEWISBERRY, Schaar, Eberle Co., R. D. No. 1; ● TENN., MEMPHIS, Cartwright & Bean, Box 5801; ● TEXAS, DALLAS, MacRae-Smith, Box 35113

Superior Switchboard & Devices, Co., Box 590, Canton, Ohio

Superior Tube Co., Box 191, Norristown, Pa., Tel: BRoadway 5-2070; Sls. Mgr: H. B. Brown, Jr.; Pur. Agt: E. W. Hayes

Superscope, Inc., 8520 Tujunga Ave., Sun Valley, Calif., Tel: STanley 7-1313; Sls. Mgr: F. Tushinsky; Pur. Agt: N. Tushinsky
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Supreme, Inc., 1714-16 Carrollton Ave., Greenwood, Miss.

Supreme Industrial Products Co., 367 N. Karlow Ave., Chicago, Ill., Tel: NEvada 8-0633; Sls. Mgr: C. K. Hassett; Pur. Agt: W. Zittnan

Supreme Process Corp., 44 Bond St., Westbury, N. Y., Tel: EDgewood 3-1555; Sls. Mgr: G. H. Ogens; Pur. Agt: G. U. S. Henes

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Thor Ceramics, Inc., 225 Belleville Ave., Bloomfield, N. J., Tel: PIlgrim 3-7797; Sls. Mgr: H. Thaw; Pur. Agt: L. E. O'Rourke
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Timken Roller Bearing Co., Canton, Ohio, Tel: GLendale 3-4511; Sls. Mgr: W. E. McCoy; Pur. Agt: P. E. Young
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Tingstol Co., 1461 W. Grand Ave., Chicago, Ill., Tel: CAnal 6-1520; Sls. Mgr: J. P. Zopp; Pur. Agt: L. R. Morton
Sales Offices: ● N. Y., EAST ROCHESTER, Dynatherm, Inc., 607 W. Commercial St., EA 941, NEW HYDE PARK, Schwartzman, Eliot, 135 Sperry Blvd., MU 2-6361; ● OHIO, CLEVELAND, Herrick, Geo. L., Co., 15326 Lorain Ave., WI 1-4406

Tinnerman Products, Inc., P. O. Box 6688, Cleveland, Ohio, Tel: SHadyside 1-9300; Sls. Mgr: L. H. Flora; Pur. Agt: R. F. Merriam
Sales Offices: ● CALIF., LOS ANGELES, Tinnerman Products, Inc., 353½ N. Labrea Ave., WE 8-6149, PALO ALTO, Wachtel, E., 3862 Magnolia Dr., DA 6-1630; ● ILL., CHICAGO, Tinnerman Products, Inc., 5637 W. Diversey Ave., TU 9-6464; ● KAN., WICHITA, C & H Supply Co., 1725 E. 2nd St., AM 5-0993; ● MICH., DETROIT, Tinnerman Products, Inc., 17580 Wyoming Ave., UN 2-7900, KALAMAZOO, Tinnerman Products, Inc., 132 N. Burdick St., FI 4-3389; ● MINN., ST. PAUL, E. R. Benson Co., 2651 University Ave., MI 4-5197; ● MO., ST. LOUIS, Tinnerman Products Inc., 7530 Forsythe Blvd., PA 5-1182; ● N. J., NEWARK, Tinnerman Products, Inc., 509 Orange St., HU 5-4600; ● N. Y., ROCHESTER, Tinnerman Products, Inc., 42 East Ave., HA 6-3980; ● OHIO, CINCINNATI, Tinnerman Products, Inc., 1717 Section Road, RE 1-4457; ● PA., PHILADELPHIA, Tinnerman Products, Inc., 326 W. Chelten Ave., VI 3-8222; ● TENN., CHATTANOOGA, J. P. Armstrong & Son, 1324 Hamilton Bk. Bldg., AM 6-1931; ● TEXAS, FORT WORTH, Hood, O. H., Box 11027, WA 6-1381; ● WASH., SEATTLE, C & H Supply, Adm. Bldg., Boeing Fld., PA 2-8111; ● WISC., MILWAUKEE, Tinnerman Products, Inc., 4028 N. Wilson Dr., ED 2-8200

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Triad Hardware Mfg. Co., Inc., 2541 Boston Rd., Bronx, N. Y.

Triad Transformer Corp., 4055 Redwood Ave., Venice, Calif., Tel: EXmont 7-2145; Sls. Mgr: E. Clover; Pur. Agt: G. L. Howard
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Tripl-T Co. Electronics, P.O. Box 5352, Pasadena, Calif., Tel: SY 2-7687; Sls. Mgr: E. Lane

Triple-A Specialty Co., 2835 N. Western Ave., Chicago, Ill.

Triplett & Barton, Inc., 831 N. Lake St., Burbank, Calif., Tel: Victoria 9-1291; Sls. Mgr: T. A. Triplett; Pur. Agt: C. W. Sexton

Sales Offices: ● KAN., WICHITA, Triplett & Barton, Inc., 1745 S. 103rd St., WH 2-4841

Triplett Electrical Instr. Co., 286 Harmon Rd., Bluffton, Ohio, Tel: 323-W; Sls. Mgr: N. A. Triplett; Pur. Agt: P. W. Stauffer

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Unison Products, Inc., Rt. 46, & Sixth St., Saddle Brook, N. J., Tel: VIking 2-1349; Sls. Mgr: W. Gill; Pur. Agt: M. Bakels
Sales Offices: ● ILL., CHICAGO, Magnuson Assoc., 3347 W. Irving Pk. Rd., KE 9-7555

Unistrut Products Co., 74 Woolsey Street Irvington, New Jersey

Unit Process Assemblies, Inc., 61 E. 4th Street, New York, N. Y., Tel: SPring 7-1938; Sls. Mgr: S. U. Lieber; Pur. Agt: C. Cirrilli
Sales Offices: ● CALIF., LOS ANGELES, Quality Control Co., 1566 N. Western Ave., HO 9-5385; ● CAN., TORONTO, Armalite Co., Ltd., Crystal Arts Sq., HO 1-2455; ● GA., ATLANTA, D. G. Machinery & Gage, Box 13135, Sta., K, ME 6-5511; ● ILL., CHICAGO, Platers Technical Serv., 509 S. Wabash Ave., HA 7-7648; ● MASS., BEVERLY, Morgan, Charles T., Co., WA 2-0378, MARBLEHEAD, Yale Assoc., NE 2-0068; ● MO., ST. LOUIS, Davies Supply & Mfg., Co., 4160 Meramec Ave., MO 4-9332; ● OHIO, ROCKY RIVER, Hull, R. O., Co., 1300 Parsons Ct., ED 1-5100

United Aircraft Prodcts, 1116 Bolander Ave., Dayton, Ohio, Tel: BAldwin 4-3841; Sls. Mgr: F. A. Ryan
Sales Offices: ● CALIF., BURBANK, Peltier, Lou 1101 Chestnut St., VI 9-4236; ● CAN., POINT CLAIRE, Boland, Arden C., 147 Hymus Blvd., ME 1-4396; ● N. Y., NEW YORK, Funk, Al, 50 E. 42nd St., MU 7-1283, NEW YORK, Hueffed, Bob, 50 E. 42nd St., MU 7-1283

United Audio Products, Div. United Optical Mfg., 202 East 19th St., New York, N. Y., Tel: GR 7-4372; Sls. Mgr: J. Gorski

United Carbon Products Co., Inc., P.O. Box 269, Bay City, Michigan,Tel: TW 3-4575; Sls. Mgr: E. J. Musniski; Pur. Agt: M. D. Sordyl
Sales Offices: ● CALIF., LA MIRADA, Sarnowski, Dik, 15057 Alondra, LA 1-3726

United-Carr Fastener Corp., 31 Ames St., Cambridge, Mass., Tel: KIrkland 7-4900; Sls. Mgr: A. W. Rice, Jr.; Pur. Agt: F. T. Ross

Untited Catalog Publishers, Inc., 60 Madison Ave., Hempstead, N. Y., Tel: IVanhoe 6-7755; Sls. Mgr: A. I. Rabb
Sales Offices: ● CALIF., PASADENA, McIntyre, Russ & Stew, 3449B Oceanview Blvd., RY 1-6981; ● ILL., CHICAGO, United Catalog Pub., Inc., 7851 S. Escanaba Ave., SA 1-9844

United Condenser Corp., 3400 Park Avenue, Bronx, New York, Tel: CY 2-5180; Sls. Mgr: S. Lipman; Pur. Agt: V. Reece
Sales Offices: ● CALIF., VAN NUYS, Penwarden, J. G., Co., 7311 Van Nuys Blvd., ST 5-1019; ● CAN., AGINCOURT, Electromechanical Prod., Markham Road AX 3-7011; ● COLO., DENVER, Pease, Fred A., Co., 4921 East 38th Ave.; ● ILL., CHICAGO, Bluzat, Rene Co., 3035 N. Larmie St., Pe 6-2238; ● MD., TOWSON, Jones, William M., 1107 Echo Court North, VA 3-2434; ● MASS., BROOKLINE, Segel, Henry P. Co., 386 Washington St.; ● MINN., ST. PAUL, Hoffman, Edward Co., 216 Liberty Bank Bldg.; ● N. J., WESTFIELD, Perlman, Mac, 4 Bates Way, WE 2-9091; ● N. Y., BROOKLYN, Denburgfi, Al, 1312 Ditmars Ave., ROCHESTER, Scanlon, J. P., 51 Bloomfield Pl., GR 3-7553, YONKERS, Shaw, Sam, 361 Central Park Ave., YO 3-5700; ● OHIO, DAYTON, Jay Engineering, Co., Box 175, Sta. A; ● PA., BALA CYNWYD, Garrigues, S. W., Box 74; ● TEXAS; DALLAS, Delzell Maynard Sales Co., 2013 Cedar Springs; ● WASH., SPOKANE, Paramount Agencies, Box 835

United Control Corp., 4540 Union Bay Place, Seattle, Washington, Tel: LAkeview 5-9200; Sls. Mgr: R. L. Hancock; Pur. Agt: M. K. Lilleberg
Sales Offices: ● CALIF., ENCINO, Ledbetter, G. W., & Assoc., Box 528, ST 9-8115; ● COLO., LITTLETON, Price Eng., Sales Assoc., Box 224, PY 4-2902; ● ILL., CHICAGO, Carlson Electronic Sales, 6677 N. Northwest Hwy., NE 1-8646; ● N. Y., COPIAGUE, Reciputi & Weiss, Inc., 635 Oak St., AM 4-3322; ● TEAXS, ARLINGTON, Reciputi & Weiss, Inc., 810-D E. Abram, CR 5-0401

United Electronic Controls Co., 85 School St., Watertown, Mass., Tel: WAtertown 4-2552; Sls. Mgr: S. T. Kerr; Pur. Agt: R. Rando
Sales Offices: ● CALIF., LOS ANGELES, Dundas, N. F., 5550 Alhambra Ave., CA 1-4256, OAKLAND, Western Electro-Mech., 300 Bway.; ● CAN., MONTREAL, Playford, E. W., Ltd., 5851 Upper Lachine Rd., HU 8-5383, TORONTO, Process Instrument Sys., 1918 Avenue Rd., OR 5514; ● ILL., CHICAGO, Sheretz-Henderson, Co., 5707 W. Lake St., CO 1-1032; ● IND., ANGOLA, Law Instrument, Co., Box 95, AN 217; ● LA., NEW ORLEANS, Mid-South Sales Co., 4424-B Earhart Blvd., TU 4683; ● MD., ADELPHI, Davis, R. G., Co., 3313 Powder Mill Rd., WE 5-5382; ● MICH., LIVONIA, Barnum, H. H., Co., 12201 Merriman Rd., KE 1-7504; ● MINN., MINNEAPOLIS, Larsen, R. S., Co., 5914 Portland Ave., S., UN 9-7774; ● MO., KANSAS CITY, Gilbert, J. M., Co., 131 E. 70th St., DE 3-8830; ● N. Y., BUFFALO, Lane Engrg., Co., 1807 Elmwood Ave., RI 0770, FLUSHING, Petro-Chem. Spec., Co., Box 104, TW 9-6400; ● OHIO, CINCINNATI, Wilcox Egnrg., Co., 4200 Montgomery Rd., EL 1-4935, CLEVELAND, King Instrument Co., 5771 Ridge Rd., TU 4-3450; ● ORE., PORTLAND, Pacific Electric Sales, 140 S. E. 28th Ave., BE 5-4137; ● PA., BETHEL PARK, Kovach, R. R., 37 Alton Dr., TE 5-6296, DREXEL HILL, Whiddett, J. C., Co., 3850 Garrett Rd., CL 9-3636; ● TEXAS DALLAS, Wickman, H. M., & Assoc., 4258 Shore Crest Dr., FL 2-1832, HOUSTON, Process Sales Co,. 9802 Cliffwood, PA 3-3710; ● WISC., MILWAUKEE, Pyro-Matic Industrials, 500 W. National Ave., EV 4-9300

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United Engineering Co., 16 Broadway, Toledo, Ohio, Tel: CH 3-4726; Sls. Mgr: N. E. Beck, Jr.

United Geophysical Corp., 1200 S. Marengo St., Pasadena, Calif.

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United Mfg. & Service Co., 405 S. 6th St., Milwaukee, Wisc.

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Sales Offices ● CALIF., LOS ANGELES, Geist, W. K., Co., 3177 Glendale Blvd., NO 5-5219; ● ILL., CHICAGO, Saffro & Gettleman, 5209 N. Kimball Ave., JU 8-0905; ● IND., MARKLE, Williams, A. E., Co., R. R. #1, SK 8-5703; ● MASS., SOMERVILLE, Near Inc., 90 Highland Ave., PR 6-2262; ● MD., TOWSON, Jones, W. M., Co., 1107 Echo Ct. N. VA 3-2434; ● TEXAS, DALLAS, Packard Assoc., Love Field Bldg., FL 7-5713

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United States Elect. Research, 11631 E. Jefferson, Detroit, Michigan

United States Rubber Co., 4300 New Haven, Fort Wayne Indiana

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Unitronics, Inc., 472 Park Ave., Ferguson Sta., St. Louis, Mo.

Universal Can & Condenser, Div. McNaught Metal, 3435 N. Kimball, Chicago, Ill., Tel: COrnelia 7-3933; Sls. Mgr: D. P. Feeney; Pur. Agt: E. S. Ridgway

Universal Circuit Controls Corp., 3610 Oakton St., Skokie, Ill., Tel: ORchard 5-2620; Sls. Mgr: E. R. Sayre; Pur. Agt: S. B. Friedman
Sales Offices: ● CALIF., PALO ALTO, Nickerson-Gray & Assoc., 2434 Park Blvd., DA 6-0152; ● ILL., CHICAGO, Grotz, Anthony N. & Assoc., 580 S. W. Montrose, SU 7-9525; ● MD., BALTIMORE, Stemler, Walter G. & Assoc., 511 N. Charles St., PL 2-3211; ● MO., ST. LOUIS, Fixman, Gordon, Engrg., 8160 Stanford Ave., PA 5-5219; ● N. Y., BUFFALO, Jackson, Robert W. Co., 4446 Main St., FAYETTEVILLE, Jackson, Robert W. Co., Box 52; ● OHIO, CLEVELAND, Goory Sls. Co., 19556 Henry Rd., ED 1-1500, DAYTON, Goory Sls. Co., 202 Winding Way; ● WISC., MILWAUKEE, Grotz, Anthony N. & Assoc., 3724-A N. 18th St., UP 1-7147

Universal Drafting Machine Corp., 7960 Lorain Ave., Cleveland, Ohio, Tel: OLympic 1-4747; Sls. Mgr: S. W. Hoover; Pur. Agt: D. R. Devito
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Sales Offices: ● CALIF., LOS ANGELES, Universal Electric Co., 7543 Santa Monica Blvd., HO 4-8157; ● CONN., WEST HARTFORD, Universal Electric Co., 993 Farmington Ave., AD 3-4778; ● ILL., CHICAGO, Universal Electric Co., 5150 W. Madison St., ES 9-2490, ELSAH, Universal Electric Co., Box 38, AL 2-5651; ● IND., INDIANAPOLIS, Universal Electric Co., 453 N. Emerson Ave., FL 6-2149; ● OHIO, COLUMBUS, Universal Electric Co., 2499 Swansea, HU 6-2794; ● TEXAS, DALLAS, Universal Electric Co., 2656 Freewood Dr., LA 6-8741; ● WASH., SEATTLE, Gardner Distributing Co., 308 Ninth Ave., N. EL 0677

UNIVERSAL ELECTRONICS CO. (Pg. 957), P. O. Box 64502, Los Angeles 64, Calif., Tel: EXbrook 3-7707; Sls. Mgr: R. Landis; Pur. Agt: P. A. McGreevey
Sales Offices: ● **CALIF., LOS ANGELES,** Landis Assoc., 1531 S. Robertson, CR 4-8185, **SAN FRANCISCO,** Frazar & Hanson Ltd., 301 Clay St., **EX** 2-5112, **SUNNYVALE,** Snitzer, T. L. Co., 510 S. Mathilda, RE 6-6733; ● **CAN., MALVERN,** Electromation, Box 105,; ● **COLO., DENVER,** Mark, L. Assoc., 1660 Gilpin St.; ● **MICH., WARREN,** Electro-Mec, 4012 E. Ghile Rd., JE 6-4040; ● **MINN., MINNEAPOLIS,** Ripley, R., 6937 Penn Ave., S., UN 6-8682; ● **MO., KANSAS,** Mark, L. Assoc., Box 8467; ● **N. Y., GREAT NECK,** Industron Co., 300 Northern Blvd., HU 7-2620; ● **OHIO, DAYTON,** Ohio Instr. Co., 7316 W. Churchill, CH 4-2744; ● **TEXAS, FORT WORTH,** Spears, M. Co., Box 11033, WA 6-4444; ● **UTAH, SALT LAKE CITY,** Intermtn. Time & Equip., 1067 E. 2nd St., EM 3-9570; ● **WASH., SEATTLE,** Schultz, N. R., Co., 4227 Airport Way, WE 8-2074

Universal Industrial Equip. Corp., 1625 Paterson Plank Rd., Secaucus, N. J., Tel: UN 7-8773; Sls. Mgr: E. Rothschild

UNIVERSAL MFG. CO., INC. (Pg. 965), 1168 Grove St., Irvington, N. J., Tel: ESsex 4-9800; Sls. Mgr: A. Vicari; Pur. Agt: W. Arends

Universal Match Corp., Armament Div. Avionics Dept., 4407 Cook Ave., St. Louis, Mo., Tel: JA 2-1620; Sls. Mgr: I. A. Waterstreet; Pur. Agt: J. Sokolich
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Universal Metal Prods. Co., 1516 Cherry Street, Toledo, Ohio

Universal Microphone Co., Box 55, Inglewood, Calif., Tel: EXmont 8-6898; Sls. Mgr: R. M. Harrison; Pur. Agt: D. M. Harrison

Universal Prods., 4100 Taylor Ave., Racine, Wisc., Tel: MElrose 3-0010; Sls. Mgr: R. E. Hedstrom
Sales Offices: ● ILL., GRIGGSVILLE, Trio Mfg. Co.

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Universal Transistor Products Corp., 17 Brooklyn Ave., Westbury, N. Y., Tel: EDgewood 3-3304; Sls. Mgr: M. L. Goodman; Pur. Agt: J. Spirito
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VITRAMON, INC. Pg. 504), P. O. Box 544, Bridgeport, Conn., Tel: AMherst 8-1656; Sls. Mgr: C. Tuttle, Jr.; Pur. Agt: W. Osowski

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Vitroseal Corp., Vine & Race Sts., Ridgway, Pa., Tel: PRospect 2-4655; Sls. Mgr: L. J. Weidenboerner

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W. & M. Mfg. Corp., 187 Lafayette St., New York, N. Y.

Waage Electric, Inc., 720 Colfax Ave., Kenilworth, N. J., Tel: CHestnut 5-9363; Sls. Mgr: C. W. Frantz

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Wiegand Mfg. Co., 120 E. Hawthorn Ave., Valley Stream, N. Y., Tel: VAlley Stream 5-4141; Pur. Agt: J. Wiegand

Wiggins, E. B. Oil Tool Co., 3424 E. Olympic Blvd., Los Angeles, Calif., Tel: AN 9-0181; Sls. Mgr: R. Strouse; Pur. Agt: T. Smart

Wilco Corp., 546 Drover St., Indianapolis, Ind., Tel: MElrose 7-3164; Sls. Mgr: J. L. Carroll; Pur. Agt: J. Gilpatrick
Sales Offices: ● ILL., CHICAGO, Gene, F. Sls., 5306 W. Lawrence Ave.; ● MO., KANSAS CITY, Kroenig-Meyers, 4538 Main St.; ● N. Y., ROSLYN, Lichter, William Sls., 26 Teakwood La.

Wilcolator Co., 1001 Newark Ave., Elizabeth, N. J., Tel: ELizabeth 4-1000; Sls. Mgr: P. F. McCaughey; Pur. Agt: J. Martin
Sales Offices: ● CALIF., LOS ANGELES, Alleman, F. F., Co., 1625 Blake Ave., CA 2-8128; ● CAN., TORONTO, Wilcolator Ltd., 221 Evans Ave., CL 9-9254; ● ILL., PROSPECT HEIGHTS, Van Petten, R., 206 S. Maple La., CL 3-5958; ● KAN., MISSION, Darnell, D. D. & Co., Johnson Dr. & Nall Ave., RA 2-1736; ● MINN., MINNEAPOLIS, Volco Co., 831 So. 6th St., PL 6-3373; ● N. J., MOUNTAINSIDE, Marshall, D. L., 392 Central Ave., AD 2-8421, WESTFIELD, Lean, W. A., 267 Canterbury Rd., AD 2-8284; ● N. Y., BUFFALO, Niagara Electric Sales, 505 Delaware Ave., SU 4000, ROCHESTER, Niagara Electric Sales, 133 Clinton Ave., S., HA 6-2070; ● OHIO, COLUMBUS, Becker, G. C., 2134 Chardon Rd., HU 6-4415, COLUMBUS, Modla, E. J., 2115 Harwitch Rd., HU 8-5709; ● ORE., PORTLAND, Pacific Electric Sales, 140 S. E. 28th Ave., BE 5-4137; ● TENN., LOOKOUT MOUNTAIN, Paxton, P. D., Rock City Trail, VE 1-1885

Wilcox Electric Co., 1400 Chestnut St., Kansas City, Mo., Tel: BE 1-0700
Sales Offices: ● CALIF., HOLLYWOOD, 7046 Hollywood, HO 9-5654; ● KAN., WICHITA, 2640 S. Minnesota, AM 2-8031

Wilcox-Gay Corp., Charlotte, Michigan

Wilcox Research Co., 7250 Hinds Ave., No. Hollywood, Calif., Tel: STanley 7-4475; Sls. Mgr: J. E. Wilcox

Wildberg Bros., Smelting & Refining Co., 742 Market St., San Francisco, Calif., Tel: Douglas 2-3505; Sls. Mgr: W. T. Haley; Pur. Agt: I. I. Wildberg
Sales Offices: ● CALIF., LOS ANGELES, Wildberg Bros., 635 So. Hill St., MA 7-2041

Wilder Eng. Products, 2013 N. Halsted St., Chicago, Ill.

WILDER MFG. CO. (Pgs. 967, 1113), Mechanic St. & Erie R. R., Port Jervis, N. Y. Tel: POrt Jervis 3-2291; Sls. Mgr: W. H. Derse; Pur. Agt: A. F. Derse

Wiley, John &Sons, Inc., 440 4th Ave., New York, N. Y.

Willard Storage Battery, 246 E. 131st St., Cleveland, Ohio, Tel: ULster 1-2600; Sls. Mgr: J. S. Harbison; Pur. Agt: D. Campbell

Williams, C. K. & Co., 640 N. 13th Street, Easton, Pa.
Sales Offices: ● CALIF., EMERYVILLE, 4650 Shellmound St., OL 2-4806, LOS ANGELES, 7522 Maie Ave., LU 7-4218; ● ILL., CHICAGO, 400 W. Madison St., AN 3-1688, EAST ST. LOUIS, 2001 Lynch Ave., BR 1-4600; ● MASS., BOSTON, 131 State St., LA 3-0255; ● MICH., DETROIT, 14402

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Wilmar Mfg. Co., Inc., 1110 Truman Rd., Kansas City, Mo.

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Wilson Camera Co., Inc., 1395 Lawrence Rd., Haverstown, Pa., Tel: HIlltop 6-8760; Sls. Mgr: T. C. Wilson

Wilson, H. A., Co., 2655 U. S. Hway 22, Union, N. J.

Wilson, G. C., & Co., 1915 8th Ave., Box 5525, Huntington, W. Va., Tel: JA 3-5149; Pur. Agt: G. C. Wilson
Sales Office: ● CALIF., SHERMAN OAKS, Western Control Equip. Co., 14615 Ventura Blvd.; ● ILL., CHICAGO, Norman Engrg. Co., 2115 W. Marquette Rd.; ● N. Y., NEW YORK, Rowland, E. W., Assoc., 90 West St.

Winatic Corp., The, P. O. Box 240, Endicott, N. Y., Tel: 8-1518; Sls. Mgr: R. W. Severson; Pur. Agt: D. A. Hertzog
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Winco Enterprises, 3811 Cloverdale, Los Angeles, Calif.

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Sales Offices: ● CAN., WATERLOO, Wind Turbine Co. of Can., 145 Lucan St., SH 2-1323

Winder Aircraft Corp. of Florida, Box 2397, Lakeland, Fla.

Winegard Co., 3000 Scotten Blvd., Burlington, Iowa, Tel: PLaza 4-6595; Sls. Mgr: R. Fleming; Pur. Agt: E. Scott

Winpower Mfg. Co., Newton, Iowa, Tel: 236; Sls. Mgr: F. K. Bauer; Pur. Agt: M. Ham

WINSLOW CO., INC. (Pg. 764), 707 Lehigh Avenue, Union, N. J., Tel: MUrdock 8-0020; Sls. Mgr: L. J. Winslow; Pur. Agt: T. P. Winslow

Winston Electronics, Inc., 4312 Main St., Philadelphia, Pa., Tel: IVyridge 2-6599; Sls. Mgr: D. R. Kursman; Pur. Agt: S. P. Rosen
Sales Offices: ● CALIF. LOS ANGELES, Berman J. A., Co.. 1141 S. LaCienega Blvd., BR 2-9138, SAN MATEO, Newnan, H. L. 56 41st Ave., FI 1-3433; ● CAN., TORONTO, Active Radio & T.V., Ltd., 59 Spadina Ave.; ● COLO., DENVER, Koether-Cox Co., 110 W. 13th Ave., MA 3-3544; ● GA., ATLANTA, Nickerson, F. C., 1202 Zonolite Rd., N.E., TR 5-8908; ● ILL., CHICAGO, Kadell Sales Assoc., 5875 N. Lincoln Ave., LO 1-3042; ● KY., LOUISVILLE, Bilray Org., 3615 Brownsboro Rd., TW 5-6369; ● MICH., DETROIT, Milsk, R., Co., 19371 James Couzen Hwy., BR 3-2930; ● MO., KANSAS CITY, Kay Sales Co., 2600 Brand Ave., BA 1-3800; ● N. Y., BALDWIN, Berliant Assoc., 96 S. Grand Ave., BA 3-1636, HOLLIS, Friedman, A., & Assoc., 188-16 Jamaica Ave., SP 6-4800, NEW YORK, Terminal Radio Intl., Ltd., 135 Liberty St., WO 4-3311; ● OHIO, CLEVELAND, Roth, M., Sales Co., 13947 Cedar Rd., YE 2-4262; ● ORE., PORTLAND, Weber, D. G., 8 S.E. Clay St., BE 4-7671; ● TENN., MEMPHIS, Engelman, A., & Co., 3205 Crump Ave., GL 8-6263; ● TEXAS, DALLAS, Gross, F., & Co., Box 1926, EL 4801

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Wright Electronics, Inc., 2537 Grand Avenue, Kansas City, Mo., Tel: BAltimore 1-8686; Sls. Mgr: R. A. Wells; Pur. Agt: B. Knickaboker
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Sales Offices: ● CALIF., LOS ANGELES, Wright Steel & Wire, 909 Santa Fe Ave., MA 7-8601; ● COLO., DENVER, Swan, Edward C., Co., 232 Dahlia St., EA 4718; ● FLA., HIALEAH, Insect Wire Screen Corp., 1055 E. Sixteenth St., TU 8-1021; ● GA., AVONDALE ESTATES, Hornibrook Co., 120 Avondale Rd., DR 7-4283; ● ILL., CHICAGO, Wright Steel & Wire, 4956 S. Monitor Ave., GL 8-1390; ● LA., NEW ORLEANS, Baldwin, L. J., & Son, 306 Carondelet Bldg., RA 6705; ● MD., GARRISON, Worthington, H. Linn, HU 6-3784; ● N. Y., NEW YORK, Baldwin-McLean, 19 W. 44th St., MU 7-2654; ● OHIO, CINCINNATI, MacIntosh, P. G., 318 Broadway, MA 1-9381; ● ORE., PORTLAND, Morrison, R. A., 104 Sherlock Bldg., CA 7-4984, PORTLAND, Minthorne, Roger M., Co., 0673 Taylors Ferry Rd., CH 6-4556; ● PA., VILLANOVA, Wilson, L. L., 925 Field La., LA 5-5030

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Wuerth Tube Saver Corp., 9125 Livernois, Detroit, Mich., Tel: TExas 4-9224; Sls. Mgr: H. J. Wuerth; Pur. Agt: R. C. Wuerth
Sales Offices: ● FLA., HALLANDALE, Wuerth Tube-Saver Corp., 1006 N.E. 8th St., WA 3-3556

Wunderlich Radio Co., 105 N. Kenilworth Ave., Oak Park, Ill., Tel: EUclid 6-3040; Sls. Mgr: N. E. Wunderlich

Wybar Electronics, Inc., Box 388, Auburn, N. Y., Tel: 2-6229; Sls. Mgr: J. Weinstein; Pur. Agt: R. Ellis
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Wyco Metal Products, 6918 Beck Ave., North Hollywood, Calif., Tel: STanley 7-5579; Sls. Mgr: L. Turner; Pur. Agt: R. Stone
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Sales Offices: ● CALIF., LOS ANGELES, Devere, P., 6399 Wilshire Blvd.

Yellow Springs Instrument Co., Inc., Box 106, Yellow Springs, Ohio, Tel: ROckwell 7-7242; Sls. Mgr: R. I. Schiff; Pur. Agt: R. E. Stearns

Yonkers Industries, Inc., 28 School St., Yonkers, N. Y.

York Metal Products, Inc., 350 Greenwich St., New York, N. Y., Tel: WAlker 5-7227; Pur. Agt: S. Bucek

Young Bros. Co., 1843 Columbus Rd., Cleveland, Ohio, Tel: MAin 1-2473; Sls. Mgr: C. H. Barnett; Pur. Abt: G. Kenney

Yuba Systems Div., Yuba Consolidated Ind., 990 Varian St., San Carlos, Calif., Tel: LY 1-5326; Sls. Mgr; R. O. Flory; Pur. Agt: R. Searle

Z. & W. Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, Ohio, Tel: WHitney 3-5700; Sls. Mgr: R. M. Wood; Pur. Agt: W. B. Szabo

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ELECTRONIC ENGINEERS MASTER

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2 - Sprague Electric Co.
3-BANDER - Gonset
3C-BLOC - Computer Control
3C-PAC - Computer Control
4-BOW HELIX - JFD Mfg. Co.
4-J - Fourjay Industries
5-WAY - Superior Electric
8 BALL - Ward Products
24 - SoundScriber Corp.
#30 ALLOY - Wilbur B. Driver
#52 ALLOY - Wilbur B. Driver
#60 ALLOY - Wilbur B. Driver
60 CASE - Thomson Industries
#90 ALLOY - Wilbur B. Driver
112 SYSTEMS - Beckman/Systems
123 SYSTEMS - Beckman/Systems
#180 ALLOY - Wilbur B. Driver
200-B - SoundScriber Corp.
205 - Burroughs, ElectroData Div.
210 SYSTEMS - Beckman/Systems
220 - Burroughs, ElectroData Div.
357 - Teleradio Engineering
1000 SCALER - Tracerlab, Inc.

A

A+ - Fen Tone Corp.
A.B.E. - Barker Sales Co.
ABOGLAS - Natvar Corp.
ABSOLUTE - Cambridge Filter Corp.
ACC - Automation Controls Corp.
ACCRA-CORE - Misco Precision Cast
ACCUMET - Crucible Steel
ACCURAY - Industrial Nucleonics Corp.
ACCUTRON - Sheffield Corp.
ACCUVAC - Green Rectifier Co.
ACCWIRE - Accurate Insulated Wire
ACE - Ace Engrg & Machine Co.,Inc.
ACE - Arro Expansion Bolt Co.
ACEMHO - Ace Electronics Assoc.
ACEOHM - Ace Electronics Assoc.
ACEPOT - Ace Electronics Assoc.
ACERELAY - Ace Electronics Assoc.
ACESET - Ace Electronics Assoc.
ACETRIM - Ace Electronics Assoc.
ACME - Trimm, Inc.
ACME-MOLD - Acme Wire Co.
ACOUSTIC BATON - Univ. Loudspeaker
ACOUSTIC GATE - Altec Lansing
ACOUSTONE - Newcastle Fabrics
ACOUSTRON - Louis J. Gallo
ACRAGAGE - Norden-Ketay Corp.
ACRASPLIT - Entron, Inc.
ACROBOSS - Acromark Co.
ACRODIE - Acromark Co.
ACROGRAVE - Acromark Co.
ACROINK - Acromark Co.
ACROJET - Acromark Co.
ACROLEAF - Acromark Co.
ACROMAG - Acromag Co.
ACRO MATCH - Communications Co.
ACROPLAC - Acromark Co.
ACROPRENE - Acromark Co.
ACROPRINT - Acromark Co.
ACROSOUND - Acro Products
ACROSTAMP - Acromark Co.
ACROTOOL - Acromark Co.
ACROTOOL - Acro Tool & Die Wks.
ACRYLEX - Essex Wire Corp.
ACTIGRAPH - Nuclear-Chicago Corp.
ACTIGRAPH-II - Nuclear-Chicago Corp.
A-C VARIVOLTER - Amplifier Corp.
A-D- Audio Devices, Inc.
ADALAKE - Adams & Westlake Co.
ADAPT-IT - Workman TV, Inc.
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AD-A-SWITCH - Clarostat Mfg. Co.
ADC - Audio Development
ADC - Maico Electronics
ADCASTER - Audiomation Lab.
ADCO - Adhesive Products
ADCO - Automation Dynamics Corp.
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ADD-A-UNIT - Blonder-Tongue
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ADD-PUNCH - Friden, Inc.
ADD-TRACTOR - Victor Add Machine
ADEC - Amer. Dev. Electronics
ADELCO - Advance Electronics Co.
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ADJUST-A-VOLT - Stan.Electr.Prod.
ADJUSTOHM - Ward Leonard Electr.
ADJUSTOROIDS - Burnell & Co.
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AE 16 - Bow Solder Products
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AEROBAND - Aero-Marine Dev.
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AEROSOLVE - Cambridge Filter Corp.
AEROTRON - Aeronautical Electronics
AEROWARN - Aerojet-General Corp.
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AGASWITCH - A'G'A Div.,Elastic Stop
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ALNICO - General Magnetic Corp.
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AMBERITE - Micamold Electr. Mfg.
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AMPHOS - American Metal Climax, Inc.
AMPLET - Devol Research
AMPLICALL - Rauland-Borg Corp.
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AMPLITRAN - Ferrotran Electronics
AMPLIFILM - Amp. Inc.
AMPLITRON - Raytheon Mfg. Co.
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A-P - Controls Co. of America
APCOR - Geartronics Corp.
APELCO - Applied Electronics Co.
APIEZON - James G. Biddle
APRILAIRE - Research Products
AQUADAG - Acheson Colloids Co.
AQUAKAY - Cardy-Lundmark Co.
AQUALITE - National Vulcanized Fibre
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AQUASTOP - Protective Coatings Co.
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ARMATURO - Johns-Manville
ARMCO 48 NI - Armco Steel Corp.
ARMCO 48 ORTHONIK - Armco Steel
ARMCORP - American Research & Mfg.
ARMIDE - Armstrong Bros. Tool
ARMITE - Spaulding Fibre Co.
ARMORPLY - U.S. Plywood Corp.
ARMOUR CLAD - Armour and Co.
ARRAPOXY - ARRA Corp.
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ARROFLUTE - Arro Expansion Bolt
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ASCO - Automatic Switch Co.
ASENCO - Assoc. Engrg. & Mfg. Corp.
ASKANIA - CPE Controls, Inc.
ASPDEN - Fen-Tone Corp.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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ATBEE - Radiation Research Corp.
ATCOTRAN - Auto. Timing & Controls
ATCOTRONIC - Auto. Timing & Con.
A.T.E. - Barker Sales Co.
ATINEER - Maico Electr., Inc.
ATLAS - Lincoln Sound
ATLASTAVON - Atlas Mineral Products
ATLASTISEAL - Atlas Mineral Products
ATLEE - Atlas E.E. Corp.
A.T.M. - Barker Sales Co.
ATMOSEALS - Atmo Seal Co.
ATOM - Sprague Electric Co.
ATOMICHRON - National Co., Inc.
ATOMIC JEWEL - Robins Ind. Corp.
ATOM WRENCH - Hunter Sales
ATR - American TV & Radio Co.
ATTEN-U-CARD - Elektro-Serv Co.
ATTIC-TENNA - Karlson Assoc. Inc.
AUBESTON - Auburn Mfg. Co.
AUDET - Centralab, Div. Globe-Union
AUDIO-AIDE - L. Charlton Greene
AUDIO CHIEF - Audio Equip. Co., Inc.
AUDIO CRAFTERS - Calif. Cabinet
AUDIODISCS - Audio Devices, Inc.
AUDIO-FILE - United Catalog Pub.
AUDIOFILM - Audio Devices, Inc.
AUDIGAGE - Branson Ultrasonic Corp.
AUDIO GUIDER - Audio Equip. Co., Inc.
AUDIO HAILER - Audio Equip. Co., Inc.
AUDIOLATOR - Kay Electr. Co.
AUDIOM - Collaro, Ltd. (Rockbar Corp.)
AUDIOPOINTS - Audio Devices, Inc.
AUDIOSCOPE - Audio-Master Corp.
AUDIOTAPE - Audio Devices, Inc.
AUDIOTONE - Audio-Master Corp.
AUDIOTRAN - Ferrotran Electronics
AUDIOTRONIX - Audio Electronic Corp.
AUDIO VENDOR - Cousino, Inc.
AUDIPLEX - Electr. Develop. Co., Inc.
AUDITION - Reeves Soundcraft
AUDITORIUM - Jensen Mfg. Co.
AUDOGRAPH - Gray Mfg. Co.
AUD-O-GRIL - Parkway Specialties
AURASEAL - Maico Electr., Inc.
AURICON - Berndt-Bach, Inc.
AURO PHONE - Rye Sound Corp.
AUTEX - Flight Research, Inc.
AUTO-BOARD - Design Tool Corp.
AUTO-BRIDGE - Industrial Instr.
AUTOCAL - Allegany Instrument Co.
AUTO-CAPS - Dilectron Div. of Bestran
AUTOCON - Sprague Electric Co.
AUTOFON - Audio-Master Corp.
AUTOGRAF - F.L. Moseley Co.
AUTO-LABS - Lear, Inc.
AUTOLLIZER - North Electric Co.
AUTOLYTIC - Micamold Electronics Mfg
AUTOMAC - Cardinal Control Co., Inc.
AUTOMATIC HOUSEKEEPER - Trion
AUTOMATOR - Marathon Electr. Mfg.
AUTOMETROLOG - Sheffield Corp.
AUTONOUNCER - Audiomation Labs.
AUTOPOSITIONER - Collins Radio Co.
AUTO REF - Thermo Electric Co., Inc.
AUTO REG - C & D Batteries
AUTOSCALER - Tracerlab, Inc.
AUTOSET - Bristol Co.
AUTOSPERSER - Audiomation Lab.
AUTOSYN - Bendix Aviation Corp.
AUTOTUNE - Collins Radio Co.
AUTO-VOX - Kay Electric Co.
AUVIMATIC - Polytronic Research
A.V.C. - Rockbestos Products
AVC AMPLIFIER - Amplifier Corp.
AVI - Wakman Watch Co.
AVIGATOR - Mitchell Industries, Inc.
AXIETTE - Collaro, Ltd.(Rockbar Corp)
AXIMAX - Rotron Mfg. Co.
AXIOHM - Ward Leonard Electric Co.
AXIOM - Collaro, Ltd.(Rockbar Corp.)
AXIVANE - Joy Mfg. Co.

B

B2M - International Rectifier Corp.
B-A - Baird-Atomic, Inc.
B & A - Allied Chemical Corp.
BABY-COM - Fanon Electric Co., Inc.
BABY SITTER - Dynamic Electr.
BADGER - Reliance Auto. Light. Co.
BAFFLE BOX KING - Jayell Mfg. Co.
BAKEKOTE - American Nickeloid
BAKER BOY - National Vulcanized Fibre
BALANCED BEAMED-POWER ARRAYS - Telrex Labs.
BALCO - Wilbur B. Driver
BALINE - JFD Mfg. Co.
BALLAST - Wilbur B. Driver
BALLASTRON - Aerovox Corp.
BALL BUSHING - Thomson Industries
BALLERINA - Newcomb Electronics
BANDHOPPER - Lakeshore Ind.
BAND MASTER - Harvey-Wells
BANDOLUG - Ovaton Division, Burndy
BANDRIVE - Norden-Ketay Corp.
BAND-SPANNER - Webster Mfg. Co.
BANG & OLUFSEN - Fen-Tone Corp.
BANSHEE - JFD Mfg. Co.
BANTAM - Aerovox Corp.
BANTAM - American Rectifier
BANTAM - Bendix Aviation Corp.
BANTAM - Metron Instrument
BANTAM - Small Motors, Inc.
BANTAM BEAM - Gonset Division
BANTAM-DEMINERALIZOR - Barnstead
BANTAM GT - CBS-Hytron
BANTAM J.R. - CBS-Hytron
BARCO - Barlum & Chemicals, Inc.
BARCOL - Barber-Colman Co.
BAREX - King Lab., Inc.
BARNFLEX - Essex Wire Corp.
BARRY-INSCO - Insco Co.
BARRYMOUNT - Barry Controls, Inc.
BARTITE - Barwood Mfg. Co., Inc.
BASEBALL ANTENNA - Antenna Spec.
BASS-SUPERFLEX - Jensen Mfg. Co.
BATTERY SCOPE - Christie Electr.
BAY-O-NET - Dakota Engrg., Inc.
BAYTEX-UBS Chemical Corp.
BEAR - Behr-Manning Co.
BEC - Buffalo Electr. Corp.
BECBRO - Beck Bros.
BECKAMINE - Reichhold Chemicals
BECK CIRCUITRY - Beck's, Inc.
BECK PROCESS - Beck's, Inc.
BEE-LINE - Radio Merchandise Sales
BEE-LYTE - Bee Chemical Co., Logo Div
BELCAP - Sprague Electric Co.
BELIMITER - Bel Fuse, Inc.
BELIMITER - Workman TV, Inc.
BELL - Intelex Systems, Inc.
BELLING & LEE - Ercona Corp.
BELLOWS ACTION - Continental Connec.
BENCH PAC - Specific Products
BENCO - Buck Engrg. Co., Inc.
BENDIX ACINTILLA - Avnet Electronics
BENELEX "30" - Masonite Corp.
BENELEX "70" - Masonite Corp.
BENFLEX - Scintilla Div., Bendix
BEN HAR - Bentley-Harris Mfg., Co.
BENSEAL - Scintilla Div., Bendix
BERALOY - Wilbur B. Driver Co.
BERG - Erikson Specialized Tool Co.
BERLOX - National Beryllia Corp.
BERYLCO - Beryllium Corp.
BEST - Barker Sales Co.
BEST - Oxford Electric Corp.
BESTO - Rhode Island Insulated Wire
BETATROL - Robertshaw-Fulton Controls
BETTER HEARING - Rye Sound
BEYER - Electronic Applications, Inc.
BH - Bentley-Harris Mfg. Co.
BHR-RUST - Midland Paint & Varnish
BI-ACOUSTIC - Altec Lansing Corp.
BIB MIRAGRIP - Ercona Corp.
BI-FI - Federal Electronic Sales
BIFLEX - Altec Lansing Corp.
BIG - Radio Merchandise Sales, Inc.
BIG-10 - Channel Master Corp.
BIG BERTHA - Telrex Labs.
BIG JACK - Kay-Towns Antenna
BIG SHOT - Radio Merchandise Sales
BIOPAL-VRO-20 - Antara Chemicals
BI-PRENE - Bishop Mfg. Corp.
BIRACO - Birnbach Radio Co., Inc.
BIRFLENE - Birnbach Radio Co., Inc.
BIRFLEX - Birnbach Radio Co., Inc.
BIRFLON - Birnbach Radio Co., Inc.
BIRNTEX - Birnbach Radio Co., Inc.
BI-SEAL - Bishop Mfg. Corp.
BISONIC - Dynamu Magnetr. Div.
BITUMASTIC - Koppers Co., Inc.
BL-2 - Black Light Products
BL-100 - Black Light Products
BL-250 - Black Light Products
BLACK BEAUTY - Sprague Electric
BLACK DIAMOND - M. W. Dunton
BLAK-RAY - Blacklight Corp. of Amer.
BLAST - Narda Ultrasonics
BLAST CORDER - Geotechnical Corp.
BLENDTROL - Jordan Co.
BLU-CAP - Fansteel Metallurgical
BLUE DIAMOND - Pioneer Gen-E-Motor
BLUE-DIAMOND - Reeves Soundcraft
BLUE JACKET - Sprague Electric Co.
BLUE POINT - Astron Corp.
BLU-FLEX - Millers Falls Co.
BLUM - Laminations, Co.
BLU-MOL - Millers Falls Co.
BLU-OHM - Bradford Components
BLU-RED - Assoc. Amer. Trading Div.
BLUTEX - F. H. Paul & Stien Bros.
B&O - Fen-Tone Corp.
BOA - General Chemical Div.
BOARDMASTER - Univ. Draft. Mach.
BOLTA-GRAW - Bolta Products Div.
BOLTARON - Bolta Products Div.
BOLTATHENE - Bolta Products Div.
BOLT O SEAL - F.C. Wolfe Co.
BOND - M. W. Dunton Co.
BONDALUM - Craig Systems, Inc.
BONDAR - Phelps Dodge Copper Prod.
BONDEX - Essex Wire Corp.
BONDEZE - Inca Div., Phelps Dodge
BONDMASTER - Rubber & Asbestos
BOOM TYPE HEADSET - Telex, Inc.
BOOST-A-VOLT - Workman TV, Inc.
BOOTSTRAP - Sanders Associates
BORO-CARBOFILM - Aerovox Corp.
BOROFILM - Aerovox Corp.
BORON X - Technicraft Co.
BOS - Fen-Tone Corp.
BOSCAR - Benson-Lahner Corp.
BOSIPT - Workman TV, Inc.
BOSTIK - United Shoe Machinery
BOW-FLECTOR - Channel Master Corp.
BOW-FLECTOR - JFD Mfg. Co.
BOW-TIE - Radio Merchandise Sales
BOY-MAR - Electrical Service Co.
BPW - Bradford Components, Inc.
BRADMATIC - Fen-Tone Corp.
BRAIDEX PLUGS - Anchor Expansion
BRALOY - C.S. Brainin Co.
BRAMTEX - Bram Metallurgical
BRANDES - C.F. Cannon Co.
BRAND FIVE - Ferrodynamics Corp.
BRAZALOY - All-State Welding
BREITLING - Wakman Watch Co.
BRICE-PHOENIX - Phoenix Prec. Instr.
BRIDGER - Audio Instr. Co., Inc.
BRIGGS, G.A. - British Ind. Corp.
BRIMAR - Intelex Systems, Inc.
BRITE CARB - Wilbur B. Driver Co.
BROADBAND - Topatron, Inc.
BROADCASTER - Reeves Soundcraft
BRONCO - Western Insulated Wire Co.
BROWN - Minneapolis - Honeywell
BROWN DEVIL - Ohmite Mfg. Co.
BROWN, S.G. - British Ind. Corp.
BRUEL & KJAER - B & K Instruments
BT - Illinois Condenser
BUCKBINDER - A.J. Gerrard & Co.
BUD-IMLOK - Bud Radio, Inc.
BUFFALO - Fyr-Fyter Co.
BUG - Vibroplex Co., Inc.
BUILT-ON - Radion Corp.
BULPLATE - Sprague Electric Co.
BUND-L-TITE - Dakota Engrg., Inc.
BURCAP - Omaton Division
BURLINK - Omaton Division
BUSHEND - Buchanan Electrical
BUSS - Bussmann Mfg. Div.
BUTACITE - E.I. du Pont de Nemours
BUTARONE - General Cable Corp.
BUTOBA - Audio-Master Corp.
BUTTON - Erie Resistor Corp.
BUTTON-MICA - Erie Resistor Corp.
BUTTON SWITCHES - Switchcraft, Inc.
BUTTON-TITE - Erie Resistor
B&W - Barker & Williamson, Inc.

C

C-8 - G-V Controls, Inc.
CABIN-STAT - Minneapolis-Honeywell
CABLE-LOC - Monadock Mills
CABLE THEATRE - Jerrold Electr. Corp.
CAB-L-TITE - Dakota Engrg, Inc.
C-A-C - Communications Access. Co.
CADALYTE - E.I. du Pont de Nemours
CADET - Cinemaster Switch
CADO - Electronic Specialty Co.
CAD-PAK - American Monarch Corp.
CAE - Controlled Atmosphere Enc.
CALENDRICE - Wakman Watch Co.
CALIBRIDGE - Industrial Electronics
CALIFILM - W.S. Shamban & Co.
CALIPOWER - Industrial Electronics
CALIVOLTER - Calidyne Co.
CALL/SENDER - Wm. M. Smith Co.
CALMAG - Calif. Magnetic Control Co.
CAL-MATIC - North Shore Nameplate
CAL-O-DATE - Wakman Watch Co.
CALORIDURE - Pyrometer Co. of America
CALSTONE - Technicraft Co.
CALTROL - Caltron Products Co.
CAMADE - Lenz Electric Mfg. Co.
CAMADE-GLAS - Lenz Electric Mfg. Co.
CAMBION - Cambridge Thermonic Corp.
CAMBRICOID - American Electric Cable
CAMERA-SYNE - Chadwick-Helmuth
CAMTROL - Lear, Inc.
CAMTROL - Lemert Engrg. Co.
CANADE-COT - Lenz Electric Mfg. Co.
CANARI SYSTEM - Wilcox Electric Co.
CANARI UNIT - Wilcox Electric Co.
CANDOC - Cudner & O'Connor
CANDOHM - Workman TV, Inc.
CANDOHMS - Muter Co.
CANNON-BALL - C.F. Cannon Co.
CANNON PLUGS - Cannon Electric Co.
CAPABIT - Mullenbach Div., Electr.
CAPACITESTER - Teletest Instrument
CAPADYNE - Mullenbach Div., Electr.
CAPASWITCH - Mullenbach Div.
CAPISTRANO - Altec Lansing Corp.
CAPITRON - Amp., Inc.
CAPRICE - Seg Electronics Co.
CARBOFILM - Hi-Q Div., Aerovox
CARBOHM - Phaostron Instr. & Electr.
CARBOMASTIC - Carboline Co.
CARBOMITE - Wirt Co.
CARBOMOLD - Aerovox Corp.
CARBON-TET - Kerden Chemical Co.
CARBON-X - General Cement Mfg. Co.
CARBOPOL - B. F. Goodrich Chemical
CAR CALL - Seeley Electronics
CARDATRON - Burroughs Corp.
CARDATYPE - Inter. Bus. Mach. Corp.
CARD MASTER - Hunter Mfg. Co.
CARDMATIC - Hickok Electrical Instr.
CARDOLITE - Minnesota Mining & Mfg.
CARD-O-TRON - Taylor-Emmett Controls
CAR-FI - Empire Electronics
CAR-FI - 11 - Empire Electronics
CARILLON DYNAMIC - M.A. Miller
CARL ZEISS JENA - Ercona Corp.
CARO-KOREZ - Atlas Mineral Products
CARONET - Permoflux Products
CARSON - Magnecessories
CARTRIDGE SCREWDRIVER - Hunter Sls.
CARTRIFLAT - Cartriseal Corp.
CARTRIJ-DRY - Pyramid Electric Co.
CARTRILAMP - Cartriseal Corp.
CARTWHEEL - Hi-Q Div., Aerovox
CARY - Applied Physics Corp.
CASCADER - Jerrold Electr. Corp.
CASCODE - JFD Mfg. Co.
CASTIPLAST - National Engrg. Prod.
CATERPILLAR - Nylon Molding Corp.
CATHALOYS - Superior Tube Co.
CATHEDRAL - Cleveland Electr. Inc.
CATHODE CONDUCTANCE - Prec. App.
CATHODE NICKEL - Wilbur B. Driver
CATHODE-RAY STETHOSCOPE - Feller
CATHODE-RAY STORAGE TUBES - Hughes Aircraft Co., Hughes Prod.
CAT'S EYE - Ess Instrument Co.
CAT'S EYE - Mason Instr. Co.
CATSIGHT - Maryland Etching Co., Inc.
CAVITY SENSORS - Arthur Ruge Assoc.
CAWKELL, A.E. - British Ind. Corp.
C-B - Caddell-Burns Mfg. Co., Inc.
C-BRITE - Perma Power Co.
CCI - Pacific Electricord Co.
CEC - Consolidated Electrodynamics
CECO - Camera Equip. Co., Inc.
CECO - Community Engrg. Corp.
CECOPRINT - Community Engrg. Corp.
CECOSPLIT - Community Engrg.
CECOVERTER - Community Engrg. Corp.
CELAB - Clark Electronic Labs.
CELESTE - Fen-Tone Corp.
CELORON - Continental-Diamond Fibre
CEMCOAT - L. Sonneborn Sons
CENTER-LINE - Topatron, Inc.
CENTILATOR - Kay Electric Co.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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CENTR-A-POWER - G.E. - Distribution Assemblies Dept.
CENTRE-DOOLED - Sarkes-Tarzian
CEN-TRI-CORE - Alpa Metals, Inc.
CENTRICORES - Magnetic Metals
CENTROID - Tensor Electric Develop.
CENTRIMAX - Leed & Northrup Co.
CENTRUM - Reeves Equipment Corp.
CENTURY - Consolidated Controls Corp.
CERA-CIRCUIT - Gladding, McBean & Co.
CERAFELT - Johns-Manville
CERAFIBER - Johns-Manville
CERAFIL - Hi-Q Div., Aerovox Corp.
CERALLOY - New Process Metals
CERA-LYTIC - Sprague Electric
CERAMAG - Stackpole Carbon Co.
CERAMAGNET - Stackpole Carbon Co.
CERAMA TEMP - Hitemp Wires
CERAMELEX - Erie Resistor Corp.
CERAMICAPS - Muter Co.
CERAMICITE - Consolidated Electr.
CERAMICON - Erie Resistor Corp.
CERAMIKIT - Sprague Electr. Co.
CERAMIKOUPLE - E.C.Smith Mfg.
CERA-MITE - Sprague Electric Co.
CERAMO - Thermo Electr., Co., Inc.
CERAMOPLAST - Topper Mfg. Co.,Inc.
CERELENE - Stevenson Bro. & Co.
CEROC - Sprague Electr. Co.
CEROD - Sprague Electr. Co.
CER-OHM - Bradford Components, Inc.
CERON - Sprague Electric Co.
CERROBASE - Cerro de Pasco Sales
CERROBEND - Cerro de Pasco Sales
CERROCAST - Cerro de Pasco Sales
CERROLOW - Cerro de Pasco Sales
CERROMATRIX - Cerro de Pasco Sales
CERROSAFE - Cerro de Pasco Sales
CERROTRU - Cerro de Pasco Sales
CERTAIN CURTAIN - C.I. Hayes, Inc.
CERVAC - Vacuum Ceramics, Inc.
CESCO - California Electronic Services
CETRON - Continental Electr.
C-H - Cutler-Hammer, Inc.
CHAIN-MATE - Radix Wire Co.
CHALLENGER - Bogen-Presto, Div.Sieg.
CHALLENGER - Channel Master Corp.
CHALLENGER - General Photo Prods.
CHALLENGER - E.F. Johnson Co.
CHALLENGER - Rek-O-Kut Co.
CHAMP - Globe Electronics, Inc.
CHAMP - M. Ten Bosch, Inc.
CHAMPION - Channel Master Corp.
CHANGE-A-CYCLE - Carter Motor Corp.
CHANGE-A-VOLT - Carter Motor Corp.
CHANNEL KING - Marjo Technical Prod.
CHANNEL MASTER - Crown Controls
CHANNELOCK - Radio Engrg. Labs.
CHAPMAN - Ercona Corp.
CHARACTRON - Stromberg-Carlson
CHARGALYZER - Christie Electr.
CHARGICATOR - Hickok Electrical Instr.
CHASIS-TRAK - Western Devices
CHATHAM - Tung-Sol
CHEMALLOY - Chemalloy Electronics
CHEMALLOY-KAHL - Chemalloy Electr.
CHEMELAC - Fluorocarbon Prod.
CHEMFLUOR - Chemplast, Inc.
CHEMIFLEX - Technicraft
CHEMIGLAS - Technicraft Co.
CHEM-O-SOL - Chemical Prod. Corp.
CHEMPAC - Johns-Manville
CHEMPRO - Chemical & Power Prods.
CHEMTUBE - Chemfab Corp.
CHERRY - Townsend Co.
CHICAGO - Chicago Standard Transformer
CHIEF - Globe Electronics, Inc.
CHIEFTAIN - Sangamo Electr. Co.
CHILCO - Chicago Miniature Lamp Wks.
CHITRAN - Chicago Standard Transformer
CHLOROTHENE - Dow Chemical Co.
CHOMATAP - Spencer-Kennedy Labs.
CHROMABAR - Kay Electric Co.
CHROMADOT - Kay Electric Co.
CHROMALOK - Edwin L. Weigand Co.
CHROMALYTIC - Micamold Electronics
CHROMALYZER - Telechrome Mfg. Corp.
CHROMASCOPE - Telechrome Mfg. Corp.
CHROMATRON - Litton Industries
CHROMEL - Hoskins Mfg. Co.
CHRONISTAT - Bergen Labs.
CHRONISTOR - Bergen Labs.
CHRONOMAT - Wakman Watch Co.
CHRONOTEST - Herman H. Sticht
CHRONOTROL - Audiomation Lab.
CINAUDAGRAPH - Consolidated Radio
CINEMATIC - Harwald Co.
CINE PHONIC - Reeves Equipment Corp.
CINESCANNER - Philco Corp.
CINEX - Technical Apparatus
CINTEL - Marconi Instruments
CIRCLE B - Bristol Motor Div.
CIRCLE ESS - Stewart Corp.
CIRC-OHM - Bradford Components
CIRCOLOX - Ramsey Corp.
CIRCON - Univ. Circuit Controls Corp.
CIRCUITESTER - Ultraudio Products
CIRCUITMASTER - Fordham Mfg. Co.
CIRCUITRACER - Desco Mfg. Co.
CIRCUITRON-Westinghouse Electric Corp Micarta Div.
CIR-KIT - Transistor Electronics
CIR-PAK - Alfred W. Barber Labs.
CK - Farmer Elect. Products Co.
CKL - Huck Mfg. Co.
CLAD HEAT - B.F. Goodrich Aviation
CLARCO - Clarkson Labs., Inc.
CLARO - Clarostat Mfg. Co., Inc.
CLASSIC - Newcomb Electronics
CLASSIQUE - Permoflux Prod. Co.
CLASSMASTER - Nuclear-Chicago
CLEAN SOUND - Robins Industries
CLEANSWEEP - Dynamu Magnetr.
CLEAR-PRINT - Phillips Process Co.
CLEAR-VIEW - Kay-Towns Antenna
CLETRON - Cleveland Electronics, Inc.
CLEVELITE - Cleveland Containers Co.
CLEVITE - Clevite Corp.
CLIMASTER - Clegg, Inc.
CLIME-MATIC - Allied Engineering
CLIME-MATIC - Allied International
C.LINE - Clarostat Mfg. Co., Inc.
CLIP/FILE - United Catalog Publishers
CLIP-ON - Thermo Products Co., Inc.
CLIPPER - Johns-Manville
CLIPPER - Linemaster Switch
CLIPPER - Sterling Transformer Corp.
CLIX - British Electronic Sales
CLORINOL - Sprague Electric Co.
CLOUDMASTER - Nuclear-Chicago Corp.
CLUCLAD LAMICOID - Minnesota Mining
C-L-X - Simplex Wire & Cable Co.
CM - Chicago Miniature Lamp Works
CML - Communication Meas. Labs.
CM-OT - Okonite Co.
CM-PF - Okonite Co.
CMS - Cleveland Metal Specialties
COATINGAGE - Branson Ultrasonic, Corp
COAXAGUIDE - Airtron, Inc.
COAXITUBE - Precision Tube Co., Inc.
COAX-O-MATIC - Tennalab
COAXWITCH - Bird Electronic Corp.
COBANIC - Wilbur B. Driver Co.
COBENIUM - Wilbur B. Driver Co.
COBREFLEX - Univ. Loudspeaker
C.O.C. - Hammarlund Mfg.
CODASTRIP - Phalo Plastics Corp.
CODEMASTER - Bud Radio, Inc.
COHRLASTIC - Connecticut Hard Rubber
COILGUARD - Vanguard Electronics Co.
COILTENNA - Electrend Products Corp.
COLAC - Lenz Electric Mfg. Co.
COLARATURA - Newcomb Electronics
COLLARO - Rockbar Corp.
COLORAMA - Radio Corp. of America
COLORBEAM - Tennalab
COLOR-BEAM - Winegard Co.
COLOR-BRITE - Perma Power Co.
COLOR-CAL -GM Adhesive Metal Namep
COLOR 'CEPTOR - Winegard Co.
COLOR CORD - Pacific Electr. Co.
COLOR-EDE - Instr. Develp. Labs.
COLOR-EYE - Instrument Develp. Labs.
COLORITE - Trio Manufacturing Co.
COLOR KING - Channel Master Corp.
COLOR-LITE - Sloan Co.
COLOROBOT - Musicolor, Inc.
COLOR-PLAST - General Gasket, Inc.
COLOR ROYAL - Trio Manufacturing Co.
COLORSCOPE - Simpson Electric Co.
COLORTENNA - Tennalab
COLORTRON - CBS-Hytron
COLPLAST - Topper Mfg. Co., Inc.
COLTROL - Caltron Products Co.
COLUMBIA CD - CBS-Hytron
COLUMUS of SOUND - Port-O-Vox Corp.
COLVERN - British Radio Electronics,Ltd
COM - Curtis Development & Mfg. Co.
COMCO - Communications Co., Inc.
COMET - Anchor Products Co.
COMET - Astron Corp.
COMET - Driver-Harris Co.
COMMANDO - Shure Brothers, Inc.
COMMERCIAL - Trimm, Inc.
COMMUNICALL - Spertic-Faraday, Inc.
COMMUNICATOR - Gonset Division
CO-MO-TROL - Weltronic Co.
COMPACK - General Cable Corp.
COMPACT - Newcomb Electronics
COMPACTROLS - Victory Engineering
COM-PAK - Lambda Electr. Corp.
COMPANION-TRIP - Heinemann Electr.
COMPENTROL - Centralab. Div Globe
COMPO - Muter Co.
COMPOTYPER - Friden, Inc.
COMPUTERETTE - Aero Electronics
COMPUTRAN - International Resistance
COMP-U-TRIM - Eastern Precision Res.
COMTEL - Radio Frequency Labs.
COMVOR - Radio Frequency Labs.
CONALERT - Kaar Engrg. Corp.
CONCENTRIKIT - International Res.
CONCERT - Jensen Mfg. Co.
CONCERTCASTER - Audiomation Labs.
CONCERTO - Jensen Mfg. Co.
CONCERTONE - American Electronics
CONDENSIFILTER - Hankison Corp.
CONDEX - Simplex Wire & Cable Co.
CON DIESEL - Consolidated-Diesel
CO-NETIC - Perfection Mica Co.
CONFESSIONAIRE - Audio Equipment
CONFLUXER - Wang Laboratories
CONHEX - Sealectro Corp.
CONICAL REFLEX - Lowell Mfg. Co.
CONMET - Contacts, Inc.
CONNECTICUT - W. Whitney Stueck
CONNECT-O-MATIC - E.B. Wiggins
CONNECTOR SEAL - F.C. Wolfe Co.
CONNEX - Joslyn-Hudson
CONNOISSEUR - Ercona Corp.
CONNOLLY'S - Barker Sales Co.
CONOLITE - Continental Can
CONOLON - Narmco Resins & Coatings
CONQUEST - Collaro, Ltd. (Rockbar)
CON-RAD - B.T.U. Engineering
CONSECUTOR - Audiomation Labs.
CONSIL - Handy & Harman
CONSOLIDATED - Consolidated Radio
CONSTELLATION - Interlectr. Corp.
CONSTELLATION - JFD Mfg. Co.
CONSTRICT-O-GRIP - Acton Labs.
CONTACT - Beaver Labs.
CONTEMPORARY - Jensen Mfg. Co.
CONTINENTAL - Collaro, Ltd.
CONTINENTAL - DeJur-Amsco Corp.
CON-TORQ - North & Judd Mfg.
CONTROL-A-MATIC - Rockwell Engrg.
CONTROLARC - Nickers, Inc.
CONTROL-A-SOUND - Federal Electr.
CONTROLA-TONE - Continental Mfg.
CONSTAVAC - Green Rectifier Co.
CONTROLEAD - Marathon Electr.
CONTROLLER - Communications Co.
CONTROL TRACK GENERATOR - Fairchild Recording Equipment
CONVERS-O-CALL - Adcrafters Co.
CONVERTI-FUSE - General Electric
COOPER - SPS Western
COPEL - Hoskins Mfg. Co.
COPPERBRITE - London Chemical Co.
COPPER-JAC - Channel Master Corp.
COPPERPLY - National-Standard Co.
COPPERWELD - Crown Metal Products
COPPRALYTE - E.I.du Pont de Nemours
COPROX - Bradley Semiconductor Corp.
COPY-CART - Peerless Photo Products
COPYMASTER - Peck & Harvey Mfg.
CORAL DESIGNS - Henry G. Dietz
CORMAG - Weston Instr., Div. Daystrom
CORNER-HELIX - JFD Mfg. Co.
COROHM - Aerovox Corp.
CORONA - Altec Lansing Corp.
CORONATION - Collaro, Ltd (Rockbar)
CORONATION - Interlectronics Corp.
CORONET - Crest Electronics Corp.
CORONET - Permoflux Products Co.
CORPORAL - Gilfillan Bros. Inc.
CORRIB - Ohmite Mfg. Co.
CORSAIR - Hudson American
CORVEK - JA Mac Products
CORVEL - Polymer Corp.
CORVETTE - Clear Beam Antenna Corp.
CORVETTE - JFD Mfg. Co.
COSM-TROL - A & D Electronics, Inc.
CO-THERM - Hopkins Engrg. Co.
COTTONITE - Acme Wire Co.
COUNTER FACTS - Howard Co., Inc.
COUNTER-FLOW - Blue M. Electric
COUPLATE - Centralab, Div. of Globe
COURIER - E.F. Johnson Co.
COX & STEVENS - Revere Corp. of Amer
CPC - American Solder & Flux
C.P. GOERZ - Physics Research Labs.
CPPC - Clifton Precision Products
C-Q-T - Chase-Shawnut Co.
CR-39 - Cast Optics Corp.
CRABLOK - Omaton Division, Burndy
CRAFTSCOPE - Waterman Products
CRAIG - Kalart Co., Inc.
CRAMOLIN - Caig Laboratories
CRAMOLIN-SPECIAL - Caig Lab.
CRC - Condenser Res. Corp.
CREED - Intelex Systems
CRESCENT - Waldes Kohincor
CRESTBRITE - Crest Transformer
CREST LABS - Microtran Co.
CREST-LOK - Set Screw & Mfg. Co.
CRESTRAN - Crest Transformer Corp.
CRESTROL - Crest Transformer Corp.
CRH - Fen-Tone Corp.
CRITERION - Electra Mfg. Co.
CRL - Centralab, Div. Globe-Union
CROART - Croname, Inc.
CRO FLEX - Croname, Inc.
CROFLEX - Waldom Electronics, Inc.
CROLITE - Aerovox Corp.
CROLITE MAGICORE - Aerovox Corp.
CROLOY - Aerovox Corp., Crowley Div.
CROMAG - Aerovox Corp., Crowley Div.
CROMAX - Aerovox Corp., Crowley Div.
CROMESH - Croname, Inc.
CROMIN - Wilbur B. Driver Co.
CRONAME - Waldom Electronics, Inc.
CRONAR - E.I. du Pont de Nemours
CROROTO - Croname, Inc.
CROWEAVE - Croname, Inc.
CROWELD - Croname, Inc.
CROWN - International Radio & Electrs.
CRT - B & K Mfg. Co.
CRUCAST - Crucible Steel
CRUSADER - Hudson American
CRYSTIPLEXER - Clegg, Inc.
CRYSTOGRAPH - Offner Electr., Inc.
CRYSTOLON - Norton Co.
CTI - Arnoux Corp.
CTS - Chicago Telephone & Supply
CUPLAT - Western Gold & Platinum
CUPROCHROME - Wilbur B. Driver Co.
CUPRON - Wilbur B. Driver Co.
CURRENT GOVERNOR - North Hills Elect
CURTAIN OF LIGHT - Electr. Control
CUSIL - Western Gold & Platinum
CUSOL - Seymour Manufacturing Co.
CUSTOM FOUR HUNDRED - Stromberg
CUSTOM TWIN CONSOLES - Dynamic
CUSTOMIXER - Ultraudio Products
CUSTOMODE - Jensen Mfg. Co.
C-U-T - Eastern Precision Resistor
CVE - Connecticut Valley Enterprises
CY-AN-IU - Indium Corp. of America
CYANOBRITE - E.I.du Pont de Nemours
CYCLEMAG - Acromag Co.
CYCLFLEX - Eagle Signal Corp.
CYCLOHM - Howard Industries, Inc.
CYCLONOME - Sigma Instr. Inc.
CYCOLAC - Marbon Chemical
CYPAK - Westinghouse, Dir.Sys. Dept.

D

D-79 - Dyna-Empire, Inc.
D-315 - Dyna-Empire, Inc.
D-855 - Dyna-Empire, Inc.
DABS - Downing Crystal Co.
DACIC - Winterburn Mfg. Co.
DACOLYTE - E.I. du Pont de Nemours
DACTRON - International Magnetic
DAG - Acheson Colloids Co.
DAGLAS - Acme Wire Co.
DAGLAS - Inca Div., Phelps Dodge
DAGLAS - Phelps Dodge Copper Prod.
DAISY - Huck Mfg. Co.
DAKA-WARE - Harry Davies Molding Co.
DALOHM - Dale Products, Inc.
DALTON-MARSH - Vulcan Electric Co.
DALY - British Radio Electr.
DANDEE - Aerovox Corp.

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

DAPON - Food Machinery & Chemical Corp
DAREX - Dewey & Almy Chemical Co.
DARSIL-E. I. du Pont de Nemours
DART - Navigation Devices, Inc.
DATA-BLOC - Harvey-Wells
DATAFILE - Burroughs Corp.
DATA-GAGE - Texas Instrument, Inc.
DATAGRAPH - Consolidated Electr.
DATALAB - Consolidated Electr.
DATA-LINE - Hanson-Gorrill-Brian
DATA-LINER - Hanson-Gorrill-Brian
DATALITE - Dialight Corp.
DATAMASTER - Consolidated Electr.
DATA-MASTER - Hanson-Gorrill-Brian
DATAMATIC 1000 - Minn-Honeywell Reg Datamatic Div.
DATA-PAC - Harvey-Wells
DATAPLOTTER - Electr. Assoc. Inc.
DATARITE - Consolidated Electr.
DATA STORAGE - Midwestern Instruments
DATASTRIP - Dialight Corp.
DATATAPE - Consolidated Electr.
DATATEL - Lenkurt Electric
DATATILE - Burroughs-Electro Data Div.
DATATRON - Burroughs Corp.
DATA-VISION - Dage TV Division
DATEC - Electr. Mfg. Div. Sid Stone
DATEX - G. M. Giannini Co., Inc.
DATRAC - Epsco, Inc.
DAUNTLESS - Defiance Engrg. & Micr.
DAVENOIL - Daven Co.
DAVOHM - Daven Co.
DAYTON AVIATION - Dare, Inc.
DAZIC - Winterburn Mfg.
DC - Daubert Chemical Co.
DCS - Data-Control Systems, Inc.
DE ARMOND - Rowe Industries
DEC - Digital Equipment Corp.
DECADIAL - Kilo Engrg.
DECASOL - Declimeter Products Co.
DECA-TRAN - Pyramid Instrument Corp.
DECI - Dwyer Engrg. Co., Inc.
DECI - OHMMETER - Chicago Ind. Instr.
DECICOUNTER - E.R. Vinson Co.
DECITRON - Post Machinery Co.
DECOHM - Davis Electric Co.
DECORATOR - Mears Electric Controls
DECORATOR DESIGN - Newcastle Fabric
DEEP-CUT - Millers Falls Co.
DEEP-KUT - Krengel Mfg. Co., Inc.
DEFIANCE - All Star Products, Inc.
DEGUSSIT - Materials for Electronics
DEHYDRAFILTER - Hankison Corp.
DEKABOX - Electro-Measurements, Inc.
DEKABRIDGE - Electro-Measurements
DEKAMIX - Ercona Corp.
DEKA PACITOR - Electro-Meas.
DEKAPOT - Electro-Measurements, Inc.
DEKASTAT - Electro-Measurements
DEKATRAN - Electro-Measurements
DEKATRON - Baird-Atomic, Inc.
DEKAVIDER - Electro-Measurements
DELAY-LINE-FLAT - Columbia Tech
DE-LINE - Scam Instrument Co.
DELPARK - Commercial Filters Corp.
DELTABESTON - General Electric, Wire & Cable Dept.
DELTAMAX - The Arnold Engrg. Co.
DELTAMETER - Miljan, Inc.
DELTAPLY - Dearborn Electr.
DELTASWITCH - Norwood Controls
DELTA-TENNA - Western Gear Corp.
DELTA-WELD - Channel Master Corp.
DELUXE SECRETARIAL - Linemaster
DEMCO - Derringer Metallurgical Corp.
DENSICHEON - W.M. Welch
DENSI-COLOR - Lektra Laboratories
DENSI-TIMER - Lektra Laboratories
DE-OX-10 - General Cement Mfg. Co.
DEOXAL - American Solder & Flux
DEPENDABLE - Controls Co. Amer.
DEPENDABLE - Trimm, Inc.
DEPOLARAY - Saine Equipment Lab.
DEPOLATHERM - Saine Equipment Lab.
DEPTHOMETER - Bludworth Marine Div.
DERMATRODES - Pacific Technical Co.
DERMITRON - Unit Process Assemblies
DESCO - Dietz Design & Mfg. Co.
DESK-TOPPER - Univ. Drafting Mach.
DE SNOWER - Jerrold Electr. Corp.
DETECT-A-FIRE - Fenwal Inc.
DETECTOLAB - B J Electronics
DETECTO - LITE - Eagle Electric Mfg.
DETERMOHM - Ohmite Mfg. Co.
DEVELCO - Development Engrg. Co.
DEVELO - Developmental Electronics
DEVELOCORDER - Geotechnical Corp.
DEVIOMETER - Amplifier Corp.
DIACLOR - Sangamo Electric Co.
DI-ACRO - O'Neil-Irwin Mfg. Co.
DIAGNYZER - Apparatus Dev.
DIAGRAF - Grafo Colloids Corp.
DIALAMATIC - JFD Mfg. Co.
DIALCO - Dialight Corp.
DIALGLO - Ackerman Engravers
DIALTROL - Jordan Co.
DIAL-X - Stromberg-Carlson Co.
DIAMACONTROL - Standard Electr. Res.
DIAMALLOY - Diamond Tool & Horseshoe
DIAMATROL - Standard Electr. Res.
DIAMOND - Continental-Diamond Fibre
DIAMOND - Cannon Electric Co.
DIAMOND H - Hart Mfg. Co.
DIAMOND RF - Cannon Electric Co.
DIAMOND TRUSS - Pioneer Industries
DIAMOND WEAVE - General Instr. Corp.
DIAMONITE - Diamonite Prod. Mfg. Co.
DIAPHLEX - Cook Elec. Co.
DIARON - Reichhold Chemicals
DIATRON - Consolidated Electrodynamics
DI-AZO-TAK - Chart-Pak Inc.
DI-CAPS - Dilectron Div. of Bestran
DICO - Diamond Antenna & Microwave
DICTABELT - Dictaphone Corp.
DICTALOG - Dictaphone Corp.
DICTATAPE - Dictaphone Corp.
DICTET - Dictaphone Corp.
DIEFLEX - Insulation Mfg. Corp.
DIE PROTECTOR - Electronic Control
DIFFAXIAL - University Loudspeakers
DIFFUSICONE - University Loudspeakers
DIFILM - Sprague Electric Co.
DIGI-CHRON - Delta-F., Inc.
DIGICON - Digitran Co.
DIGICORDER - Computer Equipment
DIGIDAC - Aeronca Mfg. Corp.
DIGIDELS - Jacobs Ins. Co.
DIGIDIAL - Helipot Corp.
DIGIMATIC - Stromberg-Carlson
DIGIOMETER - Systems Labs. Corp.
DIGIPOT - Digitran Co.
DIGIPULSERS - Jacobs Ins. Co.
DIGISCAN - Quantametric Devices
DIGISTEPPER - Digitran Co.
DIGISYN - Adcon Corp.
DIGISYN - Wayne-George Corp.
DIGITAL CLOCKS - Photocon Res.Prod.
DIGITALLY - Digitran Co.
DIGITIZER - Coleman Engrg.
DIGIT-MATIC - Victor Adding Mach. Co.
DIGITOMETER - Electro-Mec. Lab.
DIGITORK - Teller Co.
DIGITOTE - Digitran Co.
DIGITROL - Electro Precision Corp.
DIGITRONIC - Weltronic Co.
DILECTO - Continental-Diamond Fibre
DI-MAX - Armco Steel Corp.
DIMCO - Dimco-Gray Co.
DIMENSI-FONES - Permoflux Prod. Co.
DIMETCOTE - Amercoat Corp.
DIMINUETTE - Permoflux Products Co.
DIODE RADIATORS - Birtcher Corp.
DIONIC - James G. Bibble Co.
DIPLOTT - Dielectric Materials
DIP-PAK - Fidelity Chemical Prod. Corp.
DISCLOSURES - Robins Industries Corp.
DISCOHM - Ward Leonard Electr. Co.
DISPATCHERS - Shure Brothers, Inc.
DISPLACEMENT FOLLOWER - Optron
DIVCO - Division Lead Co.
DIVIDOHM - Ohmite Mfg. Co.
DIRECT READERS - Baird-Atomic Inc.
DIRECTRON - Sanford Miller Co.
DIRECTRONIC - Synder Mfg.
DIRIGO - Dirigo Compass & Instr. Co.
DIRON - Peerless Prod. Ind.
D/M - Nuclear-Chicago Corp.
DMR - Decision, Inc.
DOBRO - Valco Mfg. Co.
DOC ALLOYSKIT - All-State Welding
DO DO - JFD Mfg. Co.
DO-IT - Beckman, Berkeley Div.
DOMEPAK - Sprague Electric Co.
DOMINO - Sprague Electric Co.
DOR-ALARM - E.R. Vinson Co.
DOSIFILM - Reed-Curtis Nuclear Ind.
DOT - Ucinite Company
DO-T - United Transformer Corp.
DOUBLELONG - Black Light Products
DOUBLE-TALK - Radio Merch. Sales
DOUBLEX - Johns-Manville
DOWFLAKE - Dow Chemical Co.
DPH - Fen-Tone Corp.
DR - Weston Instruments, Div. Daystrom
DRAFT-HORSE - A. Lawrence Karp
DREADNAUGHT - Essex Wire Corp.
DR. HORN - James G. Biddle Co.
DRI-FILM 88 - Silicone Products, GE
DRI-STAT - Peerless Photo Prod., Inc.
DRITHERM - North Amer. Elec.
DRI-TRAN - Land-Air, Inc.
DRIWYND - Republic Foil & Metal Mills
DRYGALV - American Solder & Flux Co.
DRYSEAL - Revere Copper & Brass, Inc.
DSP - Dry Screen Process, Inc.
DTX - Diamond Wire & Cable Co.
DU-AL - Electri-Wire Assemblies
DUAL - United Audio Products
DUALAY - Okonite Co.
DUAL-DRUM - Gorrell & Gorrell
DUALEX - Bell & Gossett
DUAL LOCK - Simmons Fastener Corp.
DUAL MATCH - Mosley Electr. Inc.
DUAL PULTRATOR - Packard-Bell
DUAL-TONE - DeRo Electronics
DUALTRONIC - Goldak Co., Inc.
DUAX - Jenson Mfg. Co.
DUB-L-PLUG - Superior Electric Co.
DUCO - E.I. du Pont de Nemours
DUCODUCT - Insulated Duct & Cable
DUCTER - James G. Biddle
DUCTRAK - Western Devices, Inc.
DUCT-STAT - Minneapolis-Honeywell
DUEO-TENNA - Waldom Electr., Inc.
DUETTE - Jensen Mfg. Co.
DULUX - E.I. du Pont de Nemours
DUOCARB - Wilbur B. Driver Co.
DUOCLIP - Ronette Acoustical
DUODIAL - Helipot Corp.
DUODISC - Duotone Co.
DUOGASKET - Technical Wire Products
DUO-JUVENATOR - DeRo Electronics
DUOLASTIC - Technical Wire Products
DUO-LITE - Black-Light Products
DUO-MOUNT - South River Metal Product
DU-OP - General Control Co.
DUO-PAK - Black Light Products
DUO-SEAL - W.M. Welch
DUO-TAPE - Duotone Co.
DUO-THERM - E. Vernon Hill & Co.
DUOVOLT - Carter Motor
DUPLEX - Altec Lansing Corp.
DUPLEX - Linemaster Switch
DUPLICAN - Canadian Radium & Uranium
DUPLI-TAPE - Polytronic Research, Inc.
DUPL-O-SCOPE - Wales-Strippit Co.
DURAFLEX - Co-op Industries, Inc.
DURA-GOLD - Clear Beam Antenna Corp.
DURALINE - Univ. Drafting Machine
DURAMEG - Sprague Electric Co.
DURANICKEL - International Nickel
DURANITE - Aerovox Corp.
DURA-RAMIC - Ward Products Corp.
DURASLEEVE - General Plastics
DURATRAK - General Radio Co.
DURAVIN - Whitaker Cable Corp.
DUREN - Hammond Manufacturing
DUREZ - Durez Plastics
DUROBRITE - E.I. du Pont de Nemours
DUR-O-PULSE - Minn-Honeywell Reg., Brown Instr. Div.
DURO-VAC - Glasseal Products Co.
DURSON - Hoover Electric Co.
DUSTRONIC - Radex Corp.
DUTCH BOY - National Lead Co.
DUTCH BRAND - Johns-Manville
DUXSEAL - Johns-Manville
DUZ-ALL - C.B.C. Electr., Co., Inc.
DVT - Hamner Electronics Co., Inc.
DYCHROVERTER - Dychro Corp.
DYKOR - Digitronics Corp.
DYLAN - Koppers Co., Inc.
DYLENE - Koppers Co., Inc.
DYLITE - Koppers Co., Inc.
DYNACO - Dynaco, Inc.
DYNACON - Nuclear-Chicago Corp.
DYNACOR - Applied Dynamics Corp.
DYNACOR - Sprague Electric Co.
DYNACOUNTER - Dynapar Corp.
DYNA-CUM - Bendix Aviation Corp.
DYNADRYER - U.S. Dynamics Corp.
DYNADRUM - Allegany Instr. Co.
DYNAGAGE - Photocon Research Prod.
DYNAKIT - Dynaco, Inc.
DYNALECTRIC - Alectric Mfg. Co.
DYNALOG - Foxboro Co.
DYNAMAG - Dynamics Research Assoc.
DYNAMAG - Dynapar Corp.
DYNAMASTER - Bristol Co.
DYNAMIC - Jackson Electrical Instr.
DYNAMIC MUTUAL CONDUCTOR - Hickok Electrical Instr.
DYNAMIKE - Astatic Corp.
DYNAMITRON - Radiation Dynamics
DYNAMO - Radio Merch. Sales, Inc.
DYNAMU - Maico Electr., Inc.
DYNAMYKE - Industrial Electronics
DYNAPRENE - Whitney Blake
DYNAPROBE - Bristol Co.
DYNA-Q - K. W. Engineering Works
DYNA-QUICK - B & K Mfg. Co.
DYNA-SCAN - B & K Mfg. Co.
DYNASEAL - Whitney Blake
DYNASERT - United Shoe Mach. Corp.
DYNASET - Dynapar Corp.
DYNASET - Telex, Inc.
DYNASTROKE - Mandrel Ind.
DYNA-SWITCH - W. C. Dillon & Co., Inc.
DYNA-TAPES - Elektra Corp.
DYNATEQ - Dynamics Research Assoc.
DYNATIMER - Dynapar Corp.
DYNA-TROL - Industrial Electronics
DYNAURAL - H. H. Scott
DYNAVERTER - Aircraft Radio
DYNETIC - Shure Brothers, Inc.
DYNETICS - Applied Dynamics
DYNISTOR - Westinghouse, Semicond.
DYNOGRAPH - R.B. Annis Co.
DYNOGRAPH - Offner Electr., Inc.
DYNOID - McQuay-Norris Mfg. Co.
DYNO-MITE - Millers Falls Co.
DYTROL - Dynapar Corp.

E

E-2 - Crown Controls Co.
E101 - Burroughs Corp.
EAGALOK - Eagle Electric Mfg. Co.
EARSET - Telex, Inc.
EARSPEAKERS - Permoflux Prod.
EASE - Beckman/Berkeley Div.
EASTERN - Eastern Mike Stand Co.
EASY-FLO - Handy & Harman
EASY FLO - Lucas-Milhaupt Engrg.
EASY PRODUCTS - Waldom Electronics
E-BOND - Kerrco Products
EBONOL - Enthone, Inc.
E-CASE - Epoxy Products
ECCOBILD - Emerson & Cuming, Inc.
ECCOBOND - Emerson & Cuming, Inc.
ECCOCERAM - Emerson & Cuming, Inc.
ECCOCOAT - Emerson & Cuming, Inc.
ECCOFOAM - Emerson & Cuming, Inc.
ECCO LUNEBERG - Emerson & Cuming
ECCOMOLD - Emerson & Cuming, Inc.
ECCOREFLECTOR - Emerson & Cuming
ECCOSEAL - Emerson & Cuming, Inc.
ECCOSHIELD - Emerson & Cuming, Inc.
ECCOSORB - Emerson & Cuming, Inc.
ECCOSPHERES - Emerson & Cuming
ECCOSTOCK - Emerson & Cuming, Inc.
ECHO-LITE - Transistor Electronics
ECHO-MATIC - Cousino, Inc.
ECHOSCOPE - Curtis-Wright Co.
ECHO-VOX - Kay Electric Co.
ECLIPTIC - Carter Motor
ECONOHM - Model Engrg. & Mfg.
ECONOHM - Tru-Ohm Products Div.
ECONO-KIT - Channel Master Corp.
ECONO-WATT - Redmond Co., Inc.
ECTROMAG - Electronic Processes
ECTROTHERM - Electronic Processes
E/D - Fairchild Recording Equip.
EDCO - Electronics Design Co.
EDDYSTONE - Marconi Instruments
EDDY TROL - Lyndon Aircraft, Inc.
EDGEOHM - Ward Leonard Electric
EDGETRON - Intercontinental Dynamics
EDGEWISE - Simpson Electric Co.
EDISWAN - British Electr., Sales Co.
EECo - Electronic Eng. Co. of Calif.
EECO - Engineered Electronics Co.
EED - L.D.E.A., Inc.
EF - Electric Furnace Co.
E-FORM - Epoxy Products
EGEN - British Radio Electronics
E-I - Futuramic Co.

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EIC - Gary Wells Co.
EICO - Electronic Instrument Co., Inc.
EIMAC - Eitel-McCullough, Inc.
E-I-R - Belleville-Hexem Corp.
EJD - Decision, Inc.
EKOTAPE - Webster Electric Co.
EKTACOM - Fisher Berkeley Corp.
EL - Electrons, Inc.
ELAC - Audiogersh Corp.
ELASCO - Electronic Assembly Co.
ELASTICABLE - Mutual Electr. Ind.
ELASTOMER CP - Topper Mfg. Co., Inc.
ELDEC - Electro Development Co.
ELECTENNA - Electrend Products Corp.
ELECTONE - Electron Enterprises
ELECTRALLOY - Circon Component Co.
ELECTRICORD - Pacific Electr. Co.
ELECTRIDUCT - Ideas, Inc.
ELECTRIK-TEL-O-SET - Minn-Honeyw.
ELECTRO - Dakoline Chemical Co.
ELECTRO - M. W. Dunton Co.
ELECTRO - Electro Products Labs., Inc.
ELECTRO - Mesurflo-Hays Mfg. Co.
ELECTROC - Sprague Electric Co.
ELECTRO-CALORIC - Ind. Devel. Lab.
ELECTRO-CAPS - Electro-Ceramics, Inc.
ELECTRO CHEMOGRAPH - Leeds
ELECTROCOM - General Devices, Inc.
ELECTROCRAFT - Richards Electr.
ELECTRO-DRY - Republic Foil & Metals
ELECTRO-DUAL - Electr. Teaching Labs
ELECTROFARAD - Aerovox Corp.
ELECTRO-FLEX - Eagle Signal Corp.
ELECTROFLO - Hays Mfg. Co.
ELECTROFLOR - Shannon Luminous
ELECTROGRAPHIC - Inter. Bus. Mach.
ELECTRO-GRAPHIC - Precise Meas.
ELECTROJET - Sheffield Corp.
ELECTROLAB - Sound Projects Co.
ELECTRO-LEVEL - Ferrara, Inc.
ELECTR-O-LINE - Minn.-Honeywell
ELECTROLINK - Lear, Inc.
ELECTROLOY - Molecu-Wire Corp.
ELECTRO-MAGNEMITE - Amplifier Corp
ELECTROMAX - Leeds & Northrup Co.
ELECTROMESH - Electrofilm, Inc.
ELECTROMET - Union Carbide Corp.
ELECTROMETRIC - Whitewater Electr.
ELECTRO-MITE - Hays Mfg. Co.
ELECTROMITE - Illinois Condenser
ELECTRONAMIC - Precision App.
ELECTRONHEAT - Resdel Engrg. Corp.
ELECTRONIC DRIVE - Fairchild Record
ELECTRONIC EYE - E.R. Vinson Co.
ELECTRONIC FINGER - Electr. Control
ELECTRONIC MESSENGER - Electronic Comm.
ELECTRONIC SERVANTS - Wiegand Mfg
ELECTRONIC STETHOSCOPE - Feiler Engineering & Mfg. Co.
ELECTRONIC STOPWATCH - Dynapar
ELECTRONIK - Minn.Honeywell, Brown Instr. Div.
ELECTROPILOT - Lear, Inc.
ELECTROPLAST - National Electr.
ELECTROPLEXER - Applied Science
ELECTROPLOTTER - Benson-Lehner
ELECTR-O-PULSE - Minn-Honeywell
ELECTROPUNCH - Black & Webster, Inc
ELECTROSCOPE - Feiler Engrg.
ELECTROSEAL - Electro Engrg. Works
ELECTR-O-SEAL - Parker Seals Co.
ELECTR-O-SEAL - F.C. Wolfe Co.
ELECTROSET - Black & Webster, Inc.
ELECTROSET - Trans-Sonics, Inc.
ELECTRO-SNAP - Electro-Snap Switch
ELECTROSTAKE - Black & Webster,Inc.
ELECTROSYN - Norwood Controls
ELECTROTABLE - Black & Webster,Inc.
ELECTRO-TECH - Mandrel Ind.
ELECTRO-THIN - Electro-Flex Heat
ELECTROTIMER - Park Electr. Corp.
ELECTROVALVE - Johnson Electronics
ELECTR-O-VANE - Minn.-Honeywell
ELECTROVERTERS - Hastings-Raydist
ELECTR-O-VOLT - Minn.-Honeywell
ELECTROWIPE - Duotone Co.
ELECTROX - Schauer Mfg. Corp.
ELECTRUNITE - Republic Steel Corp.
ELFURNO - Electric Furnace Co.
ELIED - Farrelloy Co.
ELIMAG - American Time Prod.
ELIN - Electr. Inter. Co.
ELINCO - Electric Indicator Co.,Inc.
E-LITE - Eldema Corp.
ELITE - Reeves Equipment Corp.
ELLISCO - George D. Ellis & Sons
ELMEG - Presin Co.
ELMENCO - Arco Electr.,Inc.
ELMENCO - Electro Motive Mfg. Co.
ELOL - Burroughs Corp.
ELPRENE - Atlas Mineral Products
ELTEK - Electronic Techniques
ELVACET - E.I. du Pont de Nemours
ELVANOL - E.I. du Pont de Nemours
ELYRIA - Republic Steel Corp.
EM - Gulton Industries, Inc.
EMBASSY - A - Channel Prod. Corp.
EMBOS - Etched Products Corp.
EMC - Electro-Miniatures
EMC - Electronic Measurements Corp.
EMC - Howard Industries, Inc.
EMCOR - Elgin Metalformers Corp.
EMI - Ercona Corp.
EMI - Laminations Co.
EMICO - Electro-Mechanical Inst. Co.
EMPCO - Electro-Mechanical Products
EMRALON - Acheson Colloids Co.
EMS - Electro-Mechanical Special
EMT - Electronic Applications, Inc.
EMT - Rome Cable Corp.
ENAMEL - Inca Div., Phelps Dodge
ENAMEL G - General Cable Corp.
ENAMELITE - Acme Wire Co.
ENAMELITE - Republic Steel Corp.
ENBOND - Enthone, Inc.
ENCAPSULET - Electronet, Div.Rue Prod
ENCORE - Permoflux Products
ENCORE - Pilot Radio Corp.
ENDURO - Republic Steel
ENERGY-KONTROLS - Photo Crystals
ENFLON - Enflo Corp.
ENGINSCOPE - Allen B. DuMont Labs.
ENGRAVOGRAPH - New Hermes Engrav.
ENGRAV-O-GRAPH - Philip A. Hunt
ENNS - Electronic Contractors, Inc.
ENSCO - Engineering Specialty Co.
ENSTRIP - Enthone, Inc.
ENTERITE - General Cable Corp.
ENTHOL - Enthone, Inc.
ENTRY-SENTRY - Fanon Electronics
E-PAK - Epoxy Products
EP-FOME - Electronic Plastics Corp.
EPIBOND - Furane Plastics, Inc.
E.P.I.C. - Electrical & Physical Instr.
EPICON - Electron Products Co.
EPINATC - Amer. Printed Circuits Co.
EPIWAX - Electron Products Co.
EPOCAST - Furane Plastics, Inc.
EPOGLAS - New England Laminates Co.
EPOTUF - Reichhold Chemicals, Inc.
EPOXY-CLAD - Electronet Div.,Rue
E.P.R. - Eastern Precision Resistor
EPSEAL - Electro Engrg. Works, Inc.
EPUT - Beckman/Berkeley Div.
EQUALINE - Entron, Inc.
EQUA-THERM - Temperature Engineering
EQUATROL - Entron, Inc.
EQUIBAR - Trans-Sonics, Inc.
ERECTOHM - Workman TV, Inc.
ERECT-TOWER - Spaulding Products
EREC-TRONIC SYSTEM - Science Electronics, Inc.
ERICOFON - North Electric Co.
ERIEFLEX - Erie Resistor Corp.
ERVCO - E.R. Vinson Co.
ERX - Hupp Electronics Co.
ESCO - Electric Specialty
ESCO - Electro Switch Corp.
ESCON - Electro-Switch & Controls
ESIAC - Electro-Measurements, Inc.
ESICO - Electric Soldering Iron Co.
ESIPOT - Electro-Measurements, Inc.
ESL - Electro-Sonic Labs., Inc.
ESSEX - Essex Electronics
ESTAR - Sprague Electric Co.
ESTROLENE - Stevenson Bro. & Co.
ETC - Arnoux Corp.
ETC - Electrix Terminals & Connectors
ETC - Electronic Tube Corp.
ETCHALUME - Enthrone, Inc.
ETCHRITE - Etched Products Corp.
ETCO - Electronic Transformer
ETHOCEL - Dow Chemical Co.
ETHO-LOC - Weckesser Co.
ETS - Electronic Tube Sales, Inc.
EUCLID - Stromberg-Carlson
EUREKA - E.I. du Pont de Nemours
EUREKA - Semon Bache & Co.
E-V - Electro-Voice, Inc.
EVA - Baird-Atomic, Inc.
EVABRITE - Semon Bache & Co.
EVACULITE - Inertia Switch, Div. Safe Lighting, Inc.
EVALAST - Semon Bache & Co.
EVANOHM - Wilbur B. Driver Co.
EVAPOR-ION - Consolid. Electrodyna.
EVAPORAGRAPH - Baird-Atomic, Inc.
EVEREADY - National Carbon Co., Div. of Union Carbide Corp.
EVER-KLEER - Cast Optics Corp.
EVER KLEER - Chemical Electr. Engrg.
EVERLITE - Curtis Development & Mfg.
EVERLOCK - Thompson Bremer & Co.
EVER-QUIET - Chemical Electr. Engrg.
EVI - Electro-Voice, Inc.
EXAC - Cleveland Instr. Co.
EXACT-MATCH - Blonder-Tongue Labs.
EXACTOHM - Workman TV, Inc.
EXACTONE - Audiomation Labs.
EXECUTIVE - Linemaster Switch
EXICON - Philco Corp.
EXIDE- Electric Storage Battery Co.
EXIDE-IRONCLAD - Electr. Storage Bat.
EXIDE-LIGHTGUARD - Electr. Stor.Bat.
EXIDE-TYTEX - Electr. Storage Battery
EXPLOROFORMER - Geotronic Labs.,
EXPLOSIMETER - Mine Safety App.
EXTEND-IT - Workman TV, Inc.
EXTENSION JAX - Switchcraft, Inc.
E-Z - Crown Industrial Products
E-Z - Ideal Industries
E-Z - J.I. Morris Co.
E-Z - Union Broach Co., Inc.
E-Z - Westline Products Div.
E-Z-AUTOMATIC - Ideal Industries
EZC - Kleer-Vue Mfg. Co., Inc.
E-Z-CODE - Aerovox Corp.
E-Z-CODE - Westline Products Div.
E-Z CUE - Amplifier Corp.
E-Z FINDFULL VUE - Akro-Mils, Inc.
E-Z FINX - Akro-Mils, Inc.
EZ KLEEN - Research Products Corp.
E-Z RELEASE - Continental Connector
EZ-SOL - Hudson Wire Co.

F

F-5-AUTOPILOT - Lear, Inc.
FABMIKA - Sprague Electric Co.
FABRILITE - Vapor Heating Corp.
FANFARE - Fanon Electric Co., Inc.
FAR-AIR - Farr Co.
FARLITE - Farley & Loetscher Mfg.
FASTATCH - Centralab Div. of Globe
FASTEE - Entron, Inc.
FASTOP - Lear, Inc.
FASTS - Koppers Co., Inc.
FAULT-FINDER - Radar Engineers
FAXIMILE - Hogan Lab., Inc.
FAXKOTE - Hogan Lab., Inc.
FAXPAPER - Hogan Lab., Inc.
FAXTAPE - Ampex Corp.
FAXWRITER - Times Facsimile Corp.
FAZE-BOX - American Measurement & Con
FB-FRICTION BRAKES - Electr. Mech.
FC-FRICTION CLUTCHES - Electr. Mech
F-C-I - Film Capacitors, Inc.
FE - Farnsworth Electronics Co.
FEATHERWEIGHT - Trimm, Inc.
FEDERAL - ITT Components Div.
FEDTRO - Federal Electronic Sales
FELCO - Forest Electric Co.
FENTUBE - Fen-Tone Corp.
FENWIRE - Fen-Tone Corp.
FERNETIC - Perfection Mica Co.
FEROX - Technicraft Co.
FERRAC - Airpax Products Co.
FERRALLOYS - Ferro Powdered Magnetic Materials Div.
FERRAMIC - General Ceramics Corp.
FERRI-CHOKE - Superex Electronics
FERRICORE - National Moldite
FERRI-LOOPSTICK - Superex Electr.
FERRIMAG - Crucible Steel Co.
FERRISTORS - Beckman/Berkeley
FERRO-CELL - Topatron, Inc.
FERROD - Tuttle & Kift
FERRODURE - Pyrometer Co. of Amer.
FERRO-DYNAMIC - Lear, Inc.
FERROGRAPH - Ercona Corp.
FERROLINE - Airtron, Inc.
FERROTRON - Polymer Corp.
FERROXCUBE - Ferroxcube Corp.
FERROXDUR - Ferroxcube Corp.
FERROXPLANA - Ferroxcube Corp.
FEUTRON - American Felt Co.
FEXITRON - Field Emission Corp.
FF-SWITCHES - Switchcraft, Inc.
FIBROGRAPH - Special Instruments Lab.
FIBROID - Johns-Manville
FIDELIPAC - Sound Electronic Labs.
FIDELITONE - Permo, Inc.
FIDELITREND - Electrend Prod. Corp.
FIDELITY PHASED - Finney Co.
FIELD-FONE - Industrial Radio Corp.
FIL-CAP - Filtron Co., Inc.
FILE-O-MATIC - United Catalog Pub.
FILMAGNETIC - Berndt-Bach, Inc.
FILMEX - Mansol Ceramics
FILM INDUSTRIES - Ercona Corp.
FILMISTOR - Sprague Electric Co.
FILMITE - Sprague Electric Co.
FILMOHM - Sprague Electric Co.
FILMPOT - Fairchild Controls Corp.
FILT-A-COR - Magnetic Core Corp.
FILTERETTE - Tobe-Deutschmann Corp.
FILTERIZED - Tobe-Deutschmann Corp.
FILTERMITE - Tobe-Deutschmann Corp.
FILTEROL - Sprague Electric Co.
FILTERPAC - Torocoil Co.
FILTER-POINT - Duotone Co.
FILTER-TENNA - Dynamic Electronics
FILTHERM - Filtron Co., Inc.
FILTOROIDS - Magnetic Metals
FILTRON - Kenneth Richardson Labs.
FINCO - Finney Co.
FINCOR - Fidelity Instrument Corp.
FIND-IT - Goldak Co., Inc.
FINGRIP - Omaton Div., Burndy Corp.
FINNFLEX - T.R. Finn & Co.
FIREBALL - JFD Mfg. Co.
FIREBAN - Taylor Fibre Co.
FIREYE - Combustion Control Div., Electronics Corp. of America
FIREWALL - Rockbestos Products
FIREZONE - Rockbestos Products
FITGO - Beckman/Systems Div.
FIVE-HUNDRED - E.F. Johnson Co.
FIVE-STAR - General Electric Co.
FIXTOHM - Clarostat Mfg. Co., Inc.
FIXTVAC - United Electronics Co.
FLAMENOL - General Electric
FLASH-FLOW - Ewald Instr.
FLASHMATE - Instr. Dev. Mfg.
FLASH-O-GRAPH - Philip A. Hunt
FLASH-PAK - Fisher-Pierce Co.
FLATPAK - Sangamo Electric Co.
FLAT-STAT - Control Prod.
FLEETCOM - Communications Co.
FLEETWOOD - Conrac
FLEXACON - Hatfield Wire & Cable
FLEXAGUIDE - Airtron
FLEXAIR - Jensen Mfg.
FLEX ANGLE - Ward Prod.
FLEXARM - Flexo Int'l
FLEXCHRON - Standard Electric Time
FLEXFOAM - Columbia Wire
FLEXIDUCT - Ideas, Inc.
FLEXIFONE - DuKane
FLEXIKOUPLE - E.C. Smith Mfg.
FLEXILAM - Mica Corp.
FLEXIMICA - Spruce Pine Mica Co.
FLEXIPROBE - Desco Mfg.
FLEXISTOR - Bradford Components
FLEXITE - Frank Markel & Sons
FLEXLAB - Standard Electric Time
FLEXLEAD - Frank Markel & Sons
FLEXLIFE - Columbia Wire
FLEXLOC - Std. Pressed Steel
FLEXO - Flex International
FLEX-O-FIX - Pyroil Co.
FLEXOHM - Clarostat
FLEXOLON - Tensolite
FLEXO-MIKESTER - Flexo Int'l
FLEXON - Elec. Mechanics
FLEXON - Flexonics
FLEXOPRENE - Standard Wire & Cable
FLEXOWRITER - Friden, Inc.
FLEX-PAK - Bogen-Presto,Div. Siegler
FLEXPRINT - Sanders Associates
FLEX-SEAL - Bart Mfg. Corp.
FLEXSHIELD - American Electric Cable

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

FLEXURE - Marion Electr.
FLID - Radio Mdse. Sales
FLIGHTCOM - Communications
FLINTFEX - DuPont
FLIP - Radio Mdse, Sales
FLIP SEAL - Rodale Mfg.
FLIP-TOP - DuKane
FLOATING POINT - Permo
FLOVAC - Hull Corp.
FLOWBRITE - Enthone, Inc.
FLOWRATOR - Fischer & Porter
FLOWSOLDER - Electrovert, Inc.
FLUORETOR - Menlo Research Lab.
FLUORLASTIC - Joclin Manufacturing
FLUOR-O-CHEK - Black Ligh Corp.of Amer
FLUOROFILM - Dilectrix Co.
FLUORO-FILM - DuPont
FLUOROFLEX-C - Resistoflex
FLUORO-FLEX-T - Resistoflex
FLUOROLIN - Joclin Manufacturing
FLUOROPLY - International Resistance
FLUOROSINT TFE - Polymer Corp.
FLUXAMP - Sprague Electric Co.
FLUXCOTE - London Chem.
FLUX GATE - Eclipse-Pioneer Div.
FLUX-N-SOLDER - Johnson Mfg.
FLUX-STIK - Lake Chem.
FLUXVALVE - Pickering
FLUXWAVE - Electrovert, Inc.
FLYWEIGHT MAGNEMITE - Amplifier
FM - Electro-Mechanical
FME - Federal Mfg. & Engrg. Co.
FM/Q - Apparatus Development Co.
FOAMFLEX - Phelps Dodge
FOAM LINE - Plastoid Corp.
FOAMPLAST - Topper Mfg. Co., Inc.
FOAM TUBE - Plastoid Corp.
FOCALIZER - Quam-Nichols Co.
FOCALRAY - Black Light Products
FOCUS - Radio Mdse Sales, Inc.
FOILCAL - Miller Dial & Name Plate Co.
FONOFLUID - Ronette Acoustical Corp.
FOOTROL - General Control Co.
FORAMINE - Reichhold Chem.
FORASITE - Reichhold Chem.
FORMBOND - Acme Wire Co.
FORMEX - General Electric
FORMEZE - General Cable Corp.
FORMLON - General Cable Corp.
FORMVAR - Acme Wire Co.
FORMVAR - Inca Div., Phelps Dodge
FORTICEL - Plastics Div., Celanese
FORTIFLEX - Plastics Div., Celanese
FORTISSIMO - Permoflux Prod. Co.
FOTO-ETCH - Cal-tronics Corp.
FOTOFOIL - Miller Dial & Name Plate
FOTO-LECTRIC - Worner Electronic
FOTOTACTOR - Harworth Mfg. Co.
FOUR-BANDER - Amer. Geloso Electr.
FRAHM - James G. Biddle Co.
FRAKO - Gary Wells Co.
FRAME-LOC - Vector Electronic Co.
FRAMELOK - Sylvania Electric Products
FREE - Vane-Bristol Co.
FREELOADER - Whitso, Inc.
FREON - E.I. du Pont de Nemours
FRESHMAN - Hamilton Elec.
FRIGIDFLEX - Hatfield Wire & Cable
FRINGE-LEADER - Radio Mdse Sales
FROEHLER - Assoc. Amer. Trading
FRY'S - Electrovert, Inc.
FULFLO - Commercial Filters
FULL VISION - Fen-Tone Corp.
FUSETRON - Bussmann Mfg.
FUSION BRAZED - Avon Tube Div.
FUSIONWELD - Avon Tube Div.
FUSISTOR - Bradford Comp.
FUSTAT - Bussmann Mfg.
FUTURAMIC - Channel Master
FUZIT - Workman TV, Inc.
FUZ-LOX - Electro-Products, Inc.
FUZOHM - Clarostat Mfg.
FXR- F-R Machine Works, Inc.
FYEROID - Wilmington Fibre
FYB R GLASS - Rush Wire
FYRE-FREEZ - Walter Kidde & Co.

G

G - Amer. Printed Circuits
G-533 - Amer. Geloso Electronics
GA 8 F - Antara Chem. Sales Div.
GAC - General Automatic Corp.
GACOR - Eagle Electric
GAIN SET - Kay Electric
GALVITE - Republic Steel
GALV-O-MAST - Mech. Steel Tubing
GALVO PROTECTOR - Audio Instrument
GAMATEK - Consolidated Electrodynamics
GAMMA GAGE - Curtiss-Wright
GAP/R - Philbrick Researches
GARAHIN - Armour & Co.
GARCEAU - Electro-Medical Lab.
GARDSMAN - West Instrument
GARRARD - Garrard Sales Corp.
GASKETS - Dewey & Almy
GASK O SEAL - F.C. Wolfe Co.
GAS-POINTER - Johnson-Williams, Inc.
GAS THERMATRON - Mine Safety Appl.
GCT - Seco Mfg. Co.
GE - Gen. Electric Co.
GECO - General Electronics Equip.
GEM - Radio Mdse Sales
GEMCO - Great Eastern Mfg.
GEMCO - L. G. Electronic Mfg.
GEMI - M. W. Dunton Co.
GEMINOL - Driver-Harris Co.
GEMTENNA - Tennalab
GENALEX - Wallace E. Connolly & Co.
GENALEX - Gen. Elec. of Eng.
GENCALLOY-A - General Cable Corp.
GENCASEAL - General Cable Corp.
GENCATHENE - General Cable Corp.
GENCATROL - General Cable Corp.
GENCO - General Photo Prods.
GENCORONE - General Cable Corp.
GENCOTE - Gen. Plastics Corp.
GENE-MITE - Allied Engineering
GENE-MITE - Allied International
GENEMOTOR - Carter Motor Co.
GENERAL - M.W. Dunton Co.
GENERAL - Lincoln Sound
GENERAL CHEMICAL - Allied Chemical
GENFLEX - General Cement Mfg. Co.
GENIE - Alliance Mfg.
GENO - Gen. Photo Prod., Inc.
GEN-RAL - The Muter Co.
GENTAPE - General Plastics Corp.
GEOFORMERS - Triad Transformer
GEOHMETER - Georator Corp.
GEOMATIC - Finney Co.
GEON - B.F. Goodrich Chemical Co.
GEOSTANDARD - Accurate Instrument
GEOSWINGOMETER - Stratocon Corp.
GEOTRODE - Georator Corp.
GEOVOLTMETER - Georator Corp.
G-FUSE - Bergen Labs.
G-H - Girard-Hopkins
G.I. - General Industries
GIANT - Black Light Products
GIBSILOY - Gibson Electric Co.
GIBSON GIRL - Robins Industries
GLAMORAMIC - Radio Mdse Sales
GLAPUT - Blaco Mfg.
GLASGLU - L.B. Allen Co.
GLASLINE - James Knights Co.
GLASMIKE - New Haven Clock
GLASMOLD - Honeycomb Co.
GLASOHM - Clarostat Mfg.
GLASS CAPS - Plastic Capacitors
GLASSCON - Electronic Fabricators, Inc.
GLASSEAL - Pyramid Electric
GLASWITCH - Revere Corp.
GLENNITE - Engineered Magnetics
GLENNITE - Glenco Corp.Div. of Gulton
GLENNITE - Vibro-Ceramics Div.Gulton
G-LINE - Prodelin, Inc.
GLOBAR - Carborundum Co.
GLO-DROP - Workman TV, Inc.
GLO-ESCENT PANEL - Miller Dial & Name Plate Co.
GLO-MELT - Wassco Electric Products
GLO-PANEL - Technicraft Co.
GNOME - Carter Parts Co.
GOLD CROWN - Pioneer Gen-E. Motor
GOLD DOT - Dynamic Electronics
GOLDEN GRID - Griffiths Electronics
GOLDEN TOPLINER - Tech. Appl.Corp.
GOLDEN WAND - Peerless Prod. Ind.
GOLD SEAL - Gorn Electronics Co.
GOLD SHIELD - Crest Elec. Corp.
GOODLINE - Wire of Amer.
GOODMANS - Rockbar Corp.
GOOD-RITE - B.F. Goodrich
GORDENT - Gordon Enterprises
GORNET - Gorn Electronics Co.
GOVOHM - Electric Reg. Co.
GP - Beach-Russ Co.
GP - Erie Resistor Corp.
G.P. LIGHT RELAY - Elec. Control
GR - General Radio
GRACOIL - Gramer-Halldorson Trans.
GRADIANT - Shure Bros., Inc.
GRAFOLENE - Grafo Colloids
GRAFOLUBE - Grafo Colloids
GRAFOLUX - Grafo Colloids
GRAFSIL - Neosil Products Co.
GRAIN-ORIENTED - Vickers, Inc.
GRA LAB - Dimco-Gray Co.
GRALLEN - Clegg, Inc.
GRAMPIAN - Reeves Equipment
GRAMPIAN-GOTHAM - Gotham Audio
GRAPHALLOY - Graphite Metalizing
GRAPH-A-PIAN - Labelon Tape
GRAPHILM CRT - Charles Pettinos
GRAPHLON - Graphite Metalizing
GRAPH-O-LITH - Philip A. Hunt
GRAVALUM - Hermes Plastics, Inc.
GRAVOFLEX - Hermes Plastics, Inc.
GRC - Gries Reproducer
GREENBILT - Equipment & Service Co.
GREEN BULLET - Shure Bros., Inc.
GREENOHM - Clarostat Mfg.
GREENOHM JR - Clarostat Mfg.
GREENOHM V - Clarostat Mfg.
GRIDALOY - Wilbur B. Driver Co.
GRIDALOY - Molecu-Wire Corp.
GRIPEZE - Inca Div., Phelps Dodge
GRIP-LIP-TIP - C.B.C. Electronics
GRIPPO - Barrett Varnish
GRIP SPINTITE - Stevens-Walden, Inc.
GRIPWELD - Adhesive Products
GRMI - Gremar Mfg.
GROMMES - Precision Electronics
GROOV-PIN - Groov Pin Corp.
GROUNDOMETER - Stratocon Corp.
GRYALINE - Cascade Research
GRYS-SPINTITE - Stevens-Walden, Inc.
GS SEVENTY SEVEN - Glaser-Steers
GTC-59 - Beaver Labs.
GUARDIAN - General Cable Corp.
GUDEGLASS - Gudebrod Bros.
GUDELACE - Gudebrod Bros.
GUDE-NYLACE - Gudebrod Bros.
GUIDELINE - Airtron, Inc.
GYRO FLUX GATE - Bendix Aviation
GYROMECHANISMS - Norden-Ketay Div.

H

HAGNESYN - Eclipse-Pioneer Div.
HAILER JR - Audio Equip. Co.
HALLOWELL - Stand.Pressed Steel
HALOLIGHT - Sylvania Elec. Prod.
HAMMER-KOAT - Gen'l Cement Mfg.
HAND-EE - Educational Electronics
HANDIE TALKIE - Motorola Comm.& Elec.
HANDI PLUG - Workman TV, Inc.
HANDISCOPE - Simpson Electric Co.
HANDIVOLT - Nutron Mfg. Co.
HAN-D JACKS - Richards Electrocraft
HAN-D PLUGS - Richards Electrocraft
HANDY ALUMIBRAZE - Handy & Harman
HANDY-BIN - Akro-Mils, Inc.
HANDY-FLUX - Handy & Harman
HANDY FLUX - Lucas-Milhaupt Eng.
HARMIC - P.Wall Mfg. Co.
HARMON - B.F. Goodrich
HARMONY - Continental Mfg., Inc.
HASTELLOY - Haynes Stellite Co.
HAT - P.R. Mallory & Co.
HATEMP - Hatfield Wire & Cable
HATEX - Hatfield Wire & Cable
HATFLEX - Hatfield Wire & Cable
HATSEAL - Hatfield Wire & Cable
HATVINOL - Hatfield Wire & Cable
HAZARDCHEK - Westline Products
HAZARDSTRIPE - Westline Products
HAZ-BIN - Akro-Mils, Inc.
HAZEGAGE - Ess Instrument Co.
HCD PETTI-SEL - Radio Receptor
HCX - Sprague Elec. Co.
HD & K - KILOPAK - Wesco Electrical
HD & K - SYNCAP - Wesco Electrical
HEALTH-AIR - Mamco Corp.
HEAR-RINGS - Maico Electronics, Inc.
HEATHKITS - Heath Co.
HEAT-LIMITER - Bussmann Mfg.
HEATZONE - Rockbestos Products
HEAVY WALL CONDUIT - Republic Steel
HECO - Heinemann Elec. Co.
HEDIN - Gen'l Automatic Corp.
HEEMCO - Hill Electronic
HEET-X - Hatfield Wire & Cable
HELCO - Hoover Electric Co.
HELECON - U.S. Radium Corp.
HELIAX - Andrew Corp.
HELI-COIL - Topp Industries, Inc.
HELICOP-HUT - Craig Systems
HELICORDER - Geotechnical Corp.
HELICOUPLING - Inter-Continent Engrg.
HELIDEL - Helipot Corp.
HELIOSCRIPTER - Elec. Applications
HELITRIM - Helipot Corp.
HELIWHIP - Mark Products Co.
HELIX - Carl H. Biggs
HEPCO - Henry Products Co.
HERCULES - Acromark Co.
HERCULES - James Vibrapowr Co.
HERCULES - National Vulcanized Fibre
HERCULES - Semon Bache & Co.
HERCULES - Shure Bros., Inc.
HERCULES HEAVY DUTY - Linemaster
HERLEC - Sprague Electric Co.
HESGON - Hess, Goldsmith & Co.,Inc.
HEX-OHM - Bradford Components
HETRON - Durez Plastics
HEXCLAD - Hexacon Electric Co.
HEYCO - Heyman Mfg. Co.
H-G-B - Hanson-Gorrill-Brian
HI - Holub Industries, Inc.
HI AMP - Sittler Corp.
HI-BRITE - Shannon Luminous Materials
HI-C - JFD Electronics Corp.
HI-CAP - Bussman Mfg.
HI-CAP - Illinois Condenser Co.
HICKORY - Superior Cable
HI-COR - Alpha Metals, Inc.
HI-D - United Aircraft
HIDE-A-WAY - Peerless Prod. Ind.
HI-EF - Kent Lighting Corp.
HI-FARAD - Aerovox Corp.
HI-FI 50 - Reeves Soundcraft
HI FI TECHNIQUE - M.A. Miller Mfg.
HI-FLEX - Electro-Flex
HI-FLOOD - Radiant Lamp Corp.
HI-FLUX - R.B. Annis Co.
HI-G - Gen'l Controls Co.
HIGH POWER - Avion Div. ACF Ind.
HI-HEAT - Radiant Lamp Corp.
HI-HEAT GRAY - Koppers Co.
HI-K - Erie Resistor Corp.
HI-KAPS - Centralab, Div. Globe-Union
HILAB - Holt Instrument Lab.
HI LUSTRE - L.B. Allen Co.
HI-MEG - Victoreen Instr. Co.
HINGE-LOCK - Simmons Fastener
HIPERMAG - Westinghouse Electric
HIPERSIL - Westinghouse Electric
HI-PSI - Stand. Pressed Steel
HI-R - Bourns Laboratories
HI R - Curtiss-Wright
HI-RELI - Armel Electronics, Inc.
HI-SPOT - Radiant Lamp Corp.
HI-STAB - Erie Resistor Corp.
HI-TEMP - Rockbestos Products
HI-TEN - Armstrong Bros. Tool Co.
HI-TENSION - JFD Mfg. Co.
HI-TI - Stand. Pressed Steel
HI-TONE - Amer. Geloso Elec.
HI-TREADLITE - Linemaster Switch
HI-TRIM - Bourns Labs.
HITRONIC - Bliss Electronic Corp.
HIVAC - Barker Sales Co.
HI-VO-KAPS - Centralab
HIVOLT - New Haven Clock
H-LAB - Harrison Labs.
H MONEL - Int'l Nickel Co.
HOLTON - Hartley Prod.
HOMO - Leeds & Northrup, Co.
HOMOCARB - Leeds & Northrup Co.
HOMOCORD - Raybestos-Manhattan
HOMOFLEX - Raybestos-Manhattan
HONAN-CRANE - Commercial Filters
HONEYWELL 800 - Minn-Hon.,Datamatic
HORNET - N.Y. Transformer Co., Inc.
HORSE HEAD - New Jersey Zinc
HORTON - Becker Elec. Mfg.
HOT JET - D & R Plastic Welders
HOUSE OF RESISTORS - Clarosta
HP - Hi-Q Div., Aerovox Corp.
HRO - National Co.
HUBBY-POT - Hub-Pot , Inc.
HUCKBOLT - Huck Mfg.
HUD-SOL - Hudson Wire Co.
HUDSON - Oxford Components, Inc.
HULL-STANDARD - Hull Corp.
HUMAN ENGINEERED - Bristol Co.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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HUMDINGER - Clarostat Mfg. Co.,Inc.
HUMIDIGRAPH - Bristol Co.
HUMIDOLIAN - Star Porcelain
HUMI-GARD - Quam-Nichols
HUMISEAL - Columbia Technical
HUMPBACK - C.I. Hayes, Inc.
HUNT S.C.E. SOLUTION - Philip A.Hunt
HUNTSMAN - Kedman Co.
HURLETRON - Electric Eye Equip. Co.
HUSH - Chemical Elec. Engr.
HUSH-A-MATIC - Hays Mfg. Co.
HUSKY - Price Electric
HY-A-SIL - Sanford Miller Co.
HYAX - National Lead Co.
HYBRIDGE - Alford Mfg. Co.
HYCAR - B.F. Goodrich
HYCOT - Lenz Elec. Mfg. Co.
HYDENT - Omaton Div., Burndy Corp.
HYDER-TEMP - Victoreen Instrument
HYDEWA - Leon J. Barrett Co.
HYDRAKOTE - Hatfield Wire & Cable
HYDRASHAKER - Wyle Mfg. Corp.
HYDRATEMP - Hatfield Wire & Cable
HYDRATUBE - Recora Co.
HYDROCIDE - L. Sonneborn Sons, Inc.
HYDROFEED - Components Corp.
HYDROGRAF - Grafo Colloids Corp.
HYDROMATIC - Toledo Scale Div.
HYDROSEAL - Essex Wire Corp.
HYFEN - Omaton Div., Burndy Corp.
HYFLUX - Indiana Steel Prod.
HYFOR - Lenz Elec. Mfg. Co.
HY-G-300 - Bendix Aviation Corp.
HYGE - Cons. Electrodynamics Corp.
HYGEE - Lenz Electric Mfg. Co.
HYGLAS - Lenz Electric Mfg. Co.
HYGRADE - Frank Markel & Sons
HY-GRADE - Televideo Corp.
HYLINK - Omaton Div., Burndy Corp.
HYLOW - Stevens Products, Inc.
HYLUG - Omaton Div., Burndy Corp.
HY-MET - Astron Corp.
HY MU - Carpenter Steel, Co.
HYPAC - Electr. Res. Associates
HYPASS - Sprague Electric Co.
HYPERCAP - Sprague Electric Co.
HYPERCORE - Moloney Electric Co.
HYPEX - Jensen Mfg. Co.
HYPOPHONIC - Standard Electric Mfg.
HYPOT - Assoc. Research, Inc.
HYPRESS - Omaton Div., Burndy Corp.
HYPSOMETERS - Victory Engineering
HY-RA - Carpenter Steel Co.
HYRAD - Sequoia Wire Co.
HYRAY - Lenz Electric Mfg. Co.
HYREL - Sprague Electric Co.
HYRING - Omaton Div., Burndy Corp.
HYSOL - Houghton Labs.
HYSPAR - Midland Paint
HYSPERSYN - Bekey Electric
HYTEM - Lenz Elec. Mfg. Co.
HY-THERM - Hopkins Eng. Co.
HYTIN - Farrelloy Co.
HYTOOL - Omaton Div., Burndy Corp.
HYTRON - CBS-Hytron
HYTRONIC - United Shoe Mach.

I

IATRON - Farnsworth Elec.
IBM - Int'l Bus. Mach. Corp.
ICA - Insuline Corp. of America
ICI - Insulated Circuits, Inc.
ICONEL - Int'l Nickel Co., Inc.
ICONIC - Altec Lansing Corp.
ICONORAMA - Fenske, Fedrick & Miller
IDEAL - Federal Instrument
IDEAL - Melody Master
IDEAL - Modern Laboratory Equip.
IDENTASLEEVE - Gen'l PJastics
IDL - Instrument Develp. Labs.
I.E.I. - Int'l Electronic Ind., Inc.
IERC - International Electr. Res.
IHC - Illinois Condenser
IHT - Illinois Condenser
II-TV - Gen'l Precision Lab.
ILG-DUALAIR - ILG Electric Ventilating
ILGETTE - ILG Electric Ventilating
ILGJET - ILG Electric Ventilating
ILGVENT - ILG Electric Ventilating
ILLINI - Illinois Condenser Co.
ILUOROPLY - Int'l Resistance Co.
IMC - Insulation Mfg. Corp.
IMCOR - Insulation Mfg.
IMMERSCOPE - Curtiss-Wright Co.
IMP - Carter Parts Co.
IMP - JFD Mfg. Co.
IMP - Kaar Engineering Corp.
IMPAL - Columbia Technical
IMPERIAL - Jensen Mfg. Co.
IMPERIAL - Rek-O-Kut Co.
IMPERIAL - Trans-Tel Corp.
IMP-MOLDED - Carter Parts Co.
IMPULSE SEQUENCE - Bristol Co.
IN-A-GRIP - Stevens-Walden, Inc.
INCELOID - Amer. Products Mfg.
INCO - Int'l Nickel Co.
INCONEL "X" - Int'l Nickel Co.
INCREDUCTOR - CGS Laboratories
INCURO 20 - Western Gold
INCURO 60 - Western Gold
INCUSIL 10 - Western Gold
INCUSIL 15 - Western Gold
INDALLOY - Indiana Steel Prod.
INDALLOY - Indium Corp.
INDELCO - Monitor Controller
INDELI-DENT - Markwik Mfg. Co., Inc.
INDI-AC - Cleveland Instr.
INDIAN HEAD - Union Broach
INDI-RON - Cleveland Instr.
INDITRON - National Union Electric Div.
INDOX - Indiana Steel Prod.
INDUCTRONIC - Western Instruments
INDUFLUX - Irwin Labs.
INDUSTRO - State Labs., Inc.
IN-DUS-TRONIC - H. Boker
INFLATAIR - Walter Kidde & Co.
INFLITE - Land-Air, Inc.
INFRACORD - Perkin-Elmer Corp.
INFRALITE - N.J. Thermex Co.,Inc.
IN LINE - JFD Mfg. Co.
IN-LINE - Spectrol Electronics Corp.
INMANCO - Insulation Mfg.
IN-RES-CO - Instr. Resistors
INSPECT-O-FILM - Harwald Co.
INSPECTOLITE - Engelhard Ind.
INSTALOK - Trio Manufacturing
INSTANSOLDER - Cole Radio
INSUL-8-CORP - Vicon Corp.
INSULINK - Omaton Div., Burndy Corp.
INSULKOTE - Johns-Manville
INSUL-MENT - Perfection Mica
INSULOID - Electrovert, Inc.
INSULUG - Omaton Div., Burndy Corp.
INSUROK - Richardson Co.
INTEC - Intercontinental Elec.
INTERCAST - Gries Reproducer Corp.
INTERCEPTOR - Wiegand Co.
INTERLOK - Di/An Controls
INTERMATIC - Int'l Register Co.
INTERMITTOR - Audiomation Lab.
INTERVERTER - Interelectronics
INTRAFAX - Western Union Telegraph
INTREX - Interelectronics
INTRON - Interelectronics
INVAR - Carpenter Steel
INVERCONE - Weston Instruments
INVERTRON - Behlman Eng.
INVISICORD - Maico Elec.
IONOSTAT - U.S. Radium Corp.
IONOTRON - U.S. Radium Corp.
IONOVAC - DuKane Corp.
IRESCO - Intern'l Res. Assoc.
IRION AND VOESSLER - Gresin Co.
IRISH - Orradio Industries
IRN - C.K. Williams & Co.
IRVINGTON - Minnesota Mining & Mfg.
I/S - Intersearch, Inc.
ISATRON - Cons. Electrodynamics
ISIS - Philbrick Researches
ISO - Isolantite Mfg.
ISOBESTOS - Natvar Corp.
ISODEX - Shure Brothers, Inc.
ISO-ELASTIC - John Chatillon
ISOFARAD - Sprague Electric Co.
ISOFOAM - Iscoyanate Prod., Inc.
ISOFORMER - Elcor, Inc.
ISOGEL - Isochem Resins Corp.
ISOGLAS - Natvar Corp.
ISOHM - C.B.C. Electronics
ISOLASTANE - Natvar Corp.
ISOLITES - U.S. Radium Corp.
ISOMICA - Mica Insulator Co.
ISOMICA - Minnesota Mining & Mfg.
ISOMODE - MB Manufacturing Co.
ISONEL - Acme Wire Co.
ISOPHASE - Pickering & Co., Inc.
ISOPHON - Arnold Ceramics
ISOPLY - Elcor, Inc.
ISO-SEAL - John Chatillon
ISOTRAN - Sorensen & Co., Inc.
ISOTRONIC - Sorensen & Co., Inc.
ITECO - Ind'l Test Equip. Co.
ITT - Kellogg Switchboard
ITV - Zoomar, Inc.
IVO - Presin Co.

J

JACKNIFE - Radio Mdse Sales
JACKSON - U.S. Radium Corp.
JACKSON - Vulcan Elec. Co.
JACO - Jarrell-Ash Co.
JAGABI - James G. Biddle Co.
JAINCO - Jacobs Instr. Co.
JALCO - Jaidinger Mfg.
JANSZEN - Neshaminy Electronic
JC-60 - Atlas Mineral Products
JEBBS - Jacobs Instr. Co.
JEPC - Jefferson Electronic Products
JERICHO - Marconi Instr.
JET-EDGE - Millers Falls Co.
JE TENNA - JFD Mfg. Co.
JET FLUX - All-State Welding
JE TOMIC - JFD Mfg. Co.
JETUBE - Tuttle & Kift
JEVIS - Land-Air, Inc.
JIFFI-TESTER - Federal Electronic Sales
JIFFY - Akro-Mils, Inc.
JIFFY - Campro Products
JIFFY - Eagle Elec. Mfg. Co.
JIFFY - MacDonald & Co.
J-M - Johns-Manville
JOCKEY CLOTH - Robins Industries
JOLTA - Jan Hardware Mfg. Co.
JOMANCO - Johns-Manville
JOURNAL COMPOUND - Grafo Colloids
J-TRAN - Gen'l Instrument
JUDCO - Judd Wire Mfg.
JUNIOR - Hamilton Electronics
JUNIOR - Linemaster Switch
JUNIOR - HELIX - JFD Mfg. Co.
JUSTOWRITER - Friden, Inc.
J-W - Johnson-Williams, Inc.
J-W GAS POINTER - Johnson-Williams
J-W SENTINEL - Johnson-Williams
J-W SNIFFER - Johnson-Williams

K

KALOTRON - Thermosen, Inc.
KALUG - Omaton Div., Burndy Corp.
KALWOOD - Keller Products, Inc.
KANIGEN - Gen'l Amer. Trans.
KANTARK - Trico Fuse Mfg.
KANTLINK - Positive Lock Washer
KAPPA - Wm. E. Wright
KARADIO - Eckstein Radio
KARAK - Ohio Carbon
KARBOMET - Driver-Harris Co.
KARMA - Driver-Harris Co.
KAYLOCK - Kaynar Co.
KE - Kurman Electric
KEARSARGE - Johns-Manville
KEENSERF - Newton Insert Co.
KEL-F - Minnesota Mining & Mfg.
KELLER - Gardner-Denver
KELON - W.S. Shamban
KELVIN & HUGHES - British Ind.
KEMETAL PROCESS - Radio Ind.
KEMFUSE - Bel Fuse, Inc.
KENCO - Kenwood Engineering
KENITE - Keystone Elec.
KENTCRAFT - Kent Television, Inc.
KENT CUSTOM CRAFT - Kent TV,Inc.
KENTLITE - Kent Lighting Corp.
KEPRO - Keil Eng. Prod.
KEPS - Shakeproof Div., Illinois Tool
KEY-MUNICATOR - Stromberg-Carlson
KEYSTONE - Okonite Co.
KIC - Kemet Co.,Div.Union-Carbide
KICKSORTER - Bendix Aviation
KILLARD - Auto Products Co.
KILNGRAF - Grafo Colloids Corp.
KILODIAL - Kilo Engineering
KILOKNOB - Kilo Engineering
KILOPOT - Kilo Engineering
KILO-Q - Kay Electric
KILO-SWEEP - Kay Electric
KILOVOLTER - Elec. Test Instr.
KILOWATT - E. F. Johnson Co.
KIMCO - Kline Iron
KINECARD - Collins Radio Co.
KINEPLEX - Collins Radio Co.
KINEVOX - Electromation Co.
KING - Globe Electronics, Inc.
KINNEY - N.Y. Air Brake Co.
KINTEL - Massa Div. Cohu Electronics
KINTRONIC - Chicago Aerial Ind.
KIPP & ZONEN - James G. Biddle Co.
KLAR & BEILSCHMID - Electr. Appl.
KLEANROL - du Pont
KLEENEEDLE - Robins Industries
KLEEN-SWEEP - Duotone Co.
KLEER-PAK - Sprague Electric Co.
KLIPLOK - Trico Fuse Mfg.
KLIPZON - General Cement
KLIXON - Metals & Controls,Versailles
K-LOC - Erie Resistor Corp.
KLOC KOUNTER - Hunter Mfg. Co.
KMC - Kapitol Magnetic Corp
K MONEL - Int'l Nickel Co., Inc.
KNEE-ACTION - Daven Co.
K.O. - Channel Master
KODAIRE - Spertic - Faraday, Inc.
KODAK - Eastman Kodak
KODEMASTER - Spertic - Faraday,Inc.
KODIFIER - Markwik Mfg. Co., Inc.
KOILED KORDS - Whitney Blake
KOLD-PHIL - Phillips Mfg. Co.
KOLFOR - Etched Prod. Corp.
KOOL-KLAMPS - Birtcher Corp.
KOOLOHM - Sprague Electric Co.
KOOLPAK - Sprague Electric Co.
KOOL SEL - Pyramid Electric Co.
KOOLTAB - Tech. Apparatus
KOROSEAL - B. F. Goodrich Ind. Prod.
KOSTREEL - Kost Products Co., Inc.
KOVAR - The Carborundum Co.
K.P.M. - Weil & Jones
KRECO - Harb Kreckman Co.
KRIS-TEL - Kriss Electronics, Inc.
KR MONEL - Int'l Nickel Co., Inc.
KROMOVER - All-State Welding
K-TRAN - Gen'l Instrument Corp.
KULGRID - Sylvania Elec.
KU-LINK - Lambda - Pacific Eng.
KURE-N-SEAL - L. Sonneborn Sons
KURMELEC - Kurman Electric Co.
KUTHE - ITT Components Div.
KVO - Sprague Electric Co.
KW - Kaiser Alum.
KWIKIT - Univ. Loudspeakers, Inc.
KWIK-KALL - J. M. Loge
KWIK KLIP - South River Metal Products
KWIKLOCK - Eagle Electric
KWIK-STIK - Finn-Jaske Co.
KWIKY-DOT - By-Buk Co.

L

L-2 AUTOPILOT - Lear, Inc.
L-5 AUTOPILOT - Lear, Inc.
LAB-CREST - Fischer & Porter Co.
LABEL-STIK - Geo. D. Ellis
LABIL - Stromberg-Carlson
LABITRON - Nuclear-Chicago Corp.
LAB-LINE - Dunlap Electronics
LABMARKER - Berkshire Labs.
LABMASTER - Gen'l Nuclear Corp.
LABOHM - Berkshire Labs.
LABSTROBE - Berkshire Labs.
LABTRANS - Berkshire Labs.
LABVOLT - Buck Engrg. Co., Inc.
LACKON - U. S. Radium Corp.
LACKON PROCESS - Sun Dial Corp.
LA-CO - Lake Chemical
LACQUER-STIK - Lake Chemical
LADDER LINE - Illumitronic Engrg.
LAGUNA - Altec Lansing Corp.
LAMBDA-LINK - Lambda-Pacific
LAMCO - Laminations Co.
LAMCOTE - Arvey Corp.
LAMICOID - Mica Insulator Co.
LAMICOID - Minnesota Mining & Mfg.
LAMINAR - Nation Vulcanized Fibre
LAMINETCH - Plasteck, Inc.
LAMINOL - American Nickeloid
LAMPANEL - Miller Dial & Name Plate
LANCER - Peck & Harvey
LAQUA - Fidelity Chem. Prod.
LARGO - Permoflux Prod.
LAVITE - Steward Mfg. Co.
LAVOLAIN - Star Porcelain
LC - Lear, Inc.
L-C CHECKER - Aerovox Corp.
L-C TUNERS - JFD Electronics Corp.
LE - Leitch-Huard Corp.
LEAD-BENDER - Design Tool Corp.
LEAD-FORMER - Design Tool Corp.

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

LEAD-STRAIGHTENER - Design Tool
LEAK - British Industries Corp.
LEAK LOCK - Highside Chemicals
LEARADIO - Lear, Inc.
LEARMATIC - Lear, Inc.
LEARSYN - Lear, Inc.
LEARTRAM - Lear, Inc.
LEATHEROID - National Vulcanized Fibre
LECTERN - J. M. Loge
LECTON - Du Pont
LECTRIC-AIRE - Radex Corp.
LECTRO-CLAD - Bart Mfg. Corp.
LECTROFORMING - Bar Mfg. Corp.
LECTRO-LITE - Federal Electronic Sale
LECTRONOSCOPE - Hamlin, Inc.
LEDEX - G. H. Leland, Inc.
LEEFLUOR - Walter Lee Chemical Co.
LEESONA - Universal Winding
LEEVERS-RICH - Fen-Tone Corp.
LEHIGH - New Jersey Zinc Co.
LEKTRO-LOK - Linemaster Switch
LEKTRO-TUNER - Conn.
LELAB - H. W. Leighton
LENCEL - Lenz Elec. Mfg. Co.
LENITE - Lab-Tronics, Inc.
LENSCREEN - Polacoat, Inc.
LENZAC - Lenz Electric Mfg. Co.
LENZITE - Lenz Electric Mfg. Co.
LEVELKOUPLE - E. C. Smith, Mfg.
LEVEL MASTER - Jo-Bell Products
LEV-R SWITCHES - Switchcraft, Inc.
LEWIS VERTICAL - Universal Prods.
LF-JAX - Switchcraft, Inc.
LGP-30 - Librascope, Inc.
LIAD - Assembly Prod.
LIBRATROL - Librascope, Inc.
LIBRATROL-500 - Librascope, Comm.
LICO - Life Instrument Co., Inc.
L.I.F.E. - Lear, Inc.
LIFE-LITE - Alkaline Battery Div.
LIFE LITE - Blacklight Corp. of Amer.
LIFE-TIME - Eastern Jewel
LIFETIME - Reeves Soundcraft
LIGHTNING BUG - Vibroplex Co., Inc.
LIGNASAN - Du Pont
LIGNA-SWEEP - Kay Electric
LIGNOPHOL - L. Sonneborn
LIMITEMP - Westinghouse, Dir. Sys. Dept.
LIMITRON - Bussmann Mfg.
LIMPANDER - Electronic Systems Engrg.
LINAC - High Voltage Engrg.
LINEATOR - Airborne Accessories
LINEATROL - Jordan Co.
LINE FINDER - Micro Gee Prod., Inc.
LINE-O-LIFE - Carter Motor Co.
LINE-O-METER - Simpson Electric Co.
LINE-O-MOTOR - Foote Bros.
LINE-O-POWER - Foote Bros.
LINE OUT - Jerrold Electronics Corp.
LINE-TAP - Okonite Co.
LINIOMETER - Bourns Lab.
LINIPOT - Bourns Laboratories
LINK-BY-GONSET - Gonset Division
LINK-LOCK - Simmons Fastener Corp.
LINLAR - Permoflux Prod.
LIN-O-TUBE - Elec. Test Instr.
LION - South Chester Corp.
LIP-LOC - Vector Electronic Co.
LIPSTIK - Altec Lansing Corp.
LIQUITAPE - Beaver Labs.
LIRA - Mine Safety Appl.
LITE-GAGE - Photocon Res. Prod.
LITE-GUARD - Crown Electronics Div.
LITEMASTER - Flexo Int'l
LITE-MITE - Stocker & Yale
LITESTRIP - Circon Component Co.
LITETONE - Duotone Co.
LITTEL JAX - Switchcraft, Inc.
LITTELLAB - Engineering Assoc.
LITTEL LABTRONICS - Engrg. Assoc.
LITTEL PLUGS - Switchcraft, Inc.
LITTEL SWITCHES - Switchcraft, Inc.
LITTLE CHAMP - Arkay Products
LITTLE DEVIL - Ohmite Mfg.
LITTLE GEM - Great Eastern Mfg.
LITTLE-GEM - L. G. Electronic
LITTLE GIANT - JFD Mfg. Co.
LITTLE JEM - Jansen Electronics Mfg.
LITTLE JEWEL - Argonne Electronics
LITTLE JEWEL- Precision Electr.
LITTLE JOE - MacDonald & Co.
LITTLE MAJOR - Arro Expansion
LITTLEWONDER - Philmore Mfg.
LITTLEWONDER - Trans-Lux Corp.
LITTL-LYTIC - Sprague Electric
LIVERMONT - Richmont, Inc.
LIVING PRESENCE - Melody Master
LLOYD'S - Johnson Mfg. Co., Inc.
LM ERICSSON - State Labs., Inc.
LMT - G. L. Collins
LN - Illinois Condenser
LOCALITES - Fostoria Steel Corp.
LOCAR - Simmonds Aero
LOCKFOAM - Nopco Chemical Co.
LOCK-GRIPLIER - Handicraft Tools
LOCK O SEAL - F. C. Wolfe Co.
LOCK-O-SEALS - Parker Seal Co.
LOGGER - Audio Instr.
LOGOFOIL - Bee Chemical Co., Logo Div
LOGOQUANT - Bee Chem. Co., Logo Div.
LOGOSET - Bee Chemical Co., Logo Div.
LOK-MATIC - Ward Products
LOKTHRED - Lamson & Sessions Co.
LOKUTS - Shakeproof Div., Illinois Tool
LOLLYPOP - Daven Co.
LO MOUNT - Barry Controls
LONG LIFE - International Wire & Cable
LONGLIFE - Permo, Inc.
LONG RANGER - Ward Products
LO-OHM - Bradford Components, Inc.
LO-OHM - Workman TV, Inc.
LOOPOHM - Ward Leonard Electric
LOOPSTICK - Superex Elec.
LORENZ - Intelex Systems, Inc.
LORGRINE - Alwac Corp.
LOS GATOS - Cascade Research
LOTEMP - Micro Instrument Co.
LOW-PEAK BUSS - Bussmann Mfg.
LOXARMOR - Okonite Co.
LR - Ripley Co., Inc.
L-T - Lab-Tronics, Inc.
LUBE-LOK - Electrofilm, Inc.
LUB-REX - General Cement
LUBRI-BOND - Electrofilm, Inc.
LUBRI-STAT - Fidelitone, Inc.
LUBRI-STAT - Permo, Inc.
LUBRI-TACT - James G. Biddle Co.
LUCITE - E.I. du Pont de Nemours
LUMATROL - Micro Balancing, Inc.
LUMETRON - Photovolt Corp.
LUMISCRIPT - Epic, Inc.
LURNARITH - Plastics Div.
LUSTERIZED - American Electric Cable
LUSTERLAC - American Electric Cable
LUSTRA-LINE - Warren Corp.
LUSTRAPHONE - Fen-Tone Corp.
LUXOLENE - Deluxe Coils, Inc.
LUXTROL - Superior Electric Co.
LVDT SYSTEM - Micro Gee Prod.
LYN-A-SYN - Minatron Corp.
LYNN LIGHTNING - Vaco Products Co.
LYONS, CLAUDE - British Industries
LYTICAP - Planet Mfg. Corp.

M

MACO - Maury & Associates
MADT - Philco Corp., Lansdale Tube
MAESTRO - Reeves Soundcraft
MAG - Assoc. Amer. Trading
MAGAMP - Westinghouse, Dir. Systems
MAG CAT - Wilcox Electric Co.
MAGCENTRIC - Beede Electrical Instr.
MAG DELAY - Automation, Inc.
MAGIC CIRCLE - A.R. F. Prod., Inc.
MAGIC-EYE - Ind'l Electronics
MAGIC GENIE - JFD Mfg. Co.
MAGIC MIRROR - Tung-Sol
MAGICORES - Aerovox Corp., Crowley
MAGI-MIX - Tech. Appliance
MAGITRAN - Electr. Res. Associates
MAGLE TIPS - Hunter Sales Co.
MAGMETER - Airpax Prod. Co.
MAG-MOD - Gen'l Magnetics, Inc.
MAGMOTOR - Carter Motor Co.
MAGNA-DIE - Whistler & Sons, Inc.
MAGNA DYNE - Kenneth Richardson
MAGNALOG - Hoffman Electronics Corp.
MAGNA PAINT - Micro-Circuits Co.
MAGNA PHONIC - Magnasync Mfg. Co.
MAGNA-REEL - Recording Tape Co.
MAGNA-SEE - Reeves Soundcraft
MAGNA-STRIP - Organic Development
MAGNA-STRIPE - Reeves Soundcraft
MAGNA-SWEEP - Kay Electric
MAGNA-TAK - Boulin Instrument
MAGNATECH - Reeves Equipment Corp.
MAGNATEST - Magnaflux Corp.
MAGNATORC - Hansen Mfg. Co.
MAGNA TROL - Dynamic Controls
MAGNE BRAKE - Vickers, Inc.
MAGNECALL - Amplifier Corp.
MAGNECLUTCH - Vickers, Inc.
MAGNECRIMP - Omaton Div., Burndy
MAGNE DISC - Texas Instrument, Inc.
MAGNEDUCER - Amplifier Corp.
MAGNE-KUPLE - Thermo Products Co.
MAGNELOOP - Amplifier Corp.
MAGNEMASTER - Amplifier Corp.
MAGNEMATIC - Amplifier Corp.
MAGNEMITE - Amplifier Corp.
MAGNEMOTOR - Amplifier Corp.
MAGNEMUSE - Amplifier Corp.
MAGNEPAINT - Micro-Circuits Co.
MAGNE-PAK 400 - Magnetic Controls
MAGNE PASTE - Micro-Circuits Co.
MAGNEPHONE - Amplifier Corp.
MAGNERAMA - Amplifier Corp.
MAGNERASER - Amplifier Corp.
MAGNERIBBON - Amplifier Corp.
MAGNESCOPE - Amplifier Corp.
MAGNE-SPEED - Magnetic Amplifiers
MAGNESTAT - Magnetic Research
MAGNESTN - Bendix Aviation Corp.
MAGNETAPE - Amplifier Corp.
MAGNETREATER - Radio Freq. Labs.
MAGNETTE - Heinemann Electric Co.
MAGNETWIN - Amplifier Corp.
MAGNIPHASE - George Kelk, Ltd.
MAGNIPORT - Diamond Power Specialty
MAGNIVIDER - Magnetics Res.
MAGNI-WHIRL - Blue M. Electric
MAGNO - Driver-Harris Co.
MAGNOCARB - Wilbur B. Driver Co.
MAGNORITE - Norton Co.
MAGNOX - National Beryllia Corp.
MAGOHM - Elec. Regulator Corp.
MAG-PNEU-POWER - Hankisen
MAG REG PAK - Technical Appar. Bldrs.
MAGSWITCH - Micro Switch, Minn-Hon.
MAINLINER - Jerrold Electronics Corp.
MAJOR - Allied International
MAJORETTE - Ward Products
MAL - Arro Expansion Bolt
MALTESE - Semon Bache
MANGANIN - Wilbur B. Driver
MANGRID - Wilbur B. Driver
MANHATTAN - Radion Corp.
MANSON - Okonite Co.
MARBON 8000 - Marbon Chemical
MARC - Moore Associates, Inc.
MARCO - Plastics Div., Celanese Corp.
MARIGUIDE - Bludworth Marine Div.
MARINER - Hudson American
MARK II - General Control Co.
MARK II - Technical Devices Co.
MARK II-THIN-SLIDE - Grant Pulley
MARK VII - Valandy Electronics
MARKA-SWEEP - Kay Electric Co.
MARKERMATIC - W.H. Brady Co.
MARKSMAN - West Instrument Corp.
MARK-TIME - M.H. Rhodes, Inc.
MARR - Rattan Manufacturing
MARS - Lear, Inc.
MARS - J.S. Staedtler
MARS-LUMOCHROM - J.S. Staedtler
MARS-LUMOGRAPH - J.S. Staedtler
MARS-LUMOGRAPH DURALAR - J. S. Staedtler, Inc.
MARVELITE - C.B.C. Electronics Co.
MARVELWITE - L. Sonneborn
MASCO - Mark Simpson Mfg. Co., Inc.
MASCOT - Cons. Electrodynamics
MASTER III - Weston Instruments Div.
MASTERLINE - Blonder-Tongue
MASTER MARINER - Hudson American
MASTER MET - Cannon-Muskegon
MASTER PRECISION - Mid-Century Inst.
MASTER PROCESS - Mid-Century Instr.
MASTERRECORDER - Taylor-Emmett
MASTER TAPE - Audio-Master Corp.
MASTERTROL - Taylor-Emmett Controls
MAT - Philco Corp., Lansdale Tube Div.
MATCHBOX - E.F. Johnson
MATCHMASTER - Barker & Williamson
MATCHSTICK - E.F. Johnson
MATCO - Mattson Electronics Corp.
MATRI-CHEK - Quality Control
MATRI-SWAGE - Quality Control
MATRON - W.C. Robinette
MAUER BALANCE - Niagara Electron
MAVERICK - Channel Master
MAX-EL - Crucible Steel
MAXELOY - Crucible Steel
MAXIMAG - Adler Electronics
MAX-MIN - Weston Instruments
MC 400 - Mid-Century Instrumatic
MC 5800 - Mid-Century Instrumatic
MC 5900 - Mid-Century Instrumatic
MCA - Molding Corp.
M-CAL - North Shore Nameplate Co.
M.D.L. - Microwave Development Labs.
MEASURAY - Sheffield Corp.
MEC - Miniature Elec. Compon.
MECAPS - Micamold Electronics
MECATORN - C.W. Torngren
MECHA - Servomechanisms
MECHAKIT - Servomechanisms
MECHANEERING - Mechaneers, Inc.
MECHATROL - Servomechanisms
MECHATRONIC - Servomechanisms
MECHTRONICS - Pneumafil Corp.
MEDALIST - Marion Elec. Instr.
MEDALLION - Crest Electronics
MEDIAC-I - Nuclear-Chicago
MEDIAN-II - Nuclear-Chicago
MEDIQUARTZ - Dallons Labs.
MEDI-SCOPE - Eastern Prec. Resistor
MEDISINE - Dallons Labs.
MEDISONAR - Dallons Labs.
MEDITHERM - Dallons Labs.
MEECO - Mfg. Engrg. Equip.
MEG - James G. Biddle Co.
MEGA-CHART - Kay Electric
MEGALATOR - Kay Electric
MEGALIGNER - Kay Electric
MEGALUME - Nems Clarke Co.
MEGALYZER - Kay Electric
MEGA-MARKER - Kay Electric
MEGA-MARKER, SR - Kay Electric
MEGA-MATCH - Kay Electric
MEGA-NODE - Kay Electric Co.
MEGA-PIX - Kay Electric
MEGA-PULSER - Kay Electric
MEGAREL - Gudeman Co.
MEGASORBER - Continental Elec.
MEGA-SWEEP - Kay Electric Co.
MEGATROMETER - Mid-Eastern Electr.
MEGGER - James G. Biddle
MEG METER - Winslow Co. Ω
MEGOHMER - Herman H. Sticht
MEGOHMTEST - Davenport Mfg.
MEG-O-MAX - Sprague Electric Co.
MEK - Machinery Electrification, Inc.
MELABS - Microwave Engrg. Labs.
MELACON - Photocircuits
MELEMATIC - Meletron Corp.
MELEX - Meletron Corp.
MELLOTONE - Electron Enterprises
MELLOTONE - Wendell Plastic Fabrics
MELODIST - Altec Lansing Corp.
MELODY MIKE - Audio Equipment
MELROSE - Lincoln Sound
MELTROL - Measurement Engrg.
MEMO-LITE - Transistor Electronics
MEMO-SCOPE - Hughes Products
MEMOTRON - Hughes Products
MENUTRON - Polytronic Research
MERADLABS - Central Coil
MERCISTOR - Vapor Heating Corp.
MERCO-FLOOD - Radiant Lamp Corp.
MERCONTROL - Mercoid Corp.
MERC-O-SEAL - Mercury Contacts
MERCO-SPOT - Radiant Lamp Corp.
MERCO-WHITE - Radiant Lamp Corp.
MERCURY - Vulcan Electric Co.
MERITONE - Autocraft Electronics
MERITROL - Taylor-Emmett Controls
MERL-MILLER - Electro-Research Labs.
MESSAGE REPEATER - Mohawk Bus.
MESSAGE REPEATER JR. - Mohawk
MESURFLO - Hays Mfg. Co.
MET-A-CAPS - Chicago Condenser
METACOLOR - Phillips Process Co.
METAGRAPHIC - Bristol Co.
METALASTIC - Metal Textile Corp.
METAL-CAL - C & H Supply Co.
METAL-CELL - Topatron, Inc.
METALITE - Astron Corp.
METALLON - Shure Brothers, Inc.
METAL MONITOR - Brush Instr.
METAMETER - Bristol Co.
METAPLAST - Hull Corp.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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METAPOX - Hull Corp.
METAVANE - Bristol Co.
METEOR - Assoc. Amer. Trading
METEOR - Astron Corp.
METERLYTICS - Micamold Elec.
METER-MATIC - Leitch-Huard Corp.
METERMAX - Leeds & Northrup
METEX - Metal Textile Corp.
METLBOND - Narmco Resins & Coatings
MET-L-FLEX - Robinson Aviation
MET-O-SEALS - Parker Seals Co.
METOX - Welwyn International
METRO - Radion Corp.
METROCELL - Trans-Sonics, Inc.
METRO-FLEX - Metron Instrument
METRONOME - Cal-Lee Mfg.
METROPOLITAN - Radion Corp.
METROSCOPE - Photocon Res. Prod.
METROTYPE - Bailey Meter Co.
M & G - Intelex Systems, Inc.
MGC - Hobart Bros.
MICABOND - Continental-Diamond Fibre
MICAFIL - Hirschmann Co.
MICAFLUSH - Mica Corp.
MICA-GLAS - Nat'l Electric Coil
MICAL - Top Flight Corp.
MICALAY - United Mineral & Chemical
MICAMAT - Nat'l Electric Coil
MICANITE - Mica Insulator
MICANITE - Minnesota Mining & Mfg.
MICAP - Micamold Elect. Mfg.
MICAPLY - Mica Corp.
MICA-RAMIC - Farnam Mfg. Co.,Inc.
MICA-RAMIC - Spruce Pine Mica Co.
MICASUB - John E. Fast & Co.
MICO - Mica Insulator
MICRADJUST - Fairchild Recording
MICRELAY - Ebert Electronics
MICRO-7 - Fairchild Recording Equip.
MICRO AC - Cleveland Instr.
MICROACT - Bristol Co.
MICROBIT - Devol Research
MICRO-BRAKE - Magtrol, Inc.
MICROCARB - Leeds & Northrup
MICRO CIRCLE - Precise Measurements
MICRO-CLUTCH - Magtrol, Inc.
MICROCORDER - Micrometrical Mfg.
MICRODIAL - George W. Borg Corp.
MICROFLASH - General Radio
MICROFLECTORS - Microflect Co.
MICROFLEX - Eagle Signal Corp.
MICRO-GAP - Shure Bros.
MICROLAC - Reeves Soundcraft
MICROLEVEL - Stevens-Arnold, Inc.
MICROLINE - Sperry Gyroscope
MICROLITE - L.O.F. Glass Fibers
MICROLITIC - Pyramid Electric
MICROLTER - Kay Electric Co.
MICROLYTICS - Micamold Electronics
MICROMAG - Magnetic Research
MICROMATCH - M. C. Jones Elec.
MICROMATIC - DuKane Corp.
MICROMATION - Waldorf Instrument
MICROMAX - Leeds Northrup
MICRO-MITE - Belltron Mfg.
MICRO-MOTOR - Redmond Co.
MICRO-NAMIC - Micro Balancing
MICRO-NODE - Kay Electric
MICROPAINT - Micro-Circuits
MICRO-PATH - Topp Industries
MICROPOSITIONER - Barber-Colman
MICRO-POSITIONER - Topp Industries
MICROPOTS - George W. Borg Corp.
MICROPULSE - Ralph M. Parsons
MICRO-PULSER - Kay Electric
MICRO-QUARTZ - L.O.F. Glass Fibers
MICROSADIC - Consolidated Electrodyna.
MICRO-SHIM - Staver Co.
MICRO SONIC - Craig Electronics
MICROTEL - Lenkurt Electric
MICROTESTERS - Simpson Electric
MICROTEX - L.O.F. Glass Fibers
MICROTHIN - W. S. Shamban
MICROTIME - PCA Electronics
MICROTOROID - Torodial Components
MICROTORQUE - G.M. Giannini Co.
MICROTWINTACTS - Weston Instruments
MICROVAC - F. J. Stokes
MICROVERTER - Barber-Colman
MICROWALL - Rex Corp.
MIDAX - Collaro, Ltd.
MIDGET - Black Light Products
MIDGET - Sprague Electric Co.
MIDGETAPE - Mohawk Bus. Mach.
MIDGETESTER - Simpson Elec.
MIDLENE - Essex Wire
MIDPRENE - Essex Wire
MID-RIP - General Cable Corp.
MIG - Minneapolis-Honeywell
MIGHTY MITE - Mech. Industries Prod.
MIJAKON - John E. Fast
MIKASUE - John E. Fast
MIKESTER - Flexo Int'l Corp.
MIKROHM - Superior Electric
MIL-AC - Ellis & Watts Prod.
MILAC - Lenz Electric Mfg.
MILLER-PHOENIX - Phoenix Precision
MILLI-MIKE - Edgerton,Germeshausen
MILLISADIC - Cons. Electrodynamics
MILLISEC - Stevens-Arnold, Inc.
MILLI-SWITCH - Milli-Switch Corp.
MILLIVAC - Bristol Co.
MILLIVAC - Massa Div., Cohu Electr.
MILROS - Milton Ross Metals
MIN-AMP - E.O. Electronics
MINELCO - Miniature Elec.
MINERALEAD - Atlas Mineral Prod.
MINERALIGHT - Blacklight Corp. of Am.
MINIATURE - Metron Instrument Co.
MINIBIT - Epsco, Inc.
MINIBOXES - Bud Radio, Inc.
MINI-BREAKER - Mechanical Prods.
MINI-BRITE - C.B.C. Electronics
MINI-BUZZER - Line Electric Co.
MINICAN - Cubic Corp.
MINICAP - Allen Mfg.
MINI-CHOKE - Superex Electronics
MINICOM - General Devices, Inc.
MINICON-X - Nugent Electronics
MINICUBE - Sanders Associates
MINIDATRAC - Epsco, Inc.
MINIDUCTORS - Barker & Williamson
MINI-FLEX - Hamner Electronics
MINIFLEX - Lenz Electric Mfg.
MINIFORMER - Gramer-Haldorson
MINI-GATOR - Mueller Electric
MINI-ISOLATOR - Javex
MINI-JACKS - Federal Electronic Sales
MINIKOUPLE - E.C. Smith Mfg.
MINI-LAB - Stanley Aviation
MINILINE - Columbia Technical
MINI-LITE - Transistor Electronics
MINI-LUX - Shure Bros.
MINI-MARKERS - Westline Products
MINI-MIKE - Telex, Inc.
MINIMITE - Astron Corp.
MINIMITE - Thermo Electric Co., Inc.
MINI-MIX - Switchcraft, Inc.
MINI-NOISE - Microdot, Inc.
MINI-OHM - Sprague Electric Co.
MINIPAK - Radio Specialty Mfg.
MINI-PLATE - Javex
MINIPLEXER - Applied Science
MINI-RATE SCOPE - Electronic Techn.
MINIRELAY - Ebert Electronics
MINI-SCOPE - Eastern Prec. Resistor
MINISEL - Electronic Devices
MINISET - Allen Mfg.
MINI-SHIELDS - Staver Co.
MINISLIDES - Bud Radio, Inc.
MINI-SOCKET - Javex
MINISOURCE - Electronic Assembly Co.
MINI-SPRINGS - Staver Co.
MIN-ISTOR - Eastern Precision Resistor
MINISTRIP - Ward Leonard Electric
MINITAPE - Stancil-Hoffman
MINI-THIN - Thermax Wire Corp.
MINITORQUE - G.M. Giannini
MINI-VOLT - Industrial Devices
MIRACORD - Audiogersh Corp.
MIRAPHON - Audiogersh Corp.
MIRATWIN - Audiogersh Corp.
MIROPOINT - Duotone Co.
MISCO - Minneapolis Speaker Co.
MISSILMITE - Micamold Electronics
M-JAX - Switchcraft, Inc.
M/L - Massa Lab.
M-M SUPREME - Harwald Company
MOBIL-DAPTER - Seeley Electronics
MOBILE - E.F. Johnson
MOBILE VFO - E. F. Johnson
MOBILFONE - Mobil Electronics
MOBILMATIC - Mobil Electronics
MOBILTEL - Lenkurt Electric
MOBILTONE - Mobil Electronics
MO BOND - Assoc. Engrg. & Mfg.
MODELEC - Modelectric Products
MODERNPHONE - Paul C. Roche
MODIFIED HILD - Wilbur B. Driver
MODUCELL - Topatron, Inc.
MODULINE - Sprague Electric
MODULITE - Berndt-Bach, Inc.
MODULITE - Electronic Control
MODULOK - Omaton Div., Burndy Co.
MODU-RAK - Premier Metal Prod.
MODU-WAVE - Sciaky Bros.
MOISTEMP - Rockbestos Products
MOIST-O-GRAPH - Minn-Honeywell, Brown Instr., Div.
MOISTUROMETER - Park Electronics
MOISTURE MONITOR - Strandberg Engrg
MOLCOTE METALLIZING - Frenchtown Porcelain Co.
MOLDEX - Neosil Products Co.
MOLDITE - National Moldite
MOLDTITE - United Condenser
MOLECU-DRYER - C.I. Hayes, Inc.
MOLECULE SQUEEZER - W.C.Robinette
MOLECULOY - Molecu-Wire Corp.
MONARCH SEVIES - Telrex Labs.
MONASTRIP EP - Mona Industries, Inc.
MONEL - Int'l Nickel Co.
MONITOR - Electronic Teaching Labs.
MONITOR - Fanon Electronics
MONITOR - Radio Mdse Sales, Inc.
MONITORADIO - I.D.E.A., Inc.
MONITORET - Electronic Teaching Labs.
MONITORSCOPE - Essential Electronics
MONITROL - Monitor Controller
MONITRON - Moore Associates, Inc.
MONITRON - Sperry Products, Inc.
MONO-DRUM - Gorrell & Gorrell
MONOFUSION - Components Corp.
MONOLYTHIC - Sprague Electric Co.
MONO-MOTORS - Redmond Co.
MONOPLEX - Shure Bros.
MONOSET - Telex, Inc.
MONO-SHELL - Misco Prec. Casting
MONOWATT - GE, Wiring Device Dept.
MONROBOT - Monroe Calculating
MONTUBE - Tuttle & Kift
MOODY KIT - Moody Machine Prod.
MORADCO - Morrow Radio Mfg. Co.
MORPASOLS - Morningstar-Paisley, Inc
MORSE-EVREKA - Frank W. Morse
MOTOPRENE - Essex Wire Corp.
MOTORDOR - Broan Mfg. Co., Inc.
MOTORK - Magnetic Metals
MOTORLYTIC - Micamold Electronics
MOTOR MIKE - Electro-Capacitors
MOTOROID - Leetronics, Inc.
MOTOROTOR - Apparatus Dev. Co.
MOTORTRON - Bussmann Mfg.
MOTOVATOR - Kasson Die & Motor
MOTRAC - Motorola Comm.& Electronics
MOTRON - W.C. Robinette Co.
MOULIC/LITE - Moulic Specialties Co.
MOXITE - Moxness Prod., Inc.
MOXLON - Moxness Prod., Inc.
MOX-TAPE - Moxness Prod., Inc.
MOYNO - Robbins & Myers
M-PAC - Computer Control
MPB - Miniature Precision Bearings
MRA-DELUXE - Munston Mfg. & Serv.
MRA-LC - Munston Mfg. & Services
M-R-C - Marlin-Rockwell Corp.
MRM - Milton Ross
MRT - Munston Mfg. & Services
MS - Illinois Condenser
MSB - Illinois Condenser
MT. JAX - Switchcraft, Inc.
MTR RELAY - American Monarch Corp.
M & T - Tung-Sol
MUFAX - Muirhead Instrument
MUGWAMP - Radio Mdse Sales
MULLARD - Int'l Electronics
MULTI-CELL - Shielding, Inc.
MULTICHEK - Fox Products
MULTI-COMP - Sprague Electric Co.
MULTICORE - Multicores Sales Corp.
MULTIDATA - Flight Research
MULTI-ELMAC - Multi-Products Co.
MULTIFLEX - Eagle Signal Corp.
MULTIMET - Haynes Stellite Co.
MULTIMETERS - Rawson Elec. Inst.
MULTIPACT - Sperti-Faraday, Inc.
MULTIPHASE - Central Electronics
MULTIPOT - Daystrom Pacific
MULTI-PULSER - Kay Electric
MULTISCALER - Baird-Atomic, Inc.
MULTISOURCE - Applied Res. Labs.
MULTISTACK - Con. Resistance Co.
MULTI-SWITCHES - Switchcraft
MULTI-TET - W. L. Gore & Associates
MULTIVERTER - Packard-Bell
MULTIVIDER - Spencer-Kennedy Lab.
MULTIWAVE - Narmco Resins & Coatings
MUREX - Tung-Sol
MUSICAL-MASTER - L. Charlton Greene
MUSIC LOVERS - Shure Bros.
MUSICMASTER - Electronic Importers
MUSIC MINDER - C.B.C. Electronics
MUSICOLA - Permoflux Prod. Co.
MUSI-TALK - Fanon Electronics
MVRs - Sorensen & Co., Inc.
MYCAL - Topflight Corp.
MYCON - Southern Electronics
MYKAPLAST - United Condenser
MYKATROL - Industrial Electronics
MYKE-A-TROL - Ind'l Electronics
MYKROY - Electronic Mechanics
MYLAR - DuPont
MY-T-MIDGET - American Rectifier

N

NA-ALD - Alden Products
NADAR - Autonetics, Div., North Amer.
NAFLI - Lear, Inc.
NAGRA - Electronic Applications
NAIL IT - Eagle Electric
NALCO - National Lead Co.
NALCO - North Amer. Elec.
NAPCO - Nevada Air Products Co.
NARC - Sid Stone Radio Labs.
NARCO - National Aero Corp.
NARCOIL - NRC Equipment Corp.
NARCUS - Printed Electronics Corp.
NARESCOIL - NRC Equipment Corp.
NARMTAPE - Narmco Resins & Coatings
NATEL - National Tel-Tronics Corp.
NATIONAL - Harry Appleton Co.
NATIONAL - General Hardware Mfg.
NATIONAL - Valco Mfg. Co.
NATIONAL FONTAR BORESCOPE - National Elect. Instr.
NATITE #150 - National Ceramic Co.
NATLOOPS - National Elect. Coil Co.
NAUTILUS - Hudson American
NAUTILUS - Linemaster Switch
NAVCOM - Lear, Inc.
NAVCOR - Navigation Computer Corp.
NAVIGATOR - E.F. Johnson Co.
NAVITIMER - Wakman Watch Co.
N-CAP - Eastern Precision Resistor
N-CAPSHELLS - Eastern Precision
NEECO - New England Electronic Comp.
NEELIUM - Atlas Mineral Products
NELCLAD - New England Laminates
NELCO - New England Laminates Co.
NEMO - Nuclear-Chicago Corp.
NEOBON - Atlas Mineral Products
NEO-CORK - Auburn Mfg.
NEOFLOW - Peerless Photo Prod.
NE-O-LITE - General Cement Mfg. Co.
NEOMITE - Advance Relays
NEOTEL - General Cable Corp.
NEO-TITE - N. J. Thermex Co.
NEPCO - National Electric Prod.
NEPOXIDE - Atlas Mineral Products
NEPTEL - Sheffield Corp.
NETCO - N. E. Etching & Plating
NETCO - New England Tape Co., Div. United Carr Fastener
NETCOSOL - New England Tape Co.
NETIC - Perfection Mica
NEUTRO - M. W. Dunton Co.
NEUTROLOY - Molecu-Wire Corp.
NEVACO - Nelson Vacuum Pump
NEVER-STAIN - Nichols Wire & Alum.
NEY-ORO - J. M. Ney Co.
NF-SWITCHES - Switchcraft, Inc.
NIAGRITE - Johns-Manville
NICAD - Nicad Div., Gould-National
NICHROME V - Driver-Harris Co.
NICKELPLY - National-Standard Co.
NICORO - Western Gold & Platinum
NICOTE METALLIZING - Frenchtown Porcelain Co.
NIGHT LIGHTER - Fisher-Pierce Co.
NILSTAIN - Wilbur B. Driver Co.
NILVAR - Driver-Harris Co.
NIMONIC - International Nickel Co.

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

NIORO - Western Gold & Platinum
NI-SPAN-C - H.A. Wilson Co.
NITE-EYE - Q.O.S. Corp.
NIXIE - Burroughs Corp.
NOBATRON - Sorensen & Co., Inc.
NO-BATT - Bristol Co.
NOBLELOY - Continental Carbon Div,Wirt
NOBLETTE - Continental Carbon Div,Wirt
NOBLEWEST - Noble & Westbrook Mfg.
NOBL-OHM - Fairchild Controls
NOBRUSH - Gerator Corp.
NOFLAME-COR - Cornish Wire Co.
NOISERASER - Librascope, Comm. Div.
NOKORODE - M. W. Dunton
NO NOISE - Electronic Chemical
NOPCOFOAM - Nopco Chem. Co.
NORBIDE - Norton Co.
NORCO - Nortronics Co., Inc.
NORELCO - North Amer. Philips Co.
NORELCO - Philips Electronics
NORK - General Hardware Co.
NORPLAC - Northwest Plastics, Inc.
NORSEMAN - Erikson Spec. Tool Co.
NORTHAM - Northern Electronics, Inc.
NO-SPAT - Midland Paint & Varnish Co.
NOTIFIER - Bell Alarm Systems
NOW FLEX - Automatic Metals Products
NOW-LINK POSITIVE - Positive Lock
NOX-RUST VAPOR WRAPPER - Daubert
NOX-TARNISH - Daubert Chem. Co.
NP-60 - Ohio Seamless Tube
NPC - Nucleonic Prod. Co., Inc.
NRD - Nuclear Corp. of Amer.
NU - National Union Electr., Electr.Div.
NUAX - National Lead Co.
NU BLAC - Star Porcelain
NUCLEARULE - Nuclear-Chicago
NUCLIBADGE - Nuclear-Chicago
NUCOR - Central Electronic Mfrs.
NUCOR - Isotopes Specialties Co.
NUCOR - Nuclear Corp. of Amer.
NUMILL - Autonetics, Div. North Amer.
NUTDRIVERS - Xcelite, Inc.
NU-TRONIC - Nuclear-Electronics
NU-WAY - Marshall Assoc.
NWL - Nothelfer Winding Labs.
NYCO - New York Coil Co.
NYFORM - Phelps Dodge Copper Prod.
NY-GRIP - Weckesser Co.
NYLASINT - Polymer Corp.
NYLATRON GS - Polymer Corp.
NYLEZE - Inca Div., Phelps Dodge
NYLINER - Thomson Industries, Inc.
NYLOCLIP - Omaton Div., Burndy
NYLO-FAST - Anti-Corrosive Metal
NYLOFILM - W. S. Shamban & Co.
NYLOK - Lamson & Sessions
NYLOK - Townsend Co.
NYLOTUBE - Nyltite Corp. of Amer.
NYTRAN - New York Transformer Co.
NYVAR - Acme Wire Co.

O

OBSERVER - Blonder-Tongue Labs.
OFC - Ortho Filter Corp.
OFHC - American Metal Climax, Inc.
OGTRAN - Ogden Coil & Transformer
OHIO-APEX - Food Machinery & Chem.
OHIOHM - Ohio Carbon Co.
OHMOID - Wilmington Fibre Spec.
OHMSPUN - States Co.
OHMSTONE - Johns-Manville
O/I - Telemeter Magnetics
OILITE - Beemer Engrg. Co.
OILMITE - Tobe-Deutschmann Corp.
OILOSTATIC - Okonite Co.
O.K. - General Cable Corp.
OKFUSES - Eagle Electric
OKOBESTOPRENE - Okonite Co.
OKOBESTOS - Okonite Co.
OKOCAL - Okonite Co.
OKOCORD - Okonite Co.
OKOGLASS - Okonite Co.
OKOGROUND - Okonite Co.
OKOLATEX - Okonite Co.
OKOLENE - Okonite Co.
OKOLITE - Okonite Co.
OKOLOY - Okonite Co.
OKOMETAL - Okonite Co.
OKONEX - Okonite Co.
OKOPRENE - Okonite Co.
OK PLUG FUSE - Eagle Electric
OMNI-GLOW - Industrial Devices, Inc.
OMNIMETER - Lear, Inc.
OMNIVUE - Circon Component Co.
ONE-PIECE - Buchanan Electrical
O-PAC - Opad Electric Co.
OPCO - Onondaga Pottery Co.
OPITICOMETER - Zoomar, Inc.
O.P.M. - Stocker & Yale
OPTITHERM - Barnes Engineering
OPTRONICS - Davidson Mfg. Co.
ORANGE-DROP - Sprague Electric Co.
ORATRON - Omco
ORIENTER - Lear, Inc.
ORTHO - Ortho Filter Corp.
ORTHONULL - General Radio
ORTHOSIL - Thomas & Skinner, Inc.
ORTH-$AVER - Visual Electronics
OSCAR - Benson-Lehner Corp.
OSCIDUCER - Solid State Electronics
OSCILLATRON - Vectron, Inc.
OSCILLOTRON - Beattie-Coleman
OSCILLOTRON - Saine Equip. Lab.
OSTUCO - Ohio Seamless Tube
OTC - Owatonna Tool Co.
OTRAC - Non-Linear Systems, Inc.
OTTO WOLFF - Physics Res. Labs.
OUNCER - United Transformer Corp.
OVALTUBE - Plastoid Corp.
OXALLOY 28 - Sylvania Electric Prod.
OXLEY - British Radio Electronics
OXYHEMOGRAPH - Photocon Res. Prod.
OYLITE - STIK - Lake Chemical Co.
O-Z - O. Zernickow Co.

P

P-300 - Essex Wire Corp.
P 400 GG - Lakeshore Indus.
PA - Aerovox Corp.
PA - Photographic Analysis, Inc.
PAC - Erie Resistor Corp.
PACE - Electronic Associates
PACE - Precision Apparatus
PACEMAKER - E.F. Johnson Co.
PACEMAKER - Polytechnic Res. & Div.
PACER - Sprague Electric Co.
PACE SETTER - JFD Mfg. Co.
PACITHERM - Simmonds Aero., Inc.
PACITRON - Simmonds Aero., Inc.
PACKAGED SOUND - Permoflux Prod.
PACKMASTER - Radio Spec. Mfg.
PACO - Precision Apparatus
PACSOL - Pacific Solenoids, Inc.
PACT - Spertic-Faraday, Inc.
PADDER POT - Circuit Instr., Inc.
PADOHM - Clarostat Mfg.
PAGE BOY - Dynamic Electronics N.Y.
PAGEMASTER - Stromberg-Carlson
PAINSTIKS - Markal Co.
PAINTON - British Electronics Sls.
PAK-FONE - Industrial Radio Corp.
PAL - JFD Mfg. Co.
PALINEY - J. M. Ney Co.
PALS - The Palnut Co.
PAMACO - Page-Madden Co.
PANACOUSTIC - U. S. Recording Co.
PANCLIMATIC - Welwyn Int'l., Inc.
PANDUC - Pacific Transducer Corp.
PANDUCT - Panduit Corp.
PAN-EL - Pan-Electronics Corp.
PANEL-CHANEL - Stahlin Brothers
PANELOK - Omaton Div., Burndy Corp.
PANELPACK - Waterman Prod. Co.
PANELSCOPE - Waterman Prod. Co.
PANELYTE - Panelite Div. St. Regis
PANORAMA - Beede Electrical Instr.
PANORAMIC - Radio Merch. Sales
PANTEX - Boro Engrg. & Tool Co.
PANTO - Preis Engraving Mach. Co.
PANTODRILL - Allen B. DuMont Labs.
PAP-CODE - Pacific Automation Prods.
PAPERITE - Acme Wire Co.
PAPRENE - Pacific Automation Prods.
PAR AC - Cleveland Instr. Co.
PARADUCT - Essex Wire Corp.
PARAFLECTOR - Scala Radio Co.
PARAFLEX - Essex Wire Corp.
PARAFLUX - Radio Music Corp.
PARAFORMED - Paramount Paper Tube
PARALLEAD - International Wire & Cable
PARALUM - Essex Wire Corp.
PARAMI - Ralph M. Parsons Co.
PARANITE - Essex Wire Corp.
PARAPRENE - Essex Wire Corp.
PARARITE - Essex Wire Corp.
PARASEAL - Essex Wire Corp.
PARASYN - Essex Wire Corp.
PARATEMP - Essex Wire Corp.
PARATEX - Blocksom & Co.
PARATHERM - Essex Wire Corp.
PARATWIN - Essex Wire Corp.
PARAUSE - Essex Wire Corp.
PARELLEL - Black Light Products
PARKWOOD - Stevens Prod., Inc.
PARSET - Ralph M. Parsons Co.
PATHFINDER - Cannon Electric Co.
PATH FINDER - Newcomb Electronics
PAXAR - Pacific Optical Corp.
P & B RELAYS - Potter & Brumfield
PDC - Precise Dev. Corp.
PE - Illinois Condenser
PEC - Centralab, Div. Globe-Union
PECO - Pacific Electricord Co.
PECO - Pomona Electronics Co., Inc.
PEE-CEE - Pee Cee Tape & Label Co.
PEERLESS - Altec Lansing Corp.
PEERLESS - General Cable Corp.
PEERLESS - Nat'l Vulcanized Fibre
PEE-WEE - Mueller Electric Co.
PEM - Penn Engineering & Manufacturing
PENACOLITE - Koppers Co., Inc.
PENCIL OF LIGHT - Electronic Control
PENDET - Centralab, Div. of Globe
PENNALLOY - Penn Television Products
PENNROLD - Brush Beryllium
PEPCO - Peerless Electrical Prod.
PERCENT-O-CYCLE - Hagen Mfg.
PERCO - Linell Engrg.
PERECO - Pereny Equipment Co.
PERFECTONE - Audiomation Labs.
PERISCOPE - JFD Mfg. Co.
PERMA-BRUSH - General Devices, Inc.
PERM-A-CAPS - Chicago Condenser
PERMA-CODE - W. H. Brady Co.
PERMACODE - Revere Corp. of Amer.
PERMAFLENE - Precision Made Prod.
PERMAFLEX - Precision Made Prod.
PERMAFOAM - Columbia Wire & Supply
PERMAGRID - Wilbur B. Driver Co.
PERMAKOTE - Precision Made Prods.
PERMAKOUPLE - E.C. Smith Mfg.
PERMALINE - Columbia Wire & Supply
PERMA-MOLD - Douglas Randall
PERMANENT MAGNET - General Electr. Magnetic Materials Sec.
PERMANITE - Foote Mineral Co.
PERMA-PHONE - Melody Master
PERMAPRENE - Hatfield Wire & Cable
PERMASEAL - Guardian Electric Mfg.
PERMASEAL - Sprague Electric Co.
PERMATAG - Actioncraft Products
PERMATEF - Precision Made Prod.
PERMATHERM - Precision Made Prod.
PERMATHIN - Precision Made Prod.
PERMA-TORQ - Cambridge Thermionic
PERMAVOLT CELL - Pace Engrg.
PERMI-CAL - Topflight Corp.
PERMOCARB - Wilbur B. Driver Co.
PERMOFLUX - DX Radio Products
PERMOLITE - Permo, Inc.
PERMOMETAL - Permo, Inc.
PERMOPIVOT - Permo, Inc.
PERMOPIVOTS - Fidelitone, Inc.
PERMOPOINTS - Fidelitone, Inc.
PERMO-SHEEN - Cardy-Lundmark Co.
PERMYRON - Union Carbide
PERSONNA-TONE - DeRo Electronics
PETTI-SEL - Radio Receptor Co.
PEXTO - Peck Stow & Wilcox Co.
PHAERTLTRON - Mack Electric Devices
PHALOCOM - Phalo Plastics Corp.
PHALON - Phalo Plastics Corp.
PHALOTEL - Phalo Plastics Corp.
PHALOTRAN - Phalo Plastics Corp.
PHALOX - Phalo Plastics Corp.
PHANTOM - Ward Products Corp.
PHASEMASTER - Lakeshore Industries
PHASEOMETER - Wintronics
PHAZOR - Industrial Test Equip. Co.
PHENOLINE - Carboline Co.
PHENOLITE - Nat'l Vulcanized Fibre
PHIL-TROL - Phillips Control Corp.
PHOENIX - Crown Controls Co., Inc.
PHONACALL - Spertic-Faraday, Inc.
PHONAUDOGRAPH - Gray Mfg.
PHONO-CUSHION - Robins Industries
PHONOLA - Waters Conley Co.
PHONOSTROBE - Berkshire Labs.
PHOS-SIL - Amer. Brazing Alloys
PHOSTUBE - All-State Welding
PHOTOFACTS - Howard W. Sams Co.
PHOTOFINISH #4 - Photocircuits Corp.
PHOTOFLASH - Technical Appar. Bldrs.
PHOTOGARD - Industrial Dev. Labs.
PHOTOMASK - Photocircuits Corp.
PHOTOMATIC - B.T.U. Engineering
PHOTOPEDIA - United Catalog Publishers
PHOTOPLANE - Ries Camera Co.
PHOTOSWITCH - Electronics Co. of Amer
PHOTOSYNC - Automation, Inc.
PHOTOTRON - Thomas Electronics
PHOTOVOX - Fen-Tone Corp.
PHOTO WRINLAY - Photo Chem. Prod.
PHOTRONIC - Weston Instruments
PIC - Polyphase Instr. Co.
PI-CAPS - Chicago Condenser
PICBOOST - C.B.C. Electronics
PICK AIR PROSPECTOR - Pick Labs.
PICK-A-SHAFT - Clarostat Mfg. Co.
PICO - Electronic Applications
PICO - Pacific Instrument Co.
PICSYNC - Fairchild Recording Equip.
PIC-TEST - DeRo Electronics
PIE - Depco
TT LINE - Arra Corp.
TT PLATE - Arra Corp.
PILLOW SPEAKER - Telex, Inc.
PILOTONE - Pilot Radio Corp.
PILOTUNER - Pilot Radio Corp.
PINCOR - Pioneer Gen-E-Motor
PINHEAD - Sprague Electric Co.
PINPOINTER - Radio Merch. Sales, Inc.
PIP-A-ROD - JFD Mfg. Co.
PIPETITE-STIK - Lake Chemical
PIP-JET - JFD Mfg. Co.
PISTOGRIP - P. Wall Mfg. Co.
PITCHLIGN - Roller Bearing Co. of Amer.
PITCO - Pittsburgh Coil Co.
PITLOG - Pitometer Log Corp.
PLACE BOLTS - Lamson & Sessions
PLANETGEAR - Haydon Instr. Co.
PLAQOHM - Ward Leonard Electr. Co.
PLASCEL - Lenz Electric Mfg. Co.
PLASCENE - Chester Cable
PLASCOT - Lenz Electric Mfg. Co.
PLASGLAS - Lenz Electric Mfg. Co.
PLASITE - Lenz Electric Mfg. Co.
PLASKOIL - Gramer-Halldorson
PLASKON - Barrett Div., Allied Chem.
PLASTEM - Lenz Electric Mfg. Co.
PLASTEX - Simplex Wire & Cable Co.
PLASTICAL - C & D Batteries
PLASTICON - New Haven Clock Condenser
PLASTICORD - Chester Cable Corp.
PLASTICORE - Chester Cable Corp.
PLASTICOTE - Chester Cable Corp.
PLASTICOTE - International Wire & Cable
PLASTI-FLEX - Auburn Mfg. Co.
PLASTIFLEX 105 - Plast-A-Wire Corp.
PLASTI-GROMMET - Fastex Div. Ill Tool
PLASTI-KOTE - Argos Products
PLASTIMAG - Ferro Powdered Metals
PLASTINITE - Fastex Div., Ill Tool Wks.
PLASTI-PLUG - Fastex Div., Ill Tool
PLASTI-RING - Fastex Div., Ill Tool
PLASTI-RIVET - Fastex Div., Ill Tool
PLASTISEL - Electronic Devices, Inc.
PLASTI-SUPPORTS - Fastex Div.
PLASTITE - Whitney Blake
PLAS TOMETER - Fischer & Porter Co.
PLASTURBO - Mamco Corp.
PLATTERTAGS - Finn-Jaske Co.
PLAYBACK - Reeves Soundcraft
PLAYOHM - Ward Leonard Electric Co.
PLENCO PHENOLICS - Plastics Engrg.
PLEXICODER - Cons. Electrodynamics
PLEXICON - Erie Resistor Corp.
PLICA - Flexaust Co.
PLOTOMAT - Allied International
PLUG-IN TENNA - Jerrold Electronics
PLUGLINES - Jacobs Instrument Co.
PLUGMASTER - Spertic-Faraday, Inc.
PLUG NUTS - Lamson & Sessions
PLUG-STAT - Control Products, Inc.
PLUMBERKRAK-STIK - Lake Chemical
PLUS 50 - Reeves Soundcraft Corp.
PLUS 100 - Reeves Soundcraft Corp.
PLUS-100X - Reeves Soundcraft
PLYAMINE - Reichhold Chemicals, Inc.
PLYAMUL - Reichhold Chemicals, Inc.
PLYHEAT - Goodrich Aviation Prod.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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PLYMASTER - Rubber & Asbestos Corp.
PLYOPHEN - Reichhold Chemicals, Inc.
PLYTUMBULAR - Tennalab
PM - General Riveters, Electro-Mech. Div
PNCE - Electronic Associates, Inc.
P.N.R. - Rockbestos Products
POCKETAPE - Broadcast Equip. Spec.
POCKETSCOPE - Waterman Products
POINTOLITE - James G. Biddle Co.
POLARIZING SCREWLOCKS - Continental Connector
POLAR PATH - Bendix Aviation Corp. Eclipse-Pioneer Division
POLICARB - Wilbur B. Driver Co.
POLYA-9 - Dielect, Inc.
POLY BEAM - Sanborn Company
POLYCLAD - Carboline Co.
POLYCON - Southern Electronics
POLYCOUPLER - CGS Laboratories
POLYFLEX - Eagle Signal Corp.
POLYFORM - Raytherm Corp.
POLYIRON - Aerovox, Crowley Div.
POLYMET - Cosmic Radio
POLY-PAK - Polytron Engrg.
POLY-PEDANCE - Chicago Standard
POLYPENCO - Polymer Corp.
POLY-PLATES - W. H. Brady Co.
POLYPULSE - Eagle Signal Corp.
POLYRANGER - Sensitive Res. Instr.
POLYSTRIP - International Resistance
POLYVAR - Acme Wire Co.
POLY VARICON - Argonne Electronics
POLYVIN - Technicraft Co.
POLY VISO - Sanborn Co.
POLY-Y DRIVES - Raybestos-Manhattan
PONOGOMETER - Acton Labs.
PORO-TUBE - Lamtex Industries, Inc.
PORTA-KALL - Loge Sound Engs.
PORT-A-PHONE - Feller Engrg. & Mfg.
PORTAROX - Associated Designers
PORT-O-REEL - Industrial Electr. Wks.
PORTOVENT - Flexaust Co.
PORTO VOX - Polytronic Research, Inc.
PORT PILOT - Bludworth Marine Div.
PORTRONIC - Beattie-Coleman, Inc.
POST-TRONIC - National Cash Register
POT POT - Clarostat Mfg. Co., Inc.
POTTERMETER - Potter Aeronautical
POWASERT - United Shoe Mach.
POWERCHARGER - Fox Products Co.
POWER FIREBALL - JFD Mfg. Co.
POWER-HELIX - JFD Mfg. Co.
POWERHOUSE #75 - Black Light Prod.
POWER-LAB - Precise Dev. Corp.
POWERLOID - Guardian Electric Mfg.
POWER MASTER - Hupp Electronics Co.
POWERMASTER - Mosley Electronics
POWER-MITE - Johnson Electronics
POWEROHM - Workman TV, Inc.
POWER-O-MATIC - Blue M. Electric
POWEROTOR - Moran Products Co.
POWER PACK - Tech-Ohm Resistor Corp.
POWER PACKETTES - Amplifier Corp.
POWERPACT - Sperti-Faraday, Inc.
POWER-SAFE - Warner Electric Brake
POWERSEL - Electronic Devices, Inc.
POWERSTAT - Superior Electric Co.
POWER STREAK - American Electr.Cable
POWERTRAN - Ferrotran Electronics
POWRPAGE - University Loudspeakers
POWR-RIB - Ohmite Mfg. Co.
P.P.I. - Peerless Products Ind.
PQ - Avion Div., ACF Ind., Inc.
PR - Petersen Radio Co.
PRC - Pacific Registor Co.
PREAC - Airpax Prod. Central Eng. Div.
PRECEDENT - Radio Engineering Labs.
PRECISE-OHM - Precision, Inc.
PRECISIONEER - Maico Electronics
PRECISION-MADE - G.L. Electronics
PRECISION MASTER - Mid-Century
PRECISTORS - International Resistance
PREMALOY - Handy & Harman
PREMIER - National Telev. Tube, Inc.
PREMIERE SOUND - Precision Electr.
PRE-MONITOR - Audiomation Labs.
PREM-O-RAK - Premier Metal Prod.
PRENTOL I - Antara Chemicals Div.
PRESDWOOD - Masonite Corp.
PRESSEX - Mansol Ceramics
PRESS-FIT - Sealectro Corp.
PRESS-I-CELL - Fischer & Porter Co.
PRESSLOK - Nylon Molding Corp.
PRES-SURE - Buchanan Electrical Prods.
PRESSURE-LOCK - GE, Wiring Device
PRESSWELD - Pressteel Co.
PRESTEST - Cutler-Hammer, Inc.
PRESTIGE - Bud Radio, Inc.
PRES-TITE - Wind Turbine Co.
PREST-METAL - Waterbury Pressed Met.
PRESTO - L.B. Allen Co., Inc.
PRESTO - Bogen-Presto,Div.Siegler
PRE-VU - Channel Master Corp.
PRICING SERVICE - United Catalog Pub.
PRIMAX - Paul C. Roche
PRINTATE - Amer. Printed Circuits
PRINT-KOTE - General Cement Mfg. Co.
PRINT-LOK - Sprague Electric Co.
PRINTOHM - Sprague Electric Co.
PRINT-STIX - Topflight Corp.
PRIVATE-EAR - Federal Electr. Sales
PRIVATEER - Hudson Amer. Div. Radio Engrg. Labs., Inc.
PRIVATE EYE - Television Utilities
PRIVATEL - North Electric Co.
PRIVATE-LEE - Federal Electronic Sls.
PRIVATE LINE - Motorola Comm.& Elec.
PRO-2 - Fen-Tone Corp.
PROCESS ENGRAVING - Ackerman Engr.
PROCESS MASTER - Mid-Century Instr.
PRODUCTIMETERS - Durant Mfg. Co.
PROFESSIONAL - Components Corp.
PROFESSIONAL - Reeves Soundcraft
PROFESSIONAL - Trimm, Inc.
PROFESSIONAL JUNIOR - Camera Equip
PROFICORDER - Micrometrical Mfg.
PROFILOMETER - Micrometrical Mfg.
PROGRAMER - Beattie-Coleman, Inc.
PROKAR - Sprague Electric Co.
PROMATIC - General Control Co.
PROPELLAIR - Robbins & Myers, Inc.
PROPIMAX - Rotron Mfg. Co.
PROTECT-O-FILM - Harwald Co.
PROTECTOGLO - Minn.-Honeywell Reg. Industrial Div.
PROTECT-O-VANE - Minn.-Honeywell, Brown Inst.
PROTEKWOOD - U. S. Plywood Corp.
PROTO-CIRCUITS - Photocircuits Corp.
PROTOLOY - Molecu-Wire Corp.
PROTOMAKA - Printed Electronics
PROX-A-PICKUP - Minatron Corp.
PRP - Photocon Res. Prod.
PR PLYMSIL - Plymouth Rubber Co.
PULSESCOPE - Waterman Prod. Co.
PULSIGNAL - A. R. F. Products, Inc.
PULSITE - Airpax Products Co., Central Engrg. Div.
PULSITOMETER - Electronic Spec.
PULSOLITE - Electronic Control Corp.
PULTEC - Pulse Techniques, Inc.
PURATONE - Brach Mfg. Corp.
PURIVAC - Commercial Filters Corp.
PUR-O-AIRE - Alpine Labs Ltd.
PUSHNUTS - The Palnut Co.
PVDT - G. L. Collins
PYCOPACK - Pyrometer Co. of America
PYGMY - Harold H. Powell Co.
PYLE-STAR - Pyle-National Co.
PYRENE - Fyr-Fyter Co.
PYREX - Corning Glass
PYRO - Pyrometer Instrument
PYRODURE - Pyrometer Co. of America
PYROHM - Aerovox Corp.
PYROMARK - Tempil Corp.
PYROMASTER - Bristol Co.
PYROSEALED - Pyrofilm Resistor Co.
PYRO TEMP - Electronic Control Corp.
PYROTEST - Technique Associates, Inc.
PYROTROL - Bristol Co.
PYROTROL - Mason Instrument Co.
PYROTRON - Bailey Meter Co.
PYR-O-VANE - Minn.Honeywell,Brown
PYROVISOR - Bristol Co.
PYR-O-VOLT - Minn.Honeywell, Brown
PYROX - Pyro Electric, Inc.
PZT - Clevite Electronics Components

Q

Q200 - Barco Chemical Products
Q-BESTON - Auburn Mfg. Co.
Q-DOPE - General Cement Mfg. Co.
Q-FASTERNERS - Fastex Div. of Ill.
QMEGALITE - Omega Labs.
Q METER - Boonton Radio Corp.
QMV - Brush Beryllium
Q.T. - Superex Electronics Corp.
QTC - Qutronic Transformer Corp.
Q TRAN - Johnson Electronics, Inc.
QUADNAURAL - Dynamic Electronics
QUAD PLUS - Blacklight Products
QUADRADAR - Gilfillan Bros., Inc.
QUAL-KIT - Quality Electronics
QUANTASCAN - Quantametric Devices
QUANTOGRAPH - Applied Res. Labs.
QUANTOMETER - Applied Res. Labs.
QUANTOVAC - Applied Res. Labs.
QUANTROL - Applied Res. Labs.
QUARTECTOR - Trans-Sonics
QUARTET - Altec Lansing Corp.
QUARTET - Califone Corp.
QUELARC - Pyle-National Co.
QUICKIE GUM - Cardy-Lundmark Co.
QUICK-LOCK - Simmons Fastener Corp.
QUICK-RIG - JFD Mfg. Co.
QUICKSET - Hull Corp.
QUICK-WEDGE - Kedman Co.
QUIK-LABELS - W. H. Brady Co.
QUIKOUPLE - E. C. Smith Mfg.
QUIK-PLATES - W. H. Brady Co.
QUIK-SHOT - Kemode Mfg. Co.
QUINORGO - Johns-Manville
QUINORGOBORD - Johns-Manville
QUINTENNA - Tennalab
QUINTERRA - Johns-Manville
QUINTERRABORD - Johns-Manville
QX CHECKER - Boonton Radio Corp.

R

R & A - Ercona Corp, Electro, Div.
RACE - Sperry Gyro,Microwave Elec.Div
RAD-A-COR - Magnetic Core Corp.
RADALIGNER - Kay Electric
RADAN - General Precision Lab.
RADA-NODE - Kay Electric
RADA-PULSER - Kay Electric
RADA-SWEEP - Kay Electric
RADECTOR - Jordan Electr., Div. of Victoreen Inst. Co.
RADELIN - U. S. Radium Corp.
RADENE III - Reed-Curtis Nuc. Indust.
RADEX - Birnbach Radio Co.
RADIALLOY TIPPED - Radial Cutter
RADIAMATIC - Minn.-Honeywell Reg. Industrial Div.
RADICON - Radiation, Inc.
RADICORDER - Radiation, Inc.
RADIFLO - American Electronics, Inc.
RADIFLO - Reed-Curtis Nucl. Indust.
RADIOCARB - Wilbur B. Driver Co.
RADIO-COM - Trans-Tel Corp.
RADIOCRAFTER - Technicraft Co.
RADIO CRAFTSMEN - Prec. Rad. Instr.
RADIODYNE - Western Coil & Electrical
RADIO-ELECTRONIC MASTER - United Catalog Publishers
RADIOFOCAL - Lord Mfg. Co.
RADIOHM - Centralab, Div. of Globe
RADIOMARINE - Radio Corp. of Amer.
RADIOMATION - Audiomation Labs.
RADIOSCOPE - Goldak Co., Inc.
RADIOTRON - Radio Corp. of Amer. Electron Tube Div.
RADIO WEB - Stavid Engrg., Inc.
RADIPLEX - Radiation, Inc.
RAF - Robbins Aviation
RAFAX - Haller, Raymond, & Brown
RAINBOW - Channel Master Corp.
RAINBOW - Winston Electr.,Inc.
RAKSCOPE - Waterman Products
RAMAC - International Bus. Mach.
RAMAC - Rattan Manufacturing Co.
RAMCOR - Radar Measurements Corp.
RANDAC - Mitchell-Ran Mfg. Insul. Div.
RANGAIRE - Roberts Mfg. Co.
RANGER - E.F. Johnson Co.
RANGER - Roberts Mfg. Co.
RANGER - Shure Brothers, Inc.
RANGERETTE - Rangertone, Inc.
RANJOLA - Rangertone, Inc.
RAPID-CHECK - Amer. Scientific Dev.
RATIO COIL - Pacific Instrument
RATIO-TRAN - Gertsch Prod., Inc.
RAY-BOND - Raybestos-Manhattan
RAYCLAD TUBES - Raytherm Corp.
RAYDIST - Hastings-Raydists, Inc.
RAYFORM - Raytherm Corp.
RAYLAC - Lenz Electric Mfg. Co.
RAY-MAN - Raybestos-Manhattan
RAYMASTER - George W. Gates & Co.
RAY-O-FLASH - Technical Appar. Bldrs.
RAYONIC - Waterman Prod. Co.
RAYOTUBE - Leeds & Northrup
RAYTECTOR - Miller Assoc.
RAYTHENE - Raytherm Corp.
RAYTRON - Lance Antenna Mfg.
RAZ WAY - Z & W Mfg. Corp.
RBI - Datran Electronics
RCA - Radio Corp. of America
R.C.E. - Philip A. Hunt Co.
RCL - Radiation Counter Labs., Inc.
RCLIAC - Radiation Counter Labs.
R-C SCIENTIFIC - Reed-Curtis Nuc.Ind.
RD INSTRUMENTS - Hickok Electrical
REAC - Reeves Instr. Corp.
REACTRON - United Condenser Corp.
READY-EDDY - Rolab Photo-Science
REAR GUARD - Kay-Towns Antenna
REBLADE - Millers Falls Co.
RE-CIRK-IT - Heinemann Elec. Co.
RECOMP - Autonetics-Div.North Amer.
RECONOFAX - Haller, Raymond & Brown
RECORDER-MATE "8" - Karlson Assoc.
RECTIFORMER - Weston Instruments
RECTI/RITER - Texas Instrument
RECTISEL - Electronic Devices, Inc. Prec. Rectifier Div.
RECTODYNE - Christie Electric Corp.
REDAP - Philco Corp.
RED DIAMOND - Reeves Soundcraft
RED HEADS - Clevite Electr. Components
RED/LINE - G-V Controls, Inc.
RED SEAL - Analogue Controls
RED STREAK - Brown-Bridge Mills
RED TOP - Bradley Semiconductor Corp.
RED WOOD - JFD Mfg. Co.
REEVELEC - Reeve Electr., Inc.
REFLECTSCOPE - Sperry Prod., Inc.
REFLEX - University Loudspeakers
REFRASIL - Thompson Fiber Glass Co.
REFVOLT - Consolidated Controls Corp.
REGATRAN - Electronic Measurements
REGENCY - I. D. E. A., Inc.
REGENCY MIKE - Audio Equipment
REGOHM - Electric Reg. Corp.
REG-O-TAB - Technical Appar. Bldrs.
REGOVAC - Technical Appar. Bldrs.
REGULAR - Paramount Paper Tube Corp.
REGUMATIC - C.B.C. Electronics Co.
REGUTRON - Electric Machinery
REID,A - British Industries Corp.
REJAFIX - Popper & Sons, Inc.
REJUVATESTER - Teletest Instrument
REKRD KAIRKIT - Waber Electronics
REKRD LUBE - Waber Electronics
REKRD SLEKTR - Waber Electronics
REKRD SPRAY - Waber Electronics
REL - Radio Engineering Labs., Inc.
RELIABLE - Corrugated Paper Prod.
RELIATRAN - Pacific Instrument Co.
RELIATRON - Westinghouse Elec.Tube
RELOID - Guardian Electr. Mfg. Co.
REMBRANDT - All-Channel Prod.
REMCON - Pyramid Instrument Corp.
REMOCON - Toledo Scale Div.
REMO-TONE - DeRo Electronics
REMOTROL - Midwest Electric Prod.
REN - R.E. Nebel Lab.
REPEATER - Kemlite Labs., Inc.
RESINITE - Actioncraft Products
RESINITE - Borden Co. Chem'l Div.
RESIN-POTTED - Electro Engrg. Wks.
RESISTEG - International Resistance
RESIST-O-FILE - Continental Carbon
RESLO - Ercona Corp.
RESLO - Fen-Tone Corp.
RESLOSOUND - Fen-Tone Corp.
RES-Q-PAK - The Muter Co.
RESTRICTOR - North Electric Co.
RETEP - Hitemp Wires, Inc.
REVCOTHENE - Revere Corp. of Amer.
REVMASTER - Opad Electric Co.
REVODEX - Circuit Instruments, Inc.
REVOLUTE - Paragon-Revolute Corp.
REVOX - Electronic Applications, Inc.
REX - Shure Brothers, Inc.
REX - Trimm, Inc.
REXOLITE - Rex Corp.
REZSEAL - Sprague Electric Co.
RFI - Ace Engrg & Machine Co.
RF-WIRE - Lenz Electric Mfg.
RHOMIZED - Rho Engrg. Co.

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

RIBBONETTE - Fen-Tone Corp.
RIBFLEX - Ward Leonard Electric Co.
RIBOHM - Ward Leonard Electric
RICAP - Radio Industries, Inc.
RICHMOND - Lowell Mfg. Co.
RIDL - Radiation Instr. Labs.
RIG - United Mineral & Chemical Corp.
RILEFLEX - Ward Leonard Electric Co.
RINCO-POT - Research Instr. Corp.
RINCO-STAT - Research Instr. Corp.
RING-JET - F.J. Stokes Corp.
RIPFLEX - Hatfield Wire & Cable
RITEOHM - Ohmite Mfg. Co.
RITRAN - Radio Industries, Inc.
RIVNUTS - B.F. Goodrich Aviation
RIV O SEAL - F.C. Wolfe Co.
RIV-O-SEALS - Parker Seals Co.
R/M - Raybestos-Manhattan
R & M - Robbins & Myers, Inc.
RMB - Landis & Gyr, Inc.
R.M.C. - P. R. Mallory & Co., Inc.
R.M.C.DISCAPS - Radio Materials Co.
RME - Electro-Voice, Inc.
RME - Radio Mfg. Engineers
R MONEL - International Nickel Co.
ROBOTEMP - George Ulanet Co.
ROBOTESTER - Lavoie Labs., Inc.
ROBOTRON - Taylor-Emmett Controls
ROCKET - Special Tube Operations, Sylvania Electric
RODAR - Wilbur B. Driver Co.
RODAX - Lenz Electric Mfg. Co.
ROEBOND - John A. Roebling's Sons
ROECLAMPS - John A. Roebling's Sons
ROECOZONE - John A. Roebling's Sons
ROEGLAS - John A. Roebling's Sons
ROEPLASTIC - John A. Roebling's Sons
ROEPRENE - John A. Roebling's Sons
ROEVAR - John A. Roebling's Sons
ROFLEX - Rome Cable Corp.
ROKIDE - Norton Co.
ROLAC - Lenz Electric Mfg. Co.
ROLBOS - Etched Prod. Corp.
ROLDIE - Croname, Inc.
ROLENE - Rome Cable Corp.
ROLLAFOLD - Benson-Lehner Corp.
ROLLMATRIX - All-State Welding
ROLLOCON - Circon Component Co.
ROLON - Rome Cable Corp.
ROL-POT - Hub-Pot-Inc.
ROMARINE - Rome Cable Corp.
ROMEC - Lear, Inc.
ROMEX - General Cable Corp.
ROMEX-N - General Cable Corp.
ROMEX-UF - General Cable Corp.
RONDINE - Rek-O-Kut Co.
RONOMIKE - Ronette Acoustical
RONOPHONE - Ronette Acoustical
ROPRENE - Rome Cable Corp.
ROSCO - Rosenberg Bros.
ROSCOLENE - Rosco Labs.
ROSEAL - Rome Cable Corp.
ROSINX - M. W. Dunton Co.
ROTO RELAY - Corona Engrg. Service
ROTALYZER - Kay Electric
ROTOBRIDGE - Comm. Meas. Labs.,Inc
ROTO LOCK - Simmons Fastener Corp.
ROTOLOK - Airborne Accessories
ROTOMARKER- Acromark Co.
ROTOMATIC - E.F. Johnson Co.
ROTO MOLD - Linear, Inc.
ROTOPULSER - Dynapar Corp.
ROTO-PUSH - Cutler-Hammer, Inc.
ROTORAC - Airborne Accessories
ROTORETTE - Airborne Accessories
ROTOROIDS - Burnell & Co.
ROTOR QUEEN - Radio Merch. Sales
ROTO-SHO - Kasson Die & Motor
ROTO STEPPER - G.M. Giannini
ROTO-TELLITE - Master Specialties Co
ROTOTIMER - Farmer Elect. Prod. Co.
ROTO-TORK - A.W. Haydon Co.
ROV-A-LITE - Terado Co.
ROYAL BLUE - Permoflux Products Co.
ROYALITIC - Industrial Condenser Corp.
ROYOFLASH - Technical Appar. Bldrs.
ROZONE A - Rome Cable Corp.
RP - Beach-Russ Co.
R-P - Electronet Div. Rue Prod.
RPC - Resistance Products Co.
RPM - NUT Electronics, Inc.
RR - Ransom Research
RS - Switchcraft, Inc.
RSCO - Research Specialties Co.
RSE - RS Electronics Corp.
RSMC - Radio Specialty Mfg. Co.
R-STACK - Consolidated Resistance Co.
R.T.M. - Assoc. Amer. Trading
R-THETA - Canadian Applied Res. Ltd.
RTV - Clarostat Mfg. Co., Inc.
RTV - Silicone Products Dept., GE Co.
RUBBON - All-State Welding
RUBYFLUID - Ruby Chemical Co.
RUF-KOAT - General Cement Mfg. Co.
RULAN - Du Pont de Nemours
RURALAY - General Cable Corp.
RUSH - Eraser Co.
RUSTRAK - Rust Industrial Co.
R.V.C. - Canadian Marconi Co.
RX - Instru-Lec Corp.
RX METER - Boonton Radio Corp.
RYAN - Arkay Products Mfg. Co.
RYCOM - Railway Communications
RYETRAN - Rye Sound

S

S - Amer. Printed Circuits
SADIC - Consolidated Electrodynamics
SAFELET - Heinemann Electric Co.
SAFELIGHT - Inertia Switch,Div. Safe Lighting, Inc.
SAFELINE - Lamson & Sessions
SAFE-T-AIRE - Engelhard Indus.,Inc.
SAFE-T-FLASH - Fisher-Pierce Co.
SAFE-T-GLOW - Brach Mfg. Corp.
SAFE-T-KLIP - Industrial Devices, Inc.
SAFETRONIC CONTROL - Fox Prod.
SAFETY-GLO - Rodale Mfg. Co., Inc.
SAFETY m.i. - General Cable Corp.
SA-FUSE - Electric Machinery Mfg.
SALES-TRONIC - National Cash Register
SALT SHAKER - Altec Lansing Corp.
SAMPSON - Oxford Electric Corp.
SAND-SCOTT - Holub Industries, Inc.
SARAH - Simmonds Aero., Inc.
SARATOGA - Espey Mfg.
SARONG - Sylvania Electric Products
SAT - Philco Corp., Lansdale Tube Div.
SATELLITE - Radion Corp:
SATOR - Gary Wells Co.
SAUCER - Rotron Mfg. Co.
SAXL PRECISION - Tensitron, Inc.
SAYBIT - Multicore Sales
SBT - Philco Corp., Lansdale Tube Div.
SCA - Slip Ring Corp. of Amer.
SCAMMIT - Scam Instrument Co.
SCAN-A-GRAPH - Television Utilities
SCANDER - Intelligent Machines Res.
SCANTROL - Ries Camera Co., Inc.
S.C.E. - Philip A. Hunt Co.
SCHADOW - International Electro Exch.
SCHOMANDL - Electr. Applications
SCHUEMANN - Assoc. Amer. Trading
SCHUYLERNIT - Schuyler Mfg. Corp.
SCINTILLATOR B - Pilot Chemicals, Inc
SCOPE DOLLY - P.B.R. Mfg. Co.
SCOTCH - Minnesota Mining
SCOTCHCAST - Minnesota Mining & Mfg
SCOTCHFIL - Minnesota Mining Magnetic Tape Div.
SCOTCHKOTE - Minn.Mining,Mag.Tape
SCOTCHLOK - Minn.Mining,Mag. Tape
SCOTTIE - Remier Co.
SCOUT - Globe Electronics, Inc.
SCREW LOCK - Heli-Coil Corp.
SCRULUG - Omaton Div.
SDC - Semiconductor Devices Corp.
SEA FAX - Times Facsimile Corp.
SEALBRITE - London Chemical Co.
SEALCAP - JFD Electronic Corp.
SEALINK - Omaton Div., Burndy Co.
SEAL-LOCK - Resistoflex Corp.
SEALNUT - Radio Frequency Labs.
SEALOFF - Taylor-Winfield Corp.
SEALOX - Omaton Div.
SEA-RAD-CITI-FONE - Multi-Products
SEASAVE - Simmonds Aero.,Inc.
SECO - Stewart Engrg. Co.
SECODE - Electrical Communications
SECOR - Sierra Electronic Corp.
SECRECORD - American Geloso
SECRETEER - Maico Electronics, Inc.
SECRET RECORDER - Amplifier Corp.
SECTIONAL - Trans-Lux Corp.
SECTOR - Jensen Mfg. Co.
SEDAC - Magnaflux Corp.
SEE-THRU - Krengel Mfg. Co., Inc.
SEEZAK - Rimak, Inc.
SEISMAC - Texas Instrument
SEISMATION - Texas Instrument
SELECTADATA - Friden, Inc.
SELECTENNA - Channel Master Corp.
SELECTOHM - Chicago Ind. Instr.
SELECT-O-SWITCH - DeRo Electronics
SELECT-O-VISION - Arkay Prod. Mfg.
SELECTROL - Exact Weight Scale
SELECTRONICS - Electr. Comm.
SELECTROPHONE - Audio-Master Corp.
SELECTROSLIDE - Spindler & Sauppe
SELEKTA - Assoc. Amer. Trad. Div.
SELENIBRAKE - American Rectifier
SELENICHARGER - American Rectifier
SELENIDYNE - American Rectifier
SELENIFIER - American Rectifier
SELENIVAC - American Rectifier
SELF-CHECKING - Sensitive Res. Instr.
SELF-STIX - Adhesive Products
SEL-LOK - Standard Pressed Steel
SEMICAP - International Rectifier Corp.
SEMCON - Transistor Devices
SEMCOR - U. S. Semiconductor Prod.
SEMICAP - International Rectifier Corp.
SEMICON - Semiconductor Devices
SEMS - Shakeproof Div. of Ill. Tool
SEMS PAK - Shakeproof Div. Ill.Tool
SENCORE - Service Instruments Corp.
SENIOR - Hamilton Electronics
SENIOR - Linemaster Switch
SENSIPHONE - Superex Electronics
SENSISTOR - Texas Instrument
SENSITOMETER - Electronic Specialty
SENSITROL - Weston Instruments
SENSITRON - Weston Instruments
SENSORY - P.A. Sturtevant Co.
SENTERCEL - Intelex Systems, Inc.
SENTINEL - Johnson-Williams
SENTINEL - Photobell Co., Inc.
SENTRI-SEALS - New Departure Div.
SENTRY - Laucks Labs.
SEQUETROL - Taylor-Emmett Controls
SERC DIAMACONTROL - Standard Electr
SERC DIAMATROL - Standard Electr.Res
SERRASOID - Radio Engrg. Labs.,Inc.
SERVICESPOOL - Alpha Wire Corp.
SERVOBOARD - Servo Corp. of Amer.
SERVO-COUPLINGS - Renbrandt, Inc.
SERVOFLEX - Servo Corp. of Amer.
SERVO FLIGHT - Servo Corp. of Amer.
SERVOFRAX - Servo Corp. of Amer.
SERVO LOBE - Topper Mfg. Co., Inc.
SERVOMAG - Magnetic Research
SERVOMATION - Servo Corp. of Amer.
SERVOSCOPE - Servo Corp. of Amer.
SERVOSPEED - Electro-Devices, Inc.
SERVOTHERM - Servo Corp. of Amer.
SERVOTRAN - Humphrey, Inc.
SERVWELL - Blaco Mfg. Co.
SETOMATIC - Standard Pressed Steel
SEXTET PARTNER - Superex Electronics
SF-JAX - Switchcraft, Inc.
SHADOGRAPH - Exact Weight Scale
SHAFTROL - Jordan Co.
SHAKESPEARE "WONDEROD"- Columbia Products Co.
SHANNON-GLOW - Shannon Luminous
SHANNON-LINE - Shannon Luminous
SHAWLITE - Technical Apparatus Bldrs.
SHAWNUT - Chase-Shawnut Co.
SHIELDAIR - Shielding, Inc.
SHOCK BILT - Corrugated Paper Prod.
SHOCK-STOP - Conn. Hard Rubber Co.
SHOWMAN - Channel Master Corp.
SHUR-CODE - Westline Products Div.
SHURFLO - Hays Mfg. Co.
SHUT-OUT-HELIX - JFD Mfg. Co.
SHUVEE - Entron, Inc.
SICCOA - Single Crystal Corp. of Amer.
SICO - Statistical Instr. Co.
SICON - Midland Indust. Finishes
SIDCO - Sid Ungar Co., Inc.
SIECO - Sherman Indust. Elecs.
SIEMENS EDISON SWAN - British Elect.
SIERRALITE - Sierra Electric Corp.
SIERRAPLEX - Sierra Electric Corp.
SIFEMAG - Thomas & Skinner, Inc.
SIGALERT - Packard-Bell Electr.
SIGHTMASTER - Flexo Int'l
SIGMATRON - Intercontinental Dynamics
SIGNAFLO - Buffalo Electronics Corp.
SIGNA-GLOW - Industrial Dev. Labs.
SIGNALMASTER - Goldak Co., Inc.
SIGNAL SENTRY - E.F. Johnson Co.
SIGNAL SIMULATOR - Micro Gee Prod.
SIGNAL SPLITTER - Lakeshore Industr.
SILASTIC - Dow Corning Corp.
SILCAD - Yardney Electric Corp.
SILCLOTH - Jensen Industries
SILCOBEST - Silicone Insulation, Inc.
SILCORD 60 - Western Gold & Platinum
SILCORD 75 - Western Gold & Platinum
SILENT - SOUND - General Phones Corp.
SILERTEX - Erie Resistor Corp.
SIL-FOS - Handy & Harman
SIL-FOS - Lucas-Milhaupt Engrg.
SILICLAD - Hudson Wire Co.
SILICOHM - Sage Electronics Corp.
SILIC-O-NETIC - Heinemann Electric
SILICONIC - Willard Storage Battery
SILICONTROL - VecTrol Engineering
SILIKONE - Ed-Berl Products
SIL-LUBE - Ed-Berl Products
SILOTRON - Thermosen, Inc.
SILSPRAY - Jensen Industries
SILTAB - Technical Appar. Bldrs.
SILTUBE - All-State Welding
SILVERAMA - Radio Corp. of America
SILVERCEL - Yardney Electric Corp
SILVER LABEL - M.W. Dunton Co.
SILVER PHOSTUBE - All-State Weld.
SILVER Q - Decimeter Prod. Co.
SILVER SCREEN 85 - Sylvania Electr.
SILVER SHIELD SERIES - Crest Electr.
SILVER V - Trio Mfg. Co.
SILVER WAND - Peerless Prod. Ind.
SILWYND - Republic Foil & Metal Mills
SIL-X - Essex Wire Corp.
SIMPLEX - J. & G. Machine Co.
SIMPLYTROL - Assembly Products
SIMULATION TABLE - Micro Gee Prod.
SINCLAIR-PHOENIX - Phoenix Precision
SINE-O-MATIC - Ling Electronics
SINEVERTER - Power Sources, Inc.
SINGLE-LINE REGISTER - Di/An Contr.
SINTILON - National Radiac, Inc.
SIROVOX - Associated Designers
SISCO - Scientific Instr. Service Co.
SITCO - Jampro Antenna Co.
SITCO - Simplicity Tool Co.
SIXTY-SPECIAL - Fen-Tone Corp.
SKILA - F. Reiter Co.
SKIN-PAK - Thermo Products Co., Inc.
SKL - Spencer-Kennedy Labs., Inc.
SKRATCH-STIK - General Cement Mfg.
SKY CHIEF - Brach Mfg. Corp.
SKY CHIEF - Educational Electronics
SKY CHIEF - GB Electronics Corp.
SKY-HI - Thomas Mold & Die
SKYLARK - Channel Master Corp.
SKY-LOK - JFD Mfg. Co.
SKY QUEEN - Ward Products
SKY STREAK - American Electric Cable
S.L. - Mallinckrodt Chemical Works
SLENDYNE - Shure Brothers, Inc.
SLIDE-TAPE SYNCRONIZER - Micro Gee
SLIGHT BOW - Paramount Paper Tube
SLIKWYND - Republic Foil & Metal
SLIM-GRIP - Adre
SLIMLINE - Sperry Gyroscope Electr.Tube
SLIM-TRAN - Electr. Res. Associates
SLIM-TRAN - ERA Electric Corp.
SLIM-X - Shure Brothers, Inc.
S-LINE - Scam Instrument Co.
SLIP-DRIVE - Clarostat Mfg. Co.,Inc.
SLIPKNOT - Plymouth Rubber Co.
SLIP-SYNE - Chadwick-Helmuth Co.
S.L.M. - Kistler Instruments
SLO-LAG - Eagle Electric Mfg. Co.
SLO-SYN - Superior Electric
SLUG RETRIEVER - Hunter Sales Co.
SLUMBER-GLO - Rodale Mfg. Co., Inc.
SLYVER-CLAD - C & D Batteries
SMATCO - Stone City Mach. & Tool Co.
SMC - St. Marys Carbon Co.
SMI - Servomechanisms, Inc.
SMITH-BALDWIN - Cons. Radio Prod.
SMITHCRAFT - A.L. Smith Iron Co.
SMITTY - Hunter Sales Co.
SMOG-FREE - Radex Corp.
SMOKE DETECTOR - Electr. Control
S MONEL - International Nickel Co.
SMT - Illinois Condenser
SNACO - Schirmer-National Alarm Co.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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SNAPAC - Controls Co. of Amer.
SNAP ACTION - Buchanan Electrical Prod
SNAPIT - Cable Electric Products
SNAP JACK - Jan Hardware Mfg. Co.
SNAP-LOC - Gorn Electronics Co.
SNAP-LOK - Automation Engrg. Corp.
SNAPPER - Curtiss-Wright Corp.
SNIFFER - Johnson-Williams
SNORKEL - Radion Corp.
SNOWCAP - Gudeman Co.
SODECO - Landis & Gyr, Inc.
SODEREX - Essex Wire Corp.
SODEREZE - Inca Div., Phelps Dodge
SODS - Hake Prod., Inc.
SOLA-JET - Temperature Engineering
SOLAR - Hoffman Semiconductor Div.
SOLAVOLT - Sola Electric Co.
SOLDERALL - Brach Mfg. Corp.
SOLDER-ETTE - Federal Electronic Sls.
SOLDER MASK - Miller Dial & Name Plate
SOLDER-MATIC - Atlas Mfg. Co., Inc.
SOLDER RESIST - London Chemical Co.
SOLDERSEALS - General Ceramics
SOLIDCEL - North Hills Elect.
SOLORETTE - Ercona Corp.
SOL-REX - Herzog Min. Lamp Wks.
SOLU-BRIDGE - Industrial Instr.
SOMCO - Simpson Optical Mfg. Co.
SONAGRAM - Kay Electric
SONA-GRAPH - Kay Electric Co.
SONALATOR - Kay Electric
SONA-STRETCHER - Kay Electric
SONA-SWEEP - Kay Electric
SONBLASTER - Narda Ultrasonics
SONICELL - General Ultrasonics Co.
SONIC-SOLUES - London Chem. Co.
SONITANK - General Ultrasonics Co.
SONIZON - Magnaflux Corp.
SON NO MAR - L. Sonneborn Sons
SONOBOND - Aeroprojects, Inc.
SONOBRAZE - Aeroprojects, Inc.
SONODYNE - Shure Brothers, Inc.
SONOGEN - Branson Ultrasonic Corp.
SONOLASTIC - L. Sonneborn Sons
SONOMATIC - Harwald Company
SONOPLEX - L. Sonneborn Sons
SONO-PROBE - Advanced Electr., Inc.
SONORAMIC - Ferrodynamics Corp.
SONORAY - Branson Ultrasonic Corp.
SONOSHEEN - L. Sonneborn Sons
SONOSOLDER - Aeroprojects, Inc.
SONOWELD - Aeroprojects, Inc.
SONY - Intersearch, Inc.
SONY STERECORDER - Superscope, Inc.
SOPHOMORE - Hamilton Electr.
SORENG - Controls Co. of Amer.
SOUNDFLO - Astatic Corp.
SOUND-OFF - Federal Electronic Sales
SOUND-ORBITER - DeRo Electronics
SOUTHERN - National Lead Co.
SPACE-FORM - Dunlap Electronics
SPACE-KIT - Akro-Mils, Inc.
SPACEMASTER - Educational Electronics
SPACE RAIDER - Harry Appleton Co.
SPACE RAIDER - National Wire & Cable
SPA-KLEEN - General Cement Mfg. Co.
SPAR - Video Accessory Mfg.
SPARKLE - L. B. Allen Co.
SPARKLE - Ward Prod. Corp.
SPARK PROTRACTOR - Photocon Res.
SPAULDITE - Spaulding Fibre Co.
SPAULDO - Spaulding Fibre Co.
SPECTRA - Photo Res. Corp.
SPECTRA-BOND - Organic Dev. Corp.
SPECTRA-INK - Organic Dev. Corp.
SPECTRAL #11 & #12 - Black Light Prod
SPECTRA-STRIP - Organic Dev. Corp.
SPECTROGAMMEOMETER - Radiation Counter Labs.
SPECTROMET - Baird-Atomic, Inc.
SPECTROSADIC - Cons. Electrodynamic
SPECTROSIL - Thermal Amer. Fused Qtz
SPECTROSOURCE - Baird-Atomic, Inc.
SPEECH MASTER - Jensen Mfg. Co.
SPEED-AIR-BONDS - Sterling Varnish
SPEEDBINS - Speed Assembly Equip.
SPEED CHASSIS - Specific Prod.
SPEED CLAMPS - Tinnerman Prod.
SPEED CLIPS - Tinnerman Prod.
SPEEDCRAFT - Wire Stripper Co.
SPEE-DEE - Peck & Harvey Mfg.
SPEEDEX - E.F. Johnson Co.
SPEEDEX - General Cement Mfg. Co.
SPEED GRIPS - Tinnerman Prod., Inc.
SPEEDMASTER - Peck & Harvey Mfg.
SPEEDMINDER - Glaser-Steers Corp.
SPEED-MO - Workman TV, Inc.
SPEED NUTS - Tinnerman Prod., Inc.
SPEEDOMAX - Leeds & Northrup Co.
SPEEDVOLTER - Servo-Tek Prod. Co.
SPEED-X - E.F. Johnson Co.
SPEEDY-CAL - North Shore Nameplate
SPEEDY-MARX - North Shore Nameplate
SPEMCO - Specialties Mfg. Co.
SPHINX - Levin & Son., Inc.
SPICO - Spirling Products
SPINCOUSTIC - Johns-Manville
SPINLAB - Special Instr. Lab.
SPIN-LOCK - Russell Burdsall & Ward
SPIN-SEAL - Russell Burdsall & Ward
SPINTITE - Stevens-Walden, Inc.
SPIPALON - Surprenant Mfg.
SPIRAFIL - Phelps Dodge Copper
SPIRALPOT - G.M. Giannini
SPIRAL-RAY - Telrex Labs.
SPIRAL SOUND - Fourjay Indus.
SPIRAL-TENNA - Hi-Lo Mfg. Corp.
SPIRAL WRAP - Illumitronic Engrg.
SPIRAMEG - Sprague Electric Co.
SPIRASHIELD - The Muter Co.
SPIR-O-LINE - Prodelin, Inc.
SPIR-O-LOX - Prodelin, Inc.
SPIROLOX - Ramsey Corp.
SPIROTALLIC - Johns-Manville
SPLICE CAPS - Bachanan Electrical
SPLICE-O-FILM - Harwald Co.
SPORTAIRE - Educational Electronics
SPORTSMAN - Ray-O-Vac Co.
SPOT-LITE - Line Electric Co.
SPOT-O-GRAPH - Audio-Master
SPYRALINE - Rayline, Inc.
SPRAINT - Waldom Electronics, Inc.
SPRA-KOAT - General Cement Mfg. Co.
SPRED-LOK - Set Screw & Mfg. Co.
SPRING-LOCK - Simmons Fastener
SPRING-O-MATIC - Ind. Electr. Wks.
SQUARE-OHM - Bradford Comp., Inc.
SQUAREOHM - Workman TV, Inc.
SR-4 - Baldwin-Lima-Hamilton Corp.
SRC - British Radio Electronics
SRHS - Tung-Sol
SRP - Sonneborn Sons, Inc.
SS - Beach-Russ Co.
SS-2 - Western Apparatus Co.
STABELEX D - Ind. Condenser Corp.
STABILINE - Superior Elect. Co.
STABIL-THERM - Blue M. Electric
STAB-LOK - Fed. Pac. Elect. Co.
STABLVOLT - Magnetic Res. Corp.
STA BREAKER - Fed. Pac. Elect.
STACK-F - Consolidated Resistance
STACK-LUG - Panduit Corp.
STACKOHM - Sprague Electric Co.
STACO - Standard Electr. Prod. Co.
STAFFEL - International Electro Exchange
STALEY - Bernco Engrg. Corp.
STALEY - Electric Switch Corp.
STA-LOC - P.R. Mallory & Co.
STANCOR - Chicago Standard Trans.
STANCOTE - Standard Wire & Cable
STANDARD - New York Solder Co.
STANDARD ARROW - Bludmore Marine
STANDCO - Herman H. Sticht Co.
STANDEE - Clarostat Mfg. Co., Inc.
STAND-OHM - Bradford Components
STANDOHM - Tru-ohm Prod. Div.
STANDOUT - Channel Master Corp.
STANEON - General Cable Corp.
STANFERRITE - Intelex Systems
STANFLEX - Standard Wire & Cable
STANSCREW - Standard Screw Co.
STANTEL - Intelex Systems
STAPIN - Omaton Div., Burndy Co.
STARFIRE - Radion Corp.
STAR-HELIX - JFD Mfg. Co.
STARLIGHT - Metzner Engrg. Corp.
STARLINE - Electro-Mechanical Instr.
STARLITE - Shure Brothers, Inc.
STATICATOR - Hewson Co., Inc.
STATICLOTH - Interelectronics
STATI-MUTE - Eby Sales Co.
STAT O SEAL - F.C. Wolfe Co.
STAT-O-SEALS - Parker Seals Co.
STAT-PAK - Magnetic Amplifiers
STAT-TRAN - Pulse Engrg., Inc.
STAVOLT - Christie Electric
STC - Intelex Systems, Inc.
STEDIVOLT - George Kelk, Ltd.
STED-TAB - Steel Heddle Mfg.
STEEL AGE - Corry-Jamestown Mfg.
STEELARC - All-State Welding
STEELBINDER - A. J. Gerrard & Co.
STEEL-SIX - Roller Smith Corp.
STEMAG - Arnold Ceramics, Inc.
STEMCO - Stevens Mfg.
STENAFAX - Times Facsimile Corp.
STENOTAPE - Amer. Geloso Electronics
STENTORIAN - Barker Sales Co.
STEP-FUNCTION SPEED REDUCTOR - Insco Co., Div. Barry Controls
STEPPER MOTORS - Land-Air, Inc.
STEP-SERVO - Bergen Labs.
STEP-UPKITS - Jensen Mfg.
STERADAPTER - International Magnetic
STERECORDER - Superscope, Inc.
STEREO-COLOR - Musicolor, Inc.
STEREO DIRECTOR - Jensen Mfg.
STERE-O-DRIV - Alliance Mfg. Co.
STEREODYNE - Dynaco, Inc.
STEREOFLEX - Univ. Loudspeakers
STEREO-LP LEVEL - Fed. Electr. Sls.
STEREO-MAGNEMITE - Amplifier Corp.
STEREOMASTER - H.H. Scott
STEREO-MITE - Federal Electr. Sales
STEREO-PERFECTIONIST - Federal Electronic Sales
STEREOPHONES - Permoflux Prod. Co.
STEREO-SOUND - Rye Sound
STERIEO - Erie Resistor Corp.
STERILAIRE - Blacklight Corp. of Amer.
STETHALIZER - Maico Electr. Inc.
STETHETRON - Maico Electr., Inc.
STETHOLOOP - Rye Sound
STETHOSOPE - Rye Sound
STETHO-SOUND - Rye Sound
STEWART - Instrument Laboratories
STIBNALON - Green Rectifier Co.
STIKON - Arthur Ruge Assoc., Inc.
STOVER - Lamson & Sessions
STRAITFLO - Hays Mfg. Co.
STRAPBINDER - A. J. Gerrard & Co.
STRAPON - Arthur Ruge Assoc.
STRATE-LINE - Pyle National Co.
STRATOLINER - Shure Brothers, Inc.
STRAT-O-LITES - Strat-O-Seal Mfg.
STRATO TOWER - Spaulding Prod. Co.
STRATO TV TOWERS - Pipestone Sales
STREAMLINE - Mueller Brass Co.
STRIP-EASE - Radix Wire Co.
STRIPLITE - Black Light Products
STRIPMASTER - Ideal Industries, Inc.
STRIPOHM - Ward Leonard Electr. Co.
STRIPPIT - Wales-Strippit Co.
STROBEACON - Kamlite Labs.
STROBE-MAT - C.B.C. Electr. Co.
STROBESELECTOR - Califone Corp.
STROBEX - Chadwick-Helmuth
STROBOCONN - Conn
STROBOLITE - Western Gear
STROBO-LITE - Wilcox Research Co.
STROBOLUME - General Radio Co.
STROBOLUX - General Radio Co.
STROBONAR - Heiland Div. Minn.-Hon.
STROBO-SYNC - Winkler Labs.
STROBOTAC - General Radio Co.
STROBOTUNER - Conn
STUDIO - Shure Brothers, Inc.
STURDIBOLT - Hercules Fastener
STURGES - Electronic Batteries, Inc.
STYCAST - Emerson & Cuming, Inc.
STYLOMATIC - Ronette Acoustical
STYRACON - Sprague Electric Co.
STYROFLEX - Natvar Corp.
STYROFLEX - Phelps Dodge Copper
STYROFOAM - Dow Chemical Co.
STYRON - Dow Chemical Co.
SUB-OUNCER - United Transformer
SUBURBAN - Radion Corp.
SUNSWITCH - Ripley Co.
SUPER - M. W. Dunton
SUPER - Mosley Electronics, Inc.
SUPERAP - American Super Temp Wires
SUPERAP-H - American Super Temp
SUPER BEAM - JFD Mfg. Co.
SUPER-BECKAMINE - Reichhold Chem.
SUPER-BRIGHTENER - Workman TV, Inc
SUPERCABLE-A - Amer. Super Temp
SUPERCABLE-H - Amer. Super Temp
SUPER-CAP - United Electronics Corp.
SUPER'CEPTOR - Winegard Co.
SUPERCHARGER - Fox Products
SUPER-DAVOHM - Daven Co.
SUPER DYLAN- Koppers Co., Inc.
SUPER EAR - Rye Sound
SUPEREX - Amer. Super Temp Wires
SUPER FAN - Channel Master Corp.
SUPERFIBRE PLUGS - Anchor Expansion Bolt Corp.
SUPER FINE - L.O.F. Glass Fibers
SUPERFLAKE - Superior Graphite
SUPERFLUID - Ronette Acoustical
SUPER-HAILER - Audio Equipment
SUPER-INDUSTRIAL - National Special.
SUPERIOR - P.Wall Mfg. Co.
SUPERIOR 5-WAY - Superior Electric
SUPERIOR WINKER BUTTONS- Eagle
SUPERKATY - Kay-Towns Antenna
SUPERKIT - Superex Electronics
SUPERLEAD - Amer. Super Temp Wires
SUPERLINE - Superior Insulated Wire
SUPERMALLOY - Arnold Engrg.
SUPER-MAST - Channel Master Corp.
SUPERMENDUR - Arnold Engrg.
SUPERMIN - Amer. Super Temp Wires
SUPER-MITE - Trio Manufacturing
SUPERNAIL - Radio Merch. Sales
SUPEROTOR - Moran Products Co.
SUPER PARAFLEX - Essex Wire
SUPER PARARITE - Essex Wire
SUPER-POWER HELIX - JFD Mfg. Co.
SUPER POWER JET - JFD Mfg. Co.
SUPER REAR GUARD - Kay-Towns Ant.
SUPER SCALER - Tracerlab, Inc.
SUPERSEAL - Carstedt Res.
SUPER-SEMBLED - Channel Master
SUPER SERVICE - General Cable Corp.
SUPERSHEATH - General Cable Corp.
SUPERSIL - Amer. Super Temp Wires
SUPERSIL - Carstedt Research, Inc.
SUPER STUDIO ZOOMAR - Television Zoomar
SUPERTEE-T - Amer. Super Temp Wires
SUPERTEF - Amer. Super Temp Wires
SUPERTEL - General Cable Corp.
SUPER-TEMP - Amer. Super Temp Wires
SUPERTEMP - Modern Laboratory Equip.
SUPERTENNA - Tennalab
SUPERTESTER - Calif. Tech. Indus. Div. of Textron, Inc.
SUPERTONE - Philmore Mfg. Co., Inc.
SUPERTRAPPER - Technical Appl.
SUPERTUBE - Amer. Super Temp Wires
SUPERTUF - General Cable Corp.
SUPER UNIVERSAL ZOOMAR - Television Zoomar
SUPRAMICA - Mycalex Corp. of Amer.
SU-PR-CIRCUITS - Clev. Metal Spec.
SUPREME - Oxford Components, Inc.
SUPREME - Oxford Electric Corp.
SUPREME HAIRFLEX - Armour Cushion
SUPRO - Valco Mfg. Co.
SURCO - Surprenant Mfg.
SUREBRAZE - Dalweld Co., Inc.
SURE FLUX - N.Y. Solder Co.
SURE-N-EASY - Chem. Electr. Engr.
SURESTRIP - Carpenter Mfg.
SURFINDICATOR - Brush Instr., Div. of Clevite Corp.
SURFLENE - Surprenant Mfg.
SURFLEX - Surprenant Mfg.
SURGELITE - Kemlite Labs., Inc.
SURGISTOR - Wuerth Tube Saver Corp.
SVE - CB Electronics Corp.
SW - Stevens-Walden, Inc.
SWEEP-SYNE - Chadwick-Helmuth Co.
SWIFTOL - Southwest Products, Inc.
SWING BIN - Akro-Mils, Inc.
SWING RIG - Video Industries Co.
SWING WA - General Electric
SWITCHLITES - Hetherington, Inc.
SWITCHMAT - Recora Co.
SWITCHPAK - Licon Switch & Control
SWITCHPOT - Helipot Corp.
SWIVELBEAM - Radio Merch. Sls.
SWIVLTOP - Moody Mach. Prod.
S-Y BONDEXE - Inca Div., Phelps Dodge
SY - General Control Co.
SYLKYD - Dow Corning Corp.
SYLKYD - Inca Mfg., Phelps Dodge
SYLPHON - Fulton Sylphon Div., Robertshaw-Fulton Controls Co.
SYLVALOY - Wilbur B. Driver Co.

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

SYMBOSTAMP - Griffin Co.
SYMPHONETTE - Pyramid Enterprises
SYMPHONY - Fen-Tone Corp.
SYNCHROLL - Fairchild Recording Equip
SYNCHRON - Hansen Mfg. Co., Inc.
SYNCHROTROL - Audiomation Lab.
SYNCHRO-VALVE - Bristol Co.
SYNCROVERTER - Bristol Co.
SYNCLAMPS - Timber-Top, Inc.
SYNCRAMENTAL - G.H. Leland, Inc.
SYNKOTE - Plastoid Corp.
SYNTHAMICA - Mycalex Corp. of Amer.
SYNTHINOL - Rome Cable Corp.
SYNTHOGRAPHIC - Synthane Corp.
SYNTHOLVAR - Varflex Corp.
SYSTEMAT - Waterman Prod.

T

T - Amer. Printed Circuits
T-42 - Decker Corp.
T-681 - Prec. Thermometer & Instr.
TABCAP - Technical Appar. Bldrs.
TABFLASH - Technical Appar. Bldrs.
TABGLO - Technical Appar. Bldrs.
TABLITE - Technical Appar. Bldrs.
TABPAK - Technical Appar. Bldrs.
TABTRAN - Technical Appar. Bldrs.
TABTRON - Technical Appar. Bldrs.
TACH-PAK - Airpax Products Co.
TACK-E-TAPE - New England Tape Co.
TACKMASTER - Rubber & Asbestos Corp
TACO - Technical Appliance Corp.
TADANAC - Cominco, Metal Sls. Div.
TAKK - Hewson Co., Inc.
TAKK-TRON - Takk Corp.
TALK-A-LOT - Fanon Electric Co.
TALKMASTER - Dalmotron Co.
TAL-PRES TUBE - Pres. Indus.Equip.
TAM - National Lead Co.
TAMCO - Alliance Mfg. Co.
TANDBERG - Reeves Equipment Corp.
TAN-O-MITE - Ohmite Mfg.
TAN-SOL - P.R. Mallory & Co..
TANTALEX - Sprague Electric Co.
TANTAPAK - Sprague Electric Co.
TAN-TI-CAP - Texas Instrument
TAPAK - Broadcast Equip. Spec.
TAPAK SIMPLEX - Broadcast Equip.
TAPAK TRIPLEX - Broadcast Equip.
TAP-A-THERMS - Victory Engrg. Corp.
TAPE-ARD READER - Calif. Tech. Ind.
TAPE BINDER - A. J. Gerrard & Co.
TAP-LOK - Groov-Pin Corp.
TARGET - S & A Electronics
TARSTAT - Technical Appar. Bldrs.
TARVERTERS - Technical Appar. Bldrs.
TATTELITE - Rodale Mfg. Co., Inc.
TATTELITE - Sittler Corp.
TAU-BOLT - Huck Mfg. Co.
TAYLOR - Continental Electric Co.
T-BLOC - Computer Control Co., Inc.
TBTO - Tung-Sol
TCA - Televideo Corp. of America
TCC - Telegraph Condenser Co., Ltd.
T-D - Chase-Shawnut Co.
TD - Technical Devices Co.
TDS - Arnoux Co.
TEAR DROP - Ward Products Corp.
TECHNIGRAM - Univ. Loudspeakers
TECHNIGRAPH - Technicraft Co.
TECHNILOG - Univ. Loudspeakers
TECHSILOHM - Tech-Ohm Resistor
TECKNIT - Technical Wire Products
TEENYFORMER - Gramer-Halldorson
TEFCORD - Amer. Super Temp Wires
TEFGLASS - Amer. Super Temp. Wires
TEFIFON - Audio-Master Corp.
TEFLACE - Gudebrod Bros.
TEFLON - du Pont de Nemours
TEFLON - Tensolite
TEFTUBE - Amer. Super Temp Wires
TEKSEL - Technical Appar. Bldrs.
TEKWOOD - U.S. Plywood Corp.
TEL-A-COR - Magnetic Core Corp.
TELA-EAR - Telex, Inc.
TEL-A-PIPE - Westline Products Div.
TELCO - General Cement Mfg.
TELECABLE - Whitney Blake
TELECAP - Sprague Electric Co.
TELECHECK - Telematic Industries
TELECHIEF - Sangamo Electric Co.
TELECOLOR - Musicolor, Inc.
TELECORD - Dictaphone Corp.
TELECORD - Whitney Blake
TELEDATE - Friden, Inc.
TELEDELTOS - Western Union Telegraph
TELEDUCT - Whitney Blake
TELEDYNE - Tubes Instrument Corp.
TELEFAX - Western Union Telegraph
TELE-FI - Telex, Inc.
TELE-FLEX - Telerad Mfg. Corp.
TELE-FORM - Telerad Mfg. Corp.
TELEFRAME - Whitney Blake
TELEFUNKEN - American Elite, Inc.
TELE-GUIDE - Telerad Mfg. Corp.
TELE-MERC - Vapor Heating Corp.
TELEMETROSCOPE - Tobe-Deutschmann
TELEMIKE - Miles Reproducer Co.
TELE-PAGE - Private Tele-Comm.
TELEPRENE - Whitney Blake
TELE PROCESS - Trans-Lux Corp.
TELEREMOTOR - Lambda-Pacific Eng.
TELE-REPLY - Private Tele-Comm
TELERING - Telkor, Inc.
TELESEAL - Whitney Blake
TELESYN - Ford Instrument Co.
TELETALK - Webster Electric Co.
TELETAXE - Landis & Gyr, Inc.
TELE-TROL - Jerrold Electr. Corp.
TELE-TROL - Teletronic Lab., Inc.
TELE-TWIST - Telerad Mfg. Corp.
TELEVER SWITCHES - Switchcraft, Inc.
TELEVOLT - Sola Electric Co.
TELLITE - Master Specialties Co.
TEL-OHMIKE - Sprague Electric Co.
TEL-SET - Telex, Inc.
TEL-TRU - E. Vernon Hill & Co.
TEMP-ALARM - Tempil Corp.
TEMPALL - Tobe-Deutschmann Corp.
TEMPBRAID - Hitemp Wires, Inc.
TEMPCLAD - Hitemp Wires, Inc.
TEMPCOR - Temperature Engineering
TEMP-CORP - Minn.Honeywell Micro-Switch Div.
TEMPILAQ - Tempil Corp.
TEMPILSTIKS - Tempil Corp.
TEMPLINE - Itemco, Inc.
TEMPLUBE - National Engrg.
TEMPO - Clear Beam Antenna Co.
TEMPO - Oxford Components, Inc.
TEMPRENE - Hitemp Wires, Inc.
TEMPREX - Hitemp Wires, Inc.
TEMPRITE - Hitemp Wires, Inc.
TEMPROBE - Victory Engrg. Corp.
TEMPROOF - Lord Mfg. Co.
TEMP-R-TAPE - Conn. Hard Rubber
TEMPRUF - John Chatillon & Sons
TEMPSEAL - Nat'l Engrg. Prod.
TEMPTROL - Saratoga Plastics, Inc.
TEMPTUBE - Hitemp Wires, Inc.
TENAROL - Rollan Electric Co.
TEN-FI - McGregor Electr. Ind., Inc.
TEN-FOUR - Shure Brothers, Inc.
TENNAKITS - Tenna Lab.
TENNA ROTOR - Alliance Mfg. Co.
TENNA-SHINGLE - Javex
TENNA-TIE - Channel Master Corp.
TENNA-TUBE - Javex
TENNEY-10 - Tenney Engrg.
TENNEY-30 - Tenney Engrg.
TENNEYMITE - Tenney Engrg.
TENNEYZPHERE - Tenney Engrg.
TENSIL-LOCK - Lamson & Sessions
TENSILOCK - Russell, Burdsell & Ward
TENSILOK - General Cable Corp.
TENSIOMETER - Boulin Instr.
TENSITE - Wilbur B. Driver Co.
TENSOLEX - Tensolite Insulated Wire
TENSOLON - Tensolite Insulated Wire
TEN-TENNA - Waldom Electronics, Inc.
TEP-AP - Technical Appar. Bldrs.
TERMALINE - Bird Electronic Corp.
TERMATIC - Omaton Div.
TERMEND - Buchanan Electrical Prod.
TERMIN O SEAL - F. C. Wolfe Co.
TERMIN-O-SEALS - Parker Seals Co.
TESCO - Eastern Spec. Co.
TEST-MASTER - Precision Appar.
TEST-O-LITE - Brach Mfg. Corp.
TESTOMETER - United Mfg. Co.
TETRAFILM - W. S. Shamban & Co.
TETROC - Sprague Electric Co.
TEX-CAP - K-C-K Corp.,Tex Cap. Co.
TEXLITE - B.F. Goodrich
TEXTOLITE - GE Co.,Laminated Prod.
THAWZONE - Highside Chemicals
THE EYE - Intelligent Machines Res.
THEMAL-INDICATOR - Minco Products
THERLO - Driver-Harris Co.
THERMA-CAL - No. Shore Nameplate
THERMAL-BLANKET - Minco Prod.
THERMALEX - Essex Wire Corp.
THERMALEZE - Inca Div.,Phelps Dodge
THERMALINE - International Radiant
THERMALMASTER - Int'l Radiant
THERMALMITE - Int'l Radiant
THERMALMONARCH - Int'l Radiant
THERMALON - Hitemp Wires, Inc.
THERMAL-RIBBON - Minco Products
THERMAL-TAB - Minco Products, Inc.
THERMATROL - Hatfield Wire & Cable
THERMAX - General Cable Corp.
THERMAX-W - General Cable Corp.
THERMEK - Heatron, Inc.
THERMESTER-L - Hitemp Wires, Inc.
THERMEX - Girdler Process Equip. Div.
THERMICA - Electronic Mechanics
THERMINAX - Raytherm Corp.
THERMINDEX - Tempil Corp.
THERMISTOL - Workman TV, Inc.
THERMISTOR KOUPLE - E.C. Smith
THERMISTROL - Yellow Springs
THERMOBONDS - Sterling Varnish Co.
THERMO-B VARNISHES - Sterling Varn.
THERMOCAP RELAY - Niagara Elec.
THERMOCUBE - Radio Engrg. Labs.
THERMODOT - Radiation Electronics
THERMODURS - Sterling Varnish Co.
THERMODYNE - Modern Laboratory Equ.
THERMOFIT - Raytherm Corp.
THERMOFIT TUBING & SLEEVING - Raytherm Corp.
THERMO-F VARNISHES - Sterling Varn.
THERMOGELS - Sterling Varnish Co.
THERMOHM - Leeds & Northrup Co.
THERMO-HUMIDIGRAPH - Bristol Co.
THERMOLAIN - Star Porcelain
THERMOLASTIC - Cox & Co.
THERMOLINK - Omaton Div., Burndy
THERMOLITE - Metal & Thermit
THERMOLUG - Omaton Div. Burndy
THERM-O-METER - Simpson Electric
THER-MONIC - Induction Heating Corp.
THERMOPAN - Radiation Electronics
THERMOPATCH - Cox & Co.
THERMOPLEX - Simplex Wire, Cable
THERMOPOXIES - Sterling Varnish Co.
THERMOSCAN - Radiation Electronics
THERMOSHEET - Cox & Co.
THERMOSTATIC BRAIN - P. Wall Mfg.
THERMOSWITCH - Fenwal, Inc.
THERMOTEST - Technique Associates
THERMOTEK - Radiation Electronics
THERMO-TIP - Ideal Industries
THERMOVERTER - Bristol Co.
THERMOWIRE - Cox & Co.
THERM-TUBE - Lamtex Industries
THERM-X-RED - N. J. Thermex Co.
THERMYSTAL - James Knights
THIMBLE - Di/An Controls
THIN FAN - Kooltronic Fan Co.
THIN-KERF - Radial Cutter
THINLINE - Jonathan Mfg. Co.
THINPLATES - Park Nameplate Co., Inc.
THINSLIDE - Grant Pulley
THINSTRIP - Somers Brass Co.
THREAD-LOC - Gorn Electronics Co.
THREE-PHASE - Sciaky Bros.
THRUCON - Gen'l Electric Co.
THRULINE - Bird Electronic Corp.
THRUPASS - Sprague Electric Co.
THUNDERBIRD - Telrex Labs.
THUNDERBOLT - E.F. Johnson Co.
THYAC - Victoreen Instr.
THYRA-LINE - Hanson-Gorrill-Brian
THYRA-PULSE - Hanson-Gorrill-Brian
THYRITE VARISTOR - Gen'l Electr. Co.
TI-CO - Thomas Instrument Co.
TIGER BRAND - Amer. Steel & Wire Div.
TIME FAX - Times Facsimile Corp.
TIME-MASTER - Dictaphone Corp.
TIMEMASTER - Lakeshore Industries
TIME-O-LITE - Industrial Timer Corp.
TIMOFLEX - Eagle Signal Corp.
TIN-EZY - Johnson Mfg. Co., Inc.
TINI-JAX - Switchcraft, Inc.
TINI-PLUGS - Switchcraft, Inc.
TINI-SWITCHES - Switchcraft, Inc.
TINY-FIX - Production Tool
TINYFORMER - Gramer-Halldorson
TINY-GLOW - Ind'l Devices, Inc.
TINY-L(tm) - Aladdin Electronics
TINYMAG - Torwico Electronics, Inc.
TINYMAX - Torwico Electronics
TINY-MITE - Mosley Electronics, Inc.
TINYMITE - Renbrandt, Inc.
TIOLEKTRIC - Amer. Lava Corp.
TIP-TOP - General Cable Corp.
TIREX - Simplex Wire & Cable Co.
TITRILOG - Cons. Electrodynamics
T-JAX - Switchcraft, Inc.
TLD HEADS - Nortronics Co.
T.M. - General Phones Corp.
TM - Pyramid Electric Co.
TMC - Technical Materiel Corp.
TME - Arnoux Corp.
TMI - Thermo Materials, Inc.
TOBE - Tobe-Deutschmann Corp.
TOBEMITE - Tobe- Deutschmann Corp.
TOMAHAWK - Sangamo Electric Co.
TOM BOY - Automatic Radio Mfg. Co.
TOM THUMB - Automatic Radio Mfg.
TONEMASTER - Lakeshore Ind.
TONEPAK - Lee Electric, Inc.
TONOTRON - Hughes Products
TOP HAT - Times Facsimile Corp.
TOPHET - Wilbur B. Driver Co.
TOPLINER - Tech. Appl. Corp.
TOPPER - Topp Industries, Inc.
TOP-TAINERS - Birtcher Corp.
TOR-A-COR - Magnetic Core Corp.
TORBAL - Torsion Balance Co.
TOROYD - Universal Mfg. Co., Inc.
TORQUE TENNA - Synder Mfg. Co.
TORQUE TROL - Electronic Control
TORQUE WATCH - Waters Mfg., Inc.
TORSYNATOR - Air-Marine Motors, Inc.
TOUCHETTE - Rodale Mfg. Co., Inc.
T-PAC - Computer Control Co., Inc.
T-POWER - Motorola Comm. & Electr.
TRACE - Highside Chemicals
TRACEOMETER - Hickok Electrical Inst
TRACERSCANNER - Tracerlab, Inc.
TRACMASTER - Universal Draft Mach.
TRADITION-CHROMA - J.S. Staedtler,
TRAFFICORDER - Nortronics Co., Inc.
TRAILBLAZER - Channel Master Corp.
TRAILER-TENNA - Clear Beam Ant.
TRAK - CGS Laboratories
TRAMP - M. Ten Bosch
TRAN-COR - Armco Steel Corp.
TRANOLSEAL - Johns-Manville
TRANSAC - Philco Corp.
TRANSALYZER - Kay Electric
TRANSAMP - Electronic Res. Assoc.
TRANSATOMIC - Superex Electronics
TRANSBOXES - Vlcheck Tool Co.
TRANS-CITER - Multi-Products Co.
TRANS-CLIPS - Birtcher Corp.
TRANS-COM - Bell Products Co.
TRANSFILTER - Clevite Electr. Comp,
TRANSFORMERETTES - Amplifier Corp
TRANSHEAT - B.T.U. Engineering Corp.
TRANSICON DATRAC - Epsco, Inc.
TRANSIDYNE - Motordyne, Inc.
TRANSIDYNE - Spectrol Electronics
TRANSIFIER - Kay Electric
TRANSI-LYTIC - Sprague Electric
TRANSI-MAG - Magnetic Amp., Inc.
TRANSIMULATOR - Sprague Electr.Co.
TRANSI-PAGE - Irwin Prod. Co.
TRANSIPLY - Kay Electric
TRANSIPOT - Instrol, Inc.
TRANSIPROBE - Kay Electric
TRANSIST AR - Mallinckrodt Chem.
TRANSIST-EAR - Maico Electr., Inc.
TRANSISTOR-LITE - Transistor Electr.
TRANSISTOR RADIATOR - Birtcher Corp.
TRANSITE - Johns-Manville
TRANSITONE - Philco Corp.
TRANSITROL - Dynamic Corp.
TRANSITRON - Van Norman Industries
TRANSLITE - Plasteck, Inc.
TRANSLUCTANCE - Remler Co.
TRANS-LYTICS - Federal Electr. Sls.
TRANS-O-NETIC - Heinemann Electric
TRANSPAC - Electronic Res. Assoc.
TRANSPEC - Transformer Spec.

For addresses refer to Manufacturers' listings (YELLOW SECTION)

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TRANSSEMBLY - Sprague Electric Co.
TRANSTATS - Radio Eng. Labs.
TRANSVERTER - Vibration Res. Labs.
TRANTEX - Dutch Brand
TRAP-EASE - Jerrold Electronics
TRAPMASTER - Mosley Electronic
TRAP-MOBLIE - Mosley Electronic
TRAPPER - Technical Appl. Corp.
TRAU-ELECTRIC - Terado Co.
TREADLITE - Linemaster Switch
TREASURE CHEST - Jensen Mfg. Co.
TREBAX - Collaro, Ltd.
TRENCHLAY - General Cable Corp.
TRENCHLAY-UF - General Cable Corp.
TRENDTENNA - Electrend Products
TRENNER-PHOENIX - Phoenix Prec. Inst
TRENTWELD - Crucible Steel
TRENTWELD - Trent Tube Co.
TREPACETTE - Trepac Corp. of Amer.
TRIAKON - Sieler Design Prod.
TRIALHIRE - Mechaneers, Inc.
TRIALPROVEN EXPERTS - Mechaneers
TRI-AMP - Radio Receptor Co.
TRIAX - Jensen Mfg. Co.
TRIAXIAL - Jensen Mfg. Co.
TRI-BAND - Telrex Labs.
TRI-BEAM - Western Coil & Elec.
TRICARB - Leeds & Northrup
TRICE - Packard-Bell Electronics
TRI-CHANNEL - Ercona Corp.
TRI-FLUX - Redmond Co., Inc.
TRIG - Rostan Corp.
TRIG-R-HEAT - P. Wall Mfg. Co.
TRI-IND-X - Triplett & Barton
TRI-LOK - Ries Camera Co.
TRIMENSIONAL - Univ. Loudspeak.
TRIMIT - Bourns Labs.
TRIMPOT - Bourns Labs.
TRIMPOT JR. - Bourns Labs.
TRIM R - Bourns Labs.
TRIM-TITE - Fairchild Controls
TRIM-TITE JR. - Fairchild Controls
TRIM TROL - Airborne Accessories
TRINAURAL - Dynamic Electronics
TRINISTOR - Westinghouse, Semicond.
TRINSEEL - Tri-Point Plastics, Inc.
TRIONETS - Chase-Shawmut Co.
TRION-IC - Chase-Shawmut Co.
TRIONODE - Walkirt Co.
TRI-PHASE - Taylor-Winfield Corp.
TRI-PLATE - Sanders Associates
TRIPLESEAL - Standard Electric Mfg.
TRI-PLEX - Jensen Mfg. Co.
TRIPLEXES - Sanborn Co.
TRIPLOC ELECTRICAL CONNECTORS - Pyle-National Co.
TRI-SCANNER - Sanders Associates
TRI-SET COUPLER - Dynamic Electr.
TRISTAO - Tri-Ex Tower Corp.
TRI-TAK - Boulin Instr.
TRIX - Ercona Corp.
TRIX - Fen-Tone Corp.
TRONEX - E.C. Wheaton Co.
TRONIC - Flotron Industries
TROP-ARCTIC - Guardite Co.
TROP-ARCTIC E.T.E. - Trop-Artic
TROPICAPS - Micamold Electronics
TRUARC - Waldes Kohinoor, Inc.
TRUCKARADIO - Eckstein Radio
TRU COPY PHOTE - General Photo Prod.
TRUE-HEX - Honeycomb Co.
TRU-FI - Educational Electronics
TRU-FLANGE - American Brass Co.
TRUFLEX - Metals & Controls Corp.
TRU-FLEX - Peerless Photo Prod.
TRU-MATCH - Quam-Nichols Co.
TRUMBULLITE - G.E., Distr. Assem.
TRU-OHM - Model Engrg.,
TRU-RIB - Tru-Ohm Prod. Div.
TRU-STAT - Peerless Photo Prod.
TRUTEST - Valandy Electronics
TRUTONE - Valandy Electronics
TRUVOX - Fen-Tone Corp.
TRYLON - Wind Turbine Co.
T-S-I ROD - Tri-Point Plastics, Inc.
T-SWITCHES - Switchcraft, Inc.
TUBE CADDY - Argos Prod.
TUBE-FACTS - Howard W. Sams & Co.
TUBE-MASTER - Precision Appar.
TUBE-R-CAP - Centralab
TUCK - Technical Tape Corp.
TUFFLINE - Whitney Blake
TUFFTITE - Townsend Co.
TUFF TUBE - Lamtex Industries, Inc.
TUF-GUY - Fen-Tone Corp.
TUF-HIDE - George Ulanet Co.
TUF-ON - Brooklyn Paint & Varnish
TUK-A-TENNA - JFD Mfg. Co.
TURBISTAT - Baird-Atomic, Inc.
TURBO - William Brand
TURBO 117 - William Brand
TURBOGLAS - William Brand
TURBOLENE - William Brand
TURBOLEX - William Brand
TURBOSIL - William Brand
TURBOTEMP - William Brand
TURBOTHERM - William Brand
TURBOTRANS - William Brand
TURBOTUF - William Brand
TURBO TUFFLEX - William Brand
TURBOZONE - William Brand
TURN-TYTE - Rodale Mfg. Co., Inc.
TURRET-HEAD - Fairchild Recording
TUTORIAL TAPE - Electr. Teaching Lab
TV-DUETTE - Jensen Mfg. Co.
TV GOVERNESS - Dynamic Electr. NY
TV LIFE-SAVER - Wuerth Tube Saver
TW - Channel Master Corp.
TWEEZER-WELD - Fed'l Tool Engrg.
TWILIGHT - Winegard Co.
TWIN - General Electric
TWIN BEAM - Sanborn Co.
TWINCONE - Carpenter Mfg.
TWIN FILM - Sprague Electric Co.
TWINFONE - Rye Sound
TWIN-LEVER - Shure Bros., Inc.
TWIN-OGYRO - Dynamic Electronics
TWINPOT - Bourns Labs.
TWINSET - Telex, Inc.
TWINTACTS - Western Instruments
TWIN-TRAX - Amplifier Corp.
TWINTWENTY - Channel Master Corp.
TWIN VISO - Sanborn Co.
TWISTAGUIDE - Airtron, Inc.
TWIST-LOK - Sprague Electric Co.
TWISTUBE - Fen-Tone Corp.
TWO METER VFO - E.F. Johnson Co.
TYCOON - SoundScriber Corp.
TYMETERCLOCK - Pennwood Numechron
TYNEE-DRY - Pyramid Electric Co.
TY-PLY - Marbon Chemical
TYPOTRON - Hughes Products
TYRESTON - Leeds & Northrup Co.

U

UAC - Universal Transistor
UBAG RIP - UBS Chemical Corp.
UBATOL - UBS Chemical Corp.
UBECO - Union Broach Co., Inc.
U-BLOC - Computer Control Co., Inc.
UCILON - Metal & Thermit Corp.
UFLEX - Hatfield Wire & Cable
UHP - Alpha Metals, Inc.
U-LINE - Illumitronic Engrg.
ULTRADAPT - Radio Mdse Sales, Inc.
ULTRAFLEX "E" - Cutler-Hammer
ULTRAFORMER - Kay Electric
ULTRA-KAP - Centralab
ULTRA LINEAR - Acro Products
ULTRAMATIC - Harwald Co.
ULTRA MET ALLOYS - Cannon-Muskeg
ULTRA-MIN-ELEC - Argonne Electr.
ULTRA-PIX - Kay Electric
ULTRA-PURITY - United Carbon Prod.
ULTRASCALER - Nuclear-Chicago
ULTRASONIC - Irwin Products
ULTRA-SWEEP - Kay Electric
ULTRA-TIE - Channel Master Corp.
ULTRATUBE - Plastoid Corp.
ULTRA-VISCOSON - Bendix Aviation
ULTRIMMER - Ultronix, Inc.
ULTROHM - Ultronix, Inc.
U.M.C. - Ultravision Mfg. Co.
UME - Illinois Condenser
UMP - Illinois Condenser
UMS - Illinois Condenser
UMT - Illinois Condenser
UNADCO - United Mfg. Co.
UNAX TRI-ETTE - Jensen Mfg. Co.
UNBRAKO - Stand Pressed Steel Co.
UNDARK - U. S. Radium Corp.
UNIDIAL - Chicago Industrial Instruments
UNECAP - United Electronics Corp.
UNECO - United Engrg. Co.
UNELCO - Underwood Elec. & Mfg.
UNGAR SUPER HI-HEAT - Ungar Elec.
UNI-BRIDGE - Ind'l Electronics
UNI-CAST - Redmond Co.
UNICHROME - Metal & Thermit Corp.
UNICON - United Condenser Corp.
UNI-CORE - Alpa Metals, Inc.
UNI-DRIVE - Utah Radio Prod.
UNIDYNE - Shure Bros., Inc.
UNIGRAIN - Somers Brass Co.
UNILINE - Cascade Res.
UNILOK - Omaton Div., Burndy Corp.
UNIMESH - J. Bishop & Co.
UNI-MOUNT - South River Metal Prod.
UNION - Union Broach Co.
UNIPACT - Spertic-Faraday, Inc.
UNIPAK - Sprague Electric Co.
UNIPLUGS - C.J. Applegate
UNIPOISE - Pickering & Co.
UNIPOLE - Andrew Corp.
UNIPRENE - General Cable Corp.
UNIREG - Universal Elec.
UNIRING - Omaton Div., Burndy Corp.
UNI-RON - Shure Brothers, Inc.
UNISORB - Felters Co.
UNISTAC - Int'l Rectifier Corp.
UNIT-BREAKER - Cutler-Hammer, Inc.
UNITEER - Maico Electronics, Inc.
UNITIZED RECTIFIER - Magnatran
UNIT PROCESS - Unit Process Assemb.
UNITRON - Shure Bros., Inc.
UNI VAMP - Jerrold Electronics
UNIVERSAL - Dit-Mco., Inc., Electr. Div.
UNIVERSAL - J. & G. Machine
UNIVERSAL - K-W Engrg. Works
UNIVERSAL - Mueller Electric Co.
UNIVERSAL - Shielding, Inc.
UNIVERTER - Boonton Radio Corp.
U-PAC - Computer Control Co., Inc.
UPPCO - Carron Mfg. Co.
UPPCO - United Pressed Prod.
UP-TEN - Service Instr.
UQ - Western Gear Corp.
URANIUM - COMPASS - Omco
USC - U. S. Components, Inc.
USCO FLOW - U. S. Rubber Co.
USCOLITE - U. S. Rubber Co.
USCOWELD - U. S. Rubber Co.
USD - U. S. Dynamics Corp.
USE - U. S. Electronics Corp.
USECO - U. S. Engrg., Div. Litton Indus.
UTC - United Transformer Corp.
UTILATOR - Kay Electric
UTILICON - Diamond Power Spec.
UTILISCOPE - Diamond Power Spec.
UTILIVUE - Diamond Power Spec.
UTONE - Utah Radio Products
UV-A-LITE - Alpine Labs.

V

V - Vitramon, Inc.
VAC - Universal Transistor Products
VACU MASTER - C. I. Hayes, Inc.
VAC-U-THERM - Temperature Engineer.
VAGABOND - Intern'l Res. Assoc.
VAL 90 - Valverde Labs.
VAL-CAP - Vako Div., Valianos, Inc.
VALIANT - E. F. Johnson Co.
VALSTATS - Valverde Labs.
VALVETROL - Jordan Co.
VAM - Video Accessory Mfg.
VAMISTOR - Weston Instruments
VAN DEGRAAFF - High Voltage Engrg.
VANGUARD - Interelectronics
VANTRON - Van Norman Industries
VAPOCARB - Leeds & Northrup Co.
VAPOFLASH - Cons. Controls Corp.
VAPOR - TEMP - Blue M. Electric
VAPO-VENT - N. J. Thermex Co.
VARBAND - Varflex Corp.
VARBLOK - Tobe-Deutschmann
VAREC - Vapor Recovery Systems
VARELAY - Fisher-Pierce Co.
VAREPACK - Electric Products Co.
VARFIL - Varflex Corp.
VARFLO - Varflex Corp.
VARGLAS - Varflex Corp.
VARIAC - Gen'l Radio Co.
VARICAPS - Pacific Semiconductors
VARICELL - Superior Electric Co.
VARI-CHOKE - Superex Electronics
VARICON - Elco Corp.
VARI-FLEX - Hammer Electronics Co.
VARI-FORM - Superex Electronics
VARI-HOT - Vair Corp.
VARIJUST - Anton Elec. Labs.
VARI-LOOP CONTROL - Telectronic Lab.
VARI-LOOPSTICK - Superex Elec.
VARI OHM - Norden-Ketay Div., United Aircraft
VARIOSCOPIC - Radio Mdse Sales
VARIPAK - Elco Corp.
VARI/PHASE - Clarostat Mfg.
VARIPLOTTER - Electronic Assoc.
VARISTORY - Victory Engineering
VARI-SWEEP - Kay Electric Co.
VARITRON - Beattie-Coleman, Inc.
VARI-TRONIC - Aviation Electr. Service
VARIVAC - United Electronics Co.
VARIVOLTER - Amplifier Corp. of Amer.
VARI-VOX - Kay Electric
VAR-OHM - Norden-Ketay
VAROMETER - Micrometrical Mfg.
VAR-O-POWER - Bendix Aviation Corp.
VAROYD - Univ. Torid Coil Winding, Inc.
VAR PAK - Tobe-Deutschmann Corp.
VARSIL - N. J. Wood Finish Co.
VARSLOT - N. J. Wood Finish Co.
VARTEX - N. J. Wood Finish Co.
VARYTAPE - Audiomation Labs.
VASCO - Mitchell Industries, Inc.
VAW - John Fluke Mfg. Co.
VECO - Victory Engrg.
VECTO-RAY - Swan Mfg. Co.
VECTORBORD - Vector Electronic
VECTROMATIC - Vectron, Inc.
VECTRONIC - Vectron, Inc.
VEEGROO - General-Amer. Valve Co.
VELCO - Virginia Electronics Co., Inc.
VELVE-TONE - DeRo Electronics
VENTICOOL - Electronic Devices, Inc.
VENTILAIRE - Electric Trading Co.
VENTISEL - Electronic Devices
VENTRAK - Western Devices, Inc.
VENTRAY - Western Devices, Inc.
VENUS - JFD Mfg. Co.
VERDE - Altec Lansing Corp.
VERIDYNE - Consolidated Avionics
VERIGRAPH - Cons. Avionics Corp.
VERITELL - West Instrument Corp.
VERMICULETTE - Mica Fabricating Co.
VERNIERTEMP - Modern Laboratory Equi.
VERNISTAT - Vernistat Div., Perkin-Elmer
VERNISTOP - Vernistat Div., Perkin-Elmer
VERSACHEK - Taft-Peirce
VERSACONE - Radio Mdse Sales
VERSA-MIL - Dumore Co.
VERSATROL - Assembly Products
VERSI-MOUNT - Radio Mdse Sales
VERTI-OHM - Tru-Ohm Products Div.
VEST POCKET - Mosley Electronics
VIBRACHEK - Workman TV, Inc.
VIBRA-DAPTOR - Service Instruments
VIBRA-J - Gyrex Corp.
VIBRALYZER - Kay Electric
VIBRAMETER - Leitch-Huard Corp.
VIBRAPACK - Amer. Geloso Elec.
VIBRAPOWR - James Vibrapowr Co.
VIBRA-SONE - Phillips Mfg. Co.
VIBRA-TINE - Gyrex Corp.
VIBRATOR - Vibration Res. Labs.
VIB RATROL - Pneumafil Corp.
VIBRISTOR - Vibration Res. Labs.
VIBROGROUND - Assoc. Research
VIBRON - Herman H. Sticht
VIBROTEST - Assoc. Research
VIBROTRON - BJ Electronics
VICO - Video Industries Co.
VIC-TIC - Victoreen Instrument Co.
VICTOR - Kalart Co., Inc.
VICTOR - Victoreen Instrument Co.
VICTOR SOUNDVIEW - Kalart Co., Inc.
VIDALIGNER - Kay Electric
VIDAUTRAN - Electronics Div.
VIDEO-GUN - Electr. Test Instr.
VIDEOMETER - Hickok Electrical Instr.
VIDEO SCANNER - Hickok Electrical
VIDEOTAPE - Ampex Corp.
VIDEOTRON - Nation Union Electric - Electronics Div.
VIDIGAGE - Branson Ultrasonic Corp.
VIEILLE MONTAGNE - Lichtenstein & Co.
VIEWPAK - Benson-Lehner Corp.
VIKING - Wm. W. Hansen Co.
VIKING - Hudson American
VIKING - Jensen Mfg. Co.
VIKING - E. F. Johnson
VIKING ELECTRIC - Viking Ind., Inc.

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For addresses refer to Manufacturers' listings (YELLOW SECTION)

VIKL - Viking Industries, Inc.
VINATONE - Cardy-Lundmark Co.
VIN-L-STIX - Topflight Corp.
VISCOFILM - Ind'l Condenser Corp.
VISCOR - Weston Instruments
VISETTE - Sanborn Co.
VISICORDER - Heiland Div.,Minn-Hon.
VISI-MAG - Magnecessories
VISO - Sanborn Co.
VISTEX - American Felt Co.
VISULITE - Keystone Electronics
VISUTAC - Boulin Instr.
VITALLOY FORGED - Billings & Spencer
VITAMETER - Elec. Test Instr.
VITAMIN Q - Sprague Electric Co.
VITASCAN - Visual Electronics Corp.
VITAVOX - Ercona Corp.
VITRAMON - Vitramon, Inc.
VITREOSIL - Thermal Amer. Fused Qtz.
VITREX - Atlas Mineral Products.
VITROBOND - Atlas Mineral Products
VITROHM - Ward Leonard Elec.
VITROLAIN - Star Porcelain
VITROPLAST - Atlas Mineral Products
V-LINE - Millers Falls Co.
V.M. - Harmon Lichtenstein Co.
VOCA - Demolab Corp.
VOGELITE - Blacklight Corp. of Amer.
VOGLO - Blacklight Corp. of Amer.
VOICE OF MUSIC - V-M Corp.
VOICE OF THE THEATRE - Altec Lansing
VOICEPLEX - Kahn Research Labs.
VOICON - Radio Frequency Labs.
VOLDICON - Adage, Inc.
VOLLMER - Fen-Tone Corp.
VOLSEAL - Dutch Brand Div.
VOLSEAL - Johns-Manville
VOLTA-CHEK - Elec. Test Instr.
VOLT-A-TEST - Sittler Corp.
VOLTBOX - Superior Electric Co.
VOLTEST - Davenport Mfg. Co.
VOLTMASTER - Pioneer Gen-E-Motor
VOLT-OHMATIC - Bergen Labs.
VOLT OHMYST - Radio Corp. of Amer.
VOLT-PAK - Westinghouse, Div. Sys.
VOLTVERTER - Quantum Electronics
VOLUNTEER - Industrial Radio Corp.
VON - Hewson Co., Inc.
VORTRAN - Lear, Inc.
VOYCALL - Lake Manufacturing Co.
VPT - Intercontinental Dynamics
V.R.P.S. - Hepco, Inc.
V.T. - Ohmite Manufacturing
VU-BRITE - Perma Power Co.
VULCOID - Continental-Diamond Fibre
VU MAGNETMITE - Amplifiers Corp.
VX - Western Gold & Platinum Co.
VY-CHLOR - Hitemp Wires, Inc.
VYCOR - Gorning Glass Works
VYNA-KOTE - Organic Dev. Corp.

W

W-400 - Essex Wire Corp.
WAC - Winder Aircraft Corp. of Fla.
WACO - Calcon Mfg. Co., Inc.
WAC-TAC - WacLine, Inc.
WALKIE-RECORDALL - Miles Reprod.
WALLY - Holub Industries, Inc.
WALLOY - P. Wall Mfg. Co.
WARCO - Warren Corp.
WARRIOR - Sangamo Electric Co.
WASSCO - Wassco Elec. Prod.
WATCH DOG - G.E., Wiring Device Dept
WATCHMASTER - Amer. Time Prod.
WATERWITE - Semon Bache & Co.
WATTERSON - J. W. Davis & Co.
WAVE BOOSTER - Radio Mdse Sales
WAVE GUIDE SEAL - F.C. Wolfe Co.
WAVOMETER - Micrometrical Mfg.
WB & E - Williams, Brown & Earle
WEAC - Western Electronic Co.
WEAL - Western Electro-Acoustic Lab.
WEATHER MASTER - Jensen Mfg. Co.
WEATHERTITE MAGNEMITE - Amplifier
WEATHERTITE VU MAGNEMITE - Amplifier Corp.
WEATHERVISION - Dage Television
WEB WIP - Webster Mfg. Co.
WECO - Weinschel Engineering
WEDILOS - Wang Laboratories
WEDITROL - Wang Laboratories
WEE COIL - Wells Electronics
WEE-PEE-WEE - Mueller Electric Co.
WEE POT - Handley Electronics
WEIGHT-METER - Sioux Radio Prod.
WEJCAPS - Gen'l Electric Co.
WELD DETECTOR - Photocon Res. Prod.
WELDERETTE - Transformer Design,Inc.
WELDRAWN - Superior Tube Co.
WELDWOOD ARMORPLY - U.S. Plywood Electrical Structures Dept.
WELLSEAL - E.C. Smith Mfg.
WELMEG - Welwyn Int'l
WELMET - Welwyn International
WELTRONARC - Weltronic Co.
WES CO - West Coast Elec.
WESGO - Western Gold & Platinum Co.
WEST-CAP - San Fernando Elec.
WESTACH - Westberg Mfg. Co.
WESTLITE - Westline Products Div.
WHARFEDALE - British Industries
WHARF ENG. LAB. - Imtra Corp.
WHIP-CLIP - Electrend Products
WHIPLOAD - E.F. Johnson Co.
WHIRLPOOL AGITATORS - Std.Electr.
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WICKETT - Dimick Mfg. Co.
WICOA - Wire Co. of Amer.
WIDE STRIP - Bristol Co.
WIDE-VUE - Simpson Electric Co.
WIDEX - Hal-Hen Co.
WIGO - United Audio Products
WILBAC - Bach-Simpson Ltd.
WILBRE - Wildberg Bros.
WILBRO BRIGHT GOLD - Wildberg Bros.
WILBRO BRIGHT RHODIUM - Wildberg
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WILCOLEC - Wilcox Electric Co.
WILLIAMSGRIP - Garrett Corp.
WINC - Wappler, Inc.
WINCHESTER - Olin Mathieson
WINCO - Wincharger Corp.
WINDSOR - James International
WIN-TRONIX - Winston Electronics
WIREBINDER - A. J. Gerrard & Co.
WIRECOM - Cook Electric Co.
WIRE NUTS - Ideal Industries
WIREWATT - Ohmite Mfg.
WIRE-WRAP - Gardner-Denver Co.
WISSH - Workman TV, Inc.
WISSH-JET - Workman TV, Inc.
WOBBULATOR - Canoga Corp.
WONDER-BOW - Channel Master Corp.
WONDERCOTE - L. Sonneborn Sons
WONDER GOUND POST - E-Z Way Tower
WONDER-HELIX - JFD Mfg. Co.
WORDEN - Texas Instrument
WRCO - Wright Radio Co.
WRINLAY PRINTING & FINISHING - Photo Chem. Prod., Inc.
WWVC - Specific Prod.
WYD-ANGLE - Ess Instrument Co.

X

XELA - Klein & Sons
XELON - Times Wire & Cable
X-HALER - Blaco Mfg. Co.
X-L - Essex Electronics
XL RECORDING TAPE - Fidelitone, Inc.
XLX - Excellex Elec.
XTEND-IT - Workman TV, Inc.
XTRADUR - Hexacon Electric Co.
XTRA-FAST - du Pont de Nemours
X-TRAN - General Instr. Corp.
XTRA STRONG - L. B. Allen Co., Inc.
X-VAR - Fidelity Chem. Prod.
XY - Stromberg-Carlson

Y

YAGI HELIX - JFD Mfg. Co.
YAW RATE TABLE - Micro Gee Prod.

Z

Z-ANGLE METER - Acton Labs.
ZECO - Zeus Engrg. Co., Inc.
ZELCO - Zacharias Electronics Corp.
ZENER - Hoffman Electronics Corp.
ZENIAC - Int'l Rectifier Corp.
ZENITH - Allied International
ZEPHYR-MITE - Trio Manufacturing
ZEPHYR PIONEER - Trio Mfg. Co.
ZEPHRY-ROYAL - Trio Mfg. Co.
ZERDK - Atlas Mineral Products
ZERIFAC - Foote Mineral
ZEROMATIC - Beckman/Scientific
ZEUS-ELEKTRON - Electro-Associates
ZEVA - Paul C. Roche Co., Inc.
ZIFOR - Collins Radio Co.
ZIM - Fidelitone, Inc.
ZIN-O-LYTE - du Pont de Nemours
ZIP - JFD Mfg. Co.
ZIP-GRIP - Set Screw Mfg. Co.
ZIPOHMS - Muter Co.
ZIP-STRAP - Western Coil & Electrical
ZIRCONIOM - Foote Mineral Co.
ZIRNET - Foote Mineral Co.
ZIRNOX - National Beryllia Corp.
Z-MATCH - Channel Master Corp.
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ZOOMAR REFLECTAR - Zoomar, Inc.
ZYTEL - du Pont de Nemours

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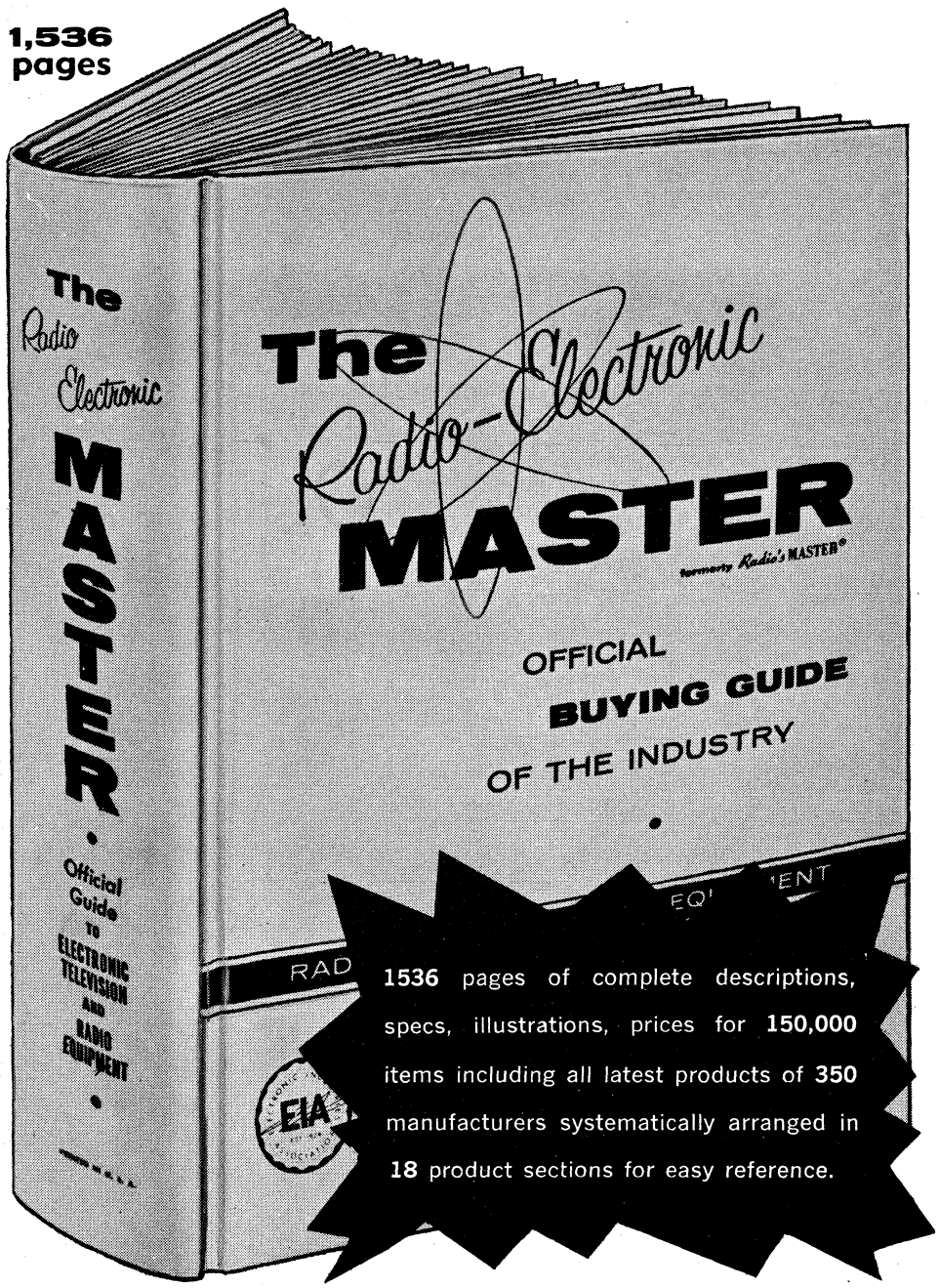

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Wise Radio, 1001 Towson Ave.

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Bluff City, 409 Huntington

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Southern Radio, 1419 Main St.

Pine Bluff
Lavender Radio, 407 E. 17th

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Springdale Radio, 710 N. Thompson

Texarkana
Lavender Radio, 522 E. 4th St.

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Dunlap Radio, 2617 Tulare
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United Radio, 122 S. Pomona

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Western Electr., 1214 S. Brand Blvd.

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Yale Radio, 6616 Sunset

Huntington Park
Martin Dist., 2509 E. Florence

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Newark Elec., 4736 W. Century
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Lafayette Radio Equip., 1023 W. Simcoe

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Manley's TV, 45019 N. Yucca

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Calif. Electr., 11801 W. Pico
Federated Purch, 11275 W. Olympic
Figart's Radio, 6320 Commodore Sloat
Graybar Elec., 210 S. Anderson
Henry Radio, 11240 W. Olympic
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Radio Prods., 1501 S. Hill
Radio Telev., 2025 S. Figueroa
United Radio, 1924 S. Grand
Universal Radio, 1729 S. Los Angeles

Marysville
Dunlap Radio, 826 Fifth

Merced
Dunlap Radio, 234 W. 17th

Modesto
Dunlap Radio, 419 10th

Monterey
Peninsula Electr., 695 Lighthouse

Oakland
Elmar Electr., 140 11th

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Opelousas Radio Equip., 730 W. Grolee

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Peninsula Electr., 3860 El Camino
Zack Radio, 654 High

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Elwyn W. Ley, 16514 S. Garfield

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Dow Radio, 1759 E. Colorado
Electr. Sup., 2085 E. Foothill

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Radio TV Prods., 1541 Sequoia

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Electr. Sup., 2486 3rd

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Norcal Electr., 1115 R St.
Radio TV Prods., 2012 19th St.
Sacramento Elec., 1219 S St.

Salinas
Peninsula Elect., 42 W. Cabilan

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Graybar Elec., 655 S. H St.

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Channel Radio, 18 E. Ortega

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Nystrom Bros., 2426 Fourth
Radio Parts, 2060 India
Shanks & Wright, 2045 Kettner
Western Radio, 1415 India

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Pacific Whole., 1850 Mission
San Francisco Rad., 1284 Market
Television Radio, 1321 Mission
Zack Electr., 1424 Market

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Pacific Wlsl., 603 Almaden
Peninsula Electr., 656 S. 1st
Frank Quement, 161 W. San Fernando
United Radio, 1403 W. San Carlos

Santa Ana
Graybar Elec., 301 French
Hurley Electr., 1434 S. Main

Stockton
Dunlap Radio, 27 N. Grant
Radio TV Prods., 1040 N. Union

Van Nuys
Graybar Elec., 15520 Cabrito
Valley Electr., 17647 Sherman

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Dunlap Radio, 1725 Mooney

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D & M Electr., 717 N. Weber
L. B. Walker, 324 1/2 N. Tejon
L. B. Walker, 9 E. Vermijo

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Denver Electr., 1254 Arapahoe
Fistell's Radio, 1001 Bannock
Inter-State, 1200 Stout
L. B. Walker, 620 Broadway
Ward Terry, 70 Rio Grande

Grand Junction
L. B. Walker, 962 North

Pueblo
L. B. Walker, 100 N. Victoria

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Bridgeport
Hatry of Bridgeport, 2465 Main
Westconn Electr., 195 Colorado

Hartford
Hatry of Hartford, 203 Ann
R. G. Sceli, 78 Maple

New Britain
United Electr., 49 E. Main

New Haven
Hatry of New Haven, 77 Broadway

New London
Aikins Electr., 531 Broad

Norwich
Aikins Electr., 98 Water

Stamford
Westchester Electr., 181 Stillwater

Waterbury
Hatry of Waterbury, 89 Cherry

DELAWARE

Wilmington
Almo Radio, 1122 French
Radio Elec. Svc., 3rd & Tatnall

DIST. OF COL.

Capitol Radio, 2120 14th St., N.W.
Electr. Whlslrs., 2345 Sherman, N.W.
Electr. Indus., 2345 Sherman, N.W.
Kenyon Radio, 2020 14th, N. W.
Rucker Electr., 608 Pennsylvania, S.E.
Rucker Electr., 1320 14th, N.W.
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Southern Wholesalers, 707 Edgewood, N.E.
Sun Parts Distr., 514 10th St., N. W.

FLORIDA

Daytona Beach
Hammond Electr., 719 N. Ridgewood

Fort Lauderdale
East Coast Radio, 1226 N. E. 4th

Gainsville
Goddard-Gainsville, 1032 S. Main

Jacksonville
Hammond Electr., 1354 Laura

Key West
East Coast Radio, 923 White

Lakeland
Hammond Electr., 930 E. Oak
Radio Access., 623 W. Lemon

Miami
East Coast Radio, 1900 N. W. Miami
Electr. Sup., 61 N. E. 9th

Orlando
Goddard-Orlando, 631 W. Central
Hammond Electr., 533 W. Central
Radio Access., 2305 Mac Rae

Panama City
Central Electr., 316 Luverne

Pensacola
Grice Radio, 300 E. Wright

Sarasota
Radio Access., 607 School

Tampa
Goddard-Tampa, 601 S. Morgan
Radio Access., 417 E. Platt

W. Palm Beach
East Coast Radio, 1901 S. Dixie
Goddard Distr., 1309 N. Dixie

GEORGIA

Albany
Spec. Distr., 131 Flint Ave.

Atlanta
Jackson Electr., 840 Marietta, N.W.
So-eastern Rad., 400 W. Peachtree, NW
So-eastern Rad., 825 Beecher
So-eastern Rad., 3231 Cains Hill, NW
Specialty Distr., 763 Juniper, N.E.

Augusta
Prestwood Electr., 1445 Greene
Spec. Distr., 1541 15th

Columbus
Spec. Distr., 1325 Webster

Macon
Spec. Distr., 539 Arch St.

Savannah
Southeastern Radio, 38 Montgomery
Spec. Distr., 612 E. Broad

Valdosta
Spec. Distr., 916 Marion

ILLINOIS

Alton
Radonics Alton, 211 Main

Chicago
Allied Radio, 100 N. Western
Newark Elec., 223 W. Madison

Danville
Bud Electr., 114 E. North

Decatur
York Radio, 518 E. Prarie

Kankakee
Radio Doctors, 892 W. Station

La Salle
Warren Radio, 437 First St.

Peoria
Warren Radio, 308 S. Oak

INDIANA

Anderson
Seybert's Radio, 1331 Main

Elkhart
Warren Radio, 742 S. Main

Evansville
Ohio Valley Sound, 20 E. Sycamore

Fort Wayne
Warren Radio, 1716 S. Harrison

Indianapolis
Graham Electr., 122 S. Senate

Indianapolis
Radio Dist, 1013 N. Capitol. Ave.
Warren Radio, 732 N. Capitol Ave.

Michigan City
Tri-State Elec, 212E. Michigan

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Terre Haute Radio, 501 Ohio St.

Vincennes
Ohio Valley Sound, 1508 N. 2nd St.

IOWA

Burlington
Union Supply, 231 S. 3rd

Cedar Rapids
Gifford-Brown, 618 First St., N.W.

Council Blutfs
World Radio Labs, 3415-27 W. B'way

Davenport
Union Supply, 320 E. 4th St.

Des Moines
Gifford-Brown, 1400 Walnut St.
Radio Trade Supply, 1224 Grand

Sioux City
Duke's Radio, 209 6th St.

KANSAS

Great Bend
Radio Supply, 1919 Tenth

Salina
Radio Supply, 736 N. Santa Fe

Wichita
Radio Supply, 115 Laura Ave.

KENTUCKY

Covington
United Radio, 404 Main St.

Lexington
Lex. Electr. Sup., 810 E. 3rd

Louisville
P.I. Burks, 659 S. 9th
Universal Radio, 533 S. 7th

Owensboro
Ohio Valley, 600 W. 3rd

Paducah
Warren Radio, 455 S. 31st

LOUISIANA

Alexandria
Bell Radio, 1109 Bolton
Central Radio, 601 N. 3rd

Gretna
Electronic Parts, 721 Franklin

Houma
Crescent Radio, 910 Barrow

Lafayette
Sterling Radio Prod., 1005 Cameron

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Bell Radio, 2625-27 Tulane
Crescent Radio, 537 Claiborne
Electronic Parts, 223-225 N. Broad
Radio Parts, 807 Howard
Southern Radio, 1909 Tulane

Shreveport
Graybar Electric, 2536 Linwood
Keolemay Sales, 2530 Linwood
Lavender Radio & TV, 936 Milam

MAINE

Auburn
Radio Supply, 26 Cross

Bangor
Maine Electr. Sup., 494 Broadway
Radio Serv. Lab., 16 Salem Court
Radio Supply, 151 Center St.

Portland
Maine Electr. Sup., 148 Anderson
Radio Serv. Lab., 1004 Congress

MARYLAND

Baltimore
American Distr, 1200 N. Fulton
H.O. Berman, 12 E. Lombard
D & H Distr, 2025 Worcester
Kann-Ellert, 7227 Harford Rd.
Kann-Ellert, 9 S. Howard St.
Radio Elect. Svce, 5 N. Howard
Radio Elect. Svce, 7502 Eastern
Wholesale Radio, 308 W. Redwood

Cumberland
Zimmerman Whsle, 162 Bedford

Hagerstown
Stoddard Supply, 354 S. Cannon
Zimmerman Whsle, 114 E. Washington

Sallisbury
Almo Radio, 317 Park Heights
Radio Electr. Svce, 736 S. Salisbury

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Rucker Electr.Prod.,8049 13th St.

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DeMambro, 1095 Commonwealth
Gerber Radio, 1900 Columbus
A.W. Mayer,895 Boylston
Radio Wire, 110 Federal
Sager Electr., 201 Congress

Brockton
DeMambro, 1839 N. Main

Cambridge
Lab Electr.,1071 Massachusetts

Fall River
J & S Supply, 121 Pine

Fitchburg
Young & Young, 372 Water

Lawrence
Alco Electr., 3 Wolcott
DeMambro, 473 Haverhill
Young & Young, 198 Broadway

Pittsfield
Young & Young, 33 Bradford

Quincy
Gerber Radio, 1153 Hancock

Springfield
T.F. Cushing, 1026 Bay
Soundco Electr.,147 Dwight
Young & Young, 169 Spring

Wilbraham
Industrial Comp.,2805 Boston

Worcester
DeMambro, 222 Summer
Radio Maintenance,80 Thomas

MICHIGAN

Battle Creek
Warren Radio, 93 W. Bidwell

Cheboygan
Straits Distr.,412 N. Main

Detroit
M.N. Duffy,2040 Grand River Ave.
Ferguson Electr.,2306 Puritan
Rissi Electr., 14405 Wyoming

Flint
Lifsey Distr.,1409 N. Saginaw

Grand Rapids
Radio Electr., 505 Jefferson
Warren Radio, 24 Logan St., S.W.

Jackson
Fulton Radio, 1208 Greenwood

Kalamazoo
Warren Radio, 1710 S.Westnedge

Lansing
Fulton Radio, 2710 Alpha

Laurium
Northwest Radio,435 Tamarack

Marquette
Northwest Radio, 619 Washington

Pontiac
Electronic Supply,248 E. Pike

Sault Ste. Marie
Straits Distr, 144 Ridge St.

MINNESOTA

Duluth
Lew Bonn, 228 E. Superior
Northwest Radio,123 E. 1st

Mankato
Lew Bonn, P.O.Box 581
Northwest Radio,403 N. Front

Minneapolis
Lew Bonn, 1211 La Salle
Electronic Ctr.,107 3rd Ave.,N.
Northwest Radio, 52 S. 12th

Rochester
Lew Bonn, 3524 6th Place,N.W.
Elliott & Hanson,119 First Ave,N.W.

St. Cloud
Northwest Radio,116 E.St.Germain

St. Paul
Lew Bonn, 141 W. 7th St.
Gopher Electr.,370 Minnesota
Northwest Radio, 194 W.4th

Virginia
Lew Bonn, 802-1/2 16th St.,No.

Willmar
Lew Bonn, 1608 Manongalia

MISSISSIPPI

Biloxi
Nelson Radio, 613 Caillevet

Columbus
Bluff City Distr.,Highway 82 West

Greenville
Bluff City Distr.,H'way 1 & Alexander

Gulfport
Crescent Radio, 1311 28th Ave.

Tupelo
Bluff City Distr.,208 Troy St.

MISSOURI

Cape Girardeau
Suedekum Electr,2215 Broadway

Kansas City
Burstein-Applebee,1012 McGee
Jones Electr., 3627 Main

St. Louis
Ebinger Electr.,2501-03 S.Jefferson
Interstate Supply,4445 Gustine Ave.
Radonics, 5040 Easton Ave.
Radonics,2218 S. Jefferson
Radonics-West,2121 Big Bend Blvd.
Radonics-Gravois,6656 Gravois Ave.

MONTANA

Billings
Electronic Supply,250 Eleventh St.W

Missoula
Northwest Distr.,509 S. Higgins

NEBRASKA

Lincoln
Hicks Radio, 1422 O St.

Omaha
J.B.Distr., 1616 Cass Ave.
Omaha Appliance,2222 Leavenworth
Radio Equipment,2852 Douglas
Sidles, 7302 Pacific

NEW HAMPSHIRE

Concord
Evans Radio,Route 3A,Bow Junction

Dover
American Radio,6th St.at Chestnut St.

Keene
DeMambro, 300 West St.

Manchester
DeMambro, 1308 Elm St.
Radio Service Lab.,670 Chestnut St.

NEW JERSEY

Atlantic City
Almo Radio, 4401 Ventor
Radio Electr., 452 Albany Ave.

Camden
Almo Radio, 1133 Haddon Ave.
General Radio, 600 Penn St.
Radio Electr.Svce,513-15 Cooper

Mountainside
Federated, 1021 U.S.H'way 22

Newark
Federated, 114 Hudson St.
Hudson Radio & TV,35 William
Radio Wire TV,24 Central Ave.

Plainfield
Radio Wire TV,139 W. 2nd St.

Trenton
Almo Radio, 201 Calhoun

Whippany
State Electr,399 Rt.10 at Troy Hills

NEW MEXICO

Alamogordo
Radio Specialties,209 Penn Ave.

Albuquerque
Midland Spec,1712 Lomas, N.E.
Walker Radio,102 Granite Ave.,N.W.

NEW YORK

Albany
Fort Orange Radio,904-16 Broadway
E.E.Taylor,465 Central Ave.

Batavia
Radio Equipment, 5 Center St.

Bath
Rochester Radio,11 Liberty

Binghamton
Morris Distr.,195 Water St.
Stack Electr., 25 State St.

Bronx
Radio Wire & TV,542 E.Fordham

Brooklyn
Acme Electr., 59 Willoughby
Quad Electr., 555 Union Ave.

Buffalo
Dymac, 2329 Main St.
Genesee Radio, 2550 Delaware
Genesee Radio, 144 Genesee St.
Huron Electr., 324 Oak St.
Radio Equipment, 312 Elm St.
Standard Electr,Distr.,1501 Main
Standard Electr,Distr.,1476 S. Park
Summit Distr., 916 Main St.

Elmira
Iceco, 653 Madison Ave.
Stack Electr., 2024 Lake Rd.

Farmingdale
Gem Electr.Distr.,34 HempsteadTpke

Flushing
Allen Electr., 41-42 Main

Fredonia
Barker-Higbee, 27 Water St.

Geneva
Rochester Radio, 338 Exchange St.

Glens Falls
Ray Supply, Upper Glen St.

Hempstead
Davis Electr., 204 Main St.
Island Electr. Parts,412 Fulton Ave.

Hicksville
Gem Electronics,236 Broadway

Ithaca
Stallman Distr., 714 W. Clinton

Jamaica
Norman Radio, 94-29 Merrick Rd.
Peerless Radio,92-32 Merrick Rd.
Radio Wire TV,165-08 Liberty Ave.

Kingston
Certified Electr.,Albany Ave.& Groff St.

Lockport
Standard Electr., 8 Elm St.

Long Island City
H.L. Dalis, 35-35 24th St.
Electronic Supply,41-08 Greenpoint
Spera Electronic Supply,37-10 33rd

Malone
Ray Supply,55 W. Main St.

Middletown
Certified Electr.,Rt. 84,Wickham Ave.

Mineola
Adelphi Electr.,142 Mineola Blvd.
Arrow Electr., 525 Jericho Tpke

Newburgh
Chief Electr., 248 Washington

New York
Arrow Electr., 65 Cortlandt
Bruno-New York,460 W.34th St.
Center Industrial Electr.,72 Cortlandt
Electr. Center,211 W.19th St.
Harvey Radio, 103 W. 43rd St.
Hudson Radio & TV,37 W.65th St.
Hudson Industr.Electr.,37 W.65th
Hudson Radio & TV,48 W.48th St.
Hudson Radio & TV,212 Fulton St.
Leonard Radio, 69 Cortlandt St.
Midway Radio & TV,60 W. 45th St.
Milgray Electr., 136 Liberty St.
Milo Electr., 530 Canal St.
Radio Wire TV, 100 6th Ave.
Terminal Radio, 85 Cortlandt St.
Terminal Radio Int'l,135 Liberty St.

Niagara Falls
Niagara Falls Radio,1720 Pierce
Niagara Radio & Parts,2601 Pine
Standard Electr., 419 24th St.

Olean
B.& O. Radio Equip.,1615 W.State
Standard Electr.,504 E.State

Plattsburg
Ray Supply, 13 Sailly Ave.

Poughkeepsie
Certified Electr., 5 Parker Ave.
Chief Electr., 14 N. Bridge St.
Higgins & Sheer, 105 Dutchess Tpke

Richmond Hills
Anchor Electr.,116-01 101st Ave.

Rochester
Case Electr., 82 St. Paul St.
Masline Electr., 511 Clinton Ave.S.
Rochester Radio,600 E. Main St.

Rome
Rome Electr., 108 Spring St.

Schenectady
Schenectady Electr.,1708 Altamont

Syracuse
Morris Distr., 1153 W. Fayette
Syracuse Radio, 620 S. Salina

Utica
Valley Electr.,Labs.,1415 Oriskany

Vestal
Federal Electr., Vestal Parkway East

White Plains
Hub Electr., 249 Tarrytown Rd.
Westchester Electr.,602 Mamaroneck

Woodside
Boro Electr., 69-18 Roosevelt Ave.

NORTH CAROLINA

Burlington
Womack Elec.,P.O.Box 1519

Charlotte
Dixie Radio Supply,1431 Bryant St.

Durham
Womack Elec.,601 Ramseur St.

Gastonia
Dixie Radio Supply,1297 W. Franklin

Goldsboro
Womack Elec.,405 W. Walnut St.

Greenville
Womack Radio, 306 Cotanche St.

Greensboro
Johannesen Electr.,312 N. Eugene

High Point
Womack Radio, 654 N. Main St.

NORTH DAKOTA

Rocky Mount
Womack Electr., 105 Marigold St.

Winston-Salem
Dalton-Hege, 912 W. 4th St.

OHIO

Akron
Sun Radio, 110 Market St.
Warren Radio, 71 S. Broadway

Cincinnati
Herrlinger Distr., 15th & Vine Sts.
Hughes-Peters, 1126 Sycamore
Mytronic, 2145 Florence Ave.
United Radio, 13 Mercer St.
United Radio, 1314 Vine St.

Cleveland
Main Line, 1260 E. 38th St.
Pioneer Electr.,2115 Prospect Ave.
Pioneer Electr.,2103 E. 21st St.
Radio & Electr.,3235 Prospect Ave.
Winterradio, 1468 W. 25th St.

Columbus
Electronic Supply,134 E. Long St.
Hughes-Peters, 111 E. Long
Thompson Radio, 182 E. Long St.

Dayton
Srepco, 314 Leo St.
Stotts-Friedman, 108 N. Jefferson

Enid
Trice Whsle Electr.,322 S. Ind

Fargo
Lew Bonn, 313 N. P. Ave.

Findlay
Lima Radio Parts,1414 S. Main St.

Hamilton
Srepco, 145 Highland

Lima
Lima Radio Parts,600 N.Main St.
Warren Radio, 222 S. Elizabeth St

Lorain
Pioneer Electr.,1648 Broadway

Mansfield
Wholesaling, 775 Springmill Rd.

Middletown
Srepco, Plymouth & Brentwood

Parma
Winteradio Electr.,5359 Ridge Rd.

Springfield
Standard Radio,1300 St.Paris Rd.

Toledo
Warren Radio, 1002 Adams St.

Van Wert
Lima Radio, 502 S. Shannon St.

Warren
REM Electr.,497 W. Market

Zanesville
Thompson Radio, 135 S. 6th St.

OKLAHOMA

Ada
Johnson Whsle,231 N. Francis

Ardmore
Johnson Whsle,301 A N.E.
Trice Whsle,424 First, S.W.

Enid
Johnson Whsle,526 N. Independence

Lawton
Trice Whsle,28 E St.

McAlester
McAlester Radio & TV,407 N. Main
Trice Whsle,529 N. Main

Muskogee
Sooner Radio & TV,208 N. Main

Oklahoma City
Electr. Supply,212 N.W.10th St.
Johnson Whsle,927 N.W. 1st St.
Miller-Jackson,121 E.California
Radio Supply, 724 N. Hudson St.
Trice Whsle, 800 N. Hudson

Okmulgee
Trice Whsle, 120 N. Oklahoma

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CONTACT YOUR LOCAL DISTRIBUTOR FOR THE 1959 RADIO-ELECTRONIC MASTER

Ponca City
Trice Whsle, 704 Harding

Tulsa
Miller-Jackson, 537 E. 5th St.
Radio, 1000 S. Main
S & S Radio, 537 S. Kenosha Ave.

OREGON

Eugene
Lou Johnson, 201 E. 8th St.
United Radio, 974 W. 6th Ave.

Medford
United Radio, 605 N. Fir St.
Verl G. Walker, 205 W. Jackson St.

Portland
Central Distr., 1331 N.W. Couch St.
Lou Johnson, 1506 N.W. Irving St.
Stubbs Electr., 33 N.W. Park Ave.
United Radio, 22 N.W. 9th Ave.

Salem
Lou Johnson, 935 S. Commerical St.
United Radio, 697 S. 12th Ave.

PENNSYLVANIA

Allentown
Federated Purch, 1115 Hamilton
Radio Elect Svce, 1313 Linden

Altoona
D & H Distr., Box 1190, Canan Station

Bloomsburg
Alvo Electr., 1027 Old Berwick Rd.

Butler
Television Parts, 234 E. Cunningham

Chester
A.C. Radio, 126-28 E. 24th St.

Easton
Federated Purch, 925 Northampton St.
Radio Elect., 916 Northampton St.

Hazleton
Moyer Electr., 758 N. Locust St.

Harrisburg
D & H Distr., 2535 N. 7th St.
Radio Distr., 915 S. 13th St.

Johnstown
Cambria Equip., 17 John St.

Lancaster
George D. Barbey, 622 Columbia

Lebanon
George D. Barbey, 821 Quentin Rd.

Lewiston
Alvo Electr., 207 W. Market

Lock Haven
Alvo Electr., 801 Bellefonte Ave.

New Brighton
M.V. Mansfield, 818 3rd Ave.
TV Parts, 509 5th Ave.

New Castle
Television Parts, 917 Moravia

Norristown
Almo Radio, 550 Markley St.
General Radio, 624 W. Airy

Philadelphia
A.C. Radio, 1539 W. Passyunk
Almo Radio, 6205 Market
Almo Radio, 7540 Frankford
Almo Radio, 913 Arch St.
Almo Radio, 412-16 N. 6th St.
Consolidated Radio, 612 Arch St.
Herbach & Rademan, 1204 Arch St.
Penn Electr., 5303 Frankford Ave.
Penn Electr., 2446 Kensington Ave.
Radio Electr., 5930 Market St.
Radio Electr., 701 Arch St.
Radio Electr., 3412 Germantown Ave.
Raymond Rosen, Parkside Ave. & 51st
Albert Steinberg, 2520 N. Broad St.
Albert Steinberg, 6324 Sackett St.
Eugene G. Wile, 218 S. 11th St.

Pittsburgh
Cameradio, 1121 Penn Ave.
M.V. Mansfield, 937 Liberty Ave.
Radio Parts, 6401 Penn Ave.

Pottstown
George D. Barbey, 157 N. York St.

Pottsville
Moyer Electr., 330 E. Norwegian St.

Reading
George D. Barbey, 2nd & Penn Sts.

Scranton
Fred P. Pursell, 1221-27 N. Wash.

State College
Alvo Elec. Distr., 103 S. Pugh

Sunbury
Electr. Sales, 734 Market
Moyer Electr., 310 N. 2nd St.

Uniontown
Zimmerman Whsle, 104 W. Peter

Upper Darby
Albert Steinberg, 239 Fairfield Ave.

Wilkes-Barre
Shelborne Electr., 169 N. Penn.

Williamsport
Alvo Elect., 463 E. 3rd St.
Williamsport Radio, 518 W. 3rd

Willow Grove
Radio Electr. Svce., 29 York Rd.
Albert Steinberg, Lincoln Ave. & York Rd. N.

York
Radio Electr. Svce., 1114 Roosevelt Ave.
Whsle Radio Parts, R.D. 7, Whiteford Rd.

RHODE ISLAND

Newport
N.F. Andrews Electr., 32 Marlborough
J & S Supply, 25 3rd St.

Pawtucket
Jabbour Electr., 20 Woodbine

Providence
William Dandreta, 28 Wolcott St.
DeMambro, 90 Broadway
W.H. Edwards, 92-94 Broadway

SOUTH CAROLINA

Anderson
Dixie Radio, 512 N. Murray

Charleston
Radio Laboratories, 475 E. Bay

Columbia
Dixie Radio, 1700 Laurel
Southeastern Radio Parts, 1606 Gregg

Charleston
Whsle Radio, 515 E. Bay St.

Florence
Dixie Radio, 531 E. Palmetto

Greenville
Carolina Radio, 221 W. Washington
Dixie Radio, 306 Wade Hampton

Spartanburg
Dixie Radio, 318 Union St.

SOUTH DAKOTA

Sioux Falls
Warren Radio, 115 S. Indiana

TENNESSEE

Chattanooga
Specialty Distr., 135 Market

Dyersburg
Warren Radio, 1216 St. John Ave.

Kingsport
Radio Electr., 961 E. Sullivan

Knoxville
Bondurant Bros., 906 Sevier
McClung Appl., 310 N. Georgia St.

Memphis
Bluff City Distr., 234 East St.
Lavender Radio, 180 S. Cooper St.

Nashville
Electra Distr., 1914 West End
Randolph & Rice, 1213 McGavock

TEXAS

Abilene
Graybar Electr., 1601 S. Treadaway

Amarillo
Graybar Electr., 601 E. 2nd Ave.
West Texas Electr., 401 W. Adams

Arlington
Graybar Electr., 104 N. Collins

Austin
Graybar Electr., 214 E. 3rd
Harris-Austin, 410 Baylor St.

Beaumont
Montague Distr., 760 Laurel
Sterling Radio, 1160 Laurel

Brownsville
Rio Radio, 1129 E. Jefferson

Bryan
Sterling Radio, 2615 Texas

Corpus Christi
Lavender Radio, 1627 S. Alameda
Leader Electr., 1701 Morgan Ave.
Modern Radio, 301 S. Staples
Wicks Radio, 513-515 S. Staples

Dallas
Crabtree's Whsle, 2608 Ross Ave.
Graybar Electr., 717 Latimer

Denison
Denison Radio, 310 W. Woodward

El Paso
Graybar Electr., 3513 Rosa
Midland Specialty, 500 W. Paisano Dr
Sunland Supply, 1200 E. Missouri

Fort Worth
Graybar Electr., 1107 Foch
Scooter's Radio, S. Freeway & Vickery
Bill Sutton's Whsle, P.O. Box 1505

Greenville
Lavender Radio, 3418 Lee St.

Houston
Busacker Electr., 1216 W. Clay
Geophysical Supply, 1500 Crawford
Harrison Equip., 1422 San Jacinto
Sterling Radio, 1616 McKinney Ave.

Kilgore
Trice Whsle, 906 S. Broadway

Laredo
Guarantee Radio, 1314 Iturbide

Lubbock
West Texas Radio, 1968 W. Texas

Lufkin
Sterling Radio, 428 Atkinson

McAllen
Guarantee Radio, 423 S. 17th St.
Rio Radio, 610 S. Broadway

Odessa
Midland Specialty, 2101 Andrews H'way

Paris
Lavender Radio & TV, 250 S. Main

San Antonio
Graybar Electr., 1223 N. Hackberry
Lamp's 'Lectronics, 2000 Broadway
Modern Radio, 2000 Broadway
Radio & TV, 1828 N. St. Mary's
Sherman Electr., 720 San Pedro

Sherman
Lavender Radio, 308 E. Houston

Tyler
Lavender Radio, 503 E. Oakwood

Vernon
Trice Whsle, 3116 Wilbarger

Victoria
Lavender Radio, 1003 N. Williams

UTAH

Salt Lake City
O'Loughlin's Radio, 113 E. 3rd St.
Standard Supply, 225 East 6th St.

VERMONT

Burlington
Radio Svce Lab., 703 Pine

Winchester
Kann-Ellert, 1650 Valley Ave.

VIRGINIA

Alexandria
Certified Electr., 1313 Powhatan

Arlington
Key Electr., 124 S. Wayne
Rucker Electr., 1213 Wilson

Charlottesville
Virginia Radio, 715 Henry

Danville
Womack Radio, 513 Wilson St.

Norfolk
Cain Electr.. 14th & Monticello
Priest Electr., 821 W. 21st St.
Radio Parts, 128 W. Olney
Radio Supply, 711 Granby

Richmond
Meridian Electr., Equip, 1001 W. Broad
Radio Supply, 3302 W. Broad
Wyatt-Cornick, 1705 Brook

Roanoke
H.C. Baker, 19 W. Franklin
Radio Supply, 2009 Williamson
Roanoke Electr., 1322 Williamson

Staunton
Southern Electr., 818 Greenville Ave.

WASHINGTON

Aberdeen
C & G Radio, 510 W. Wishkah

Bellingham
Advance Electr., 110 Grand Ave.

Bremerton
C & G Radio, 1301 Pacific

Centralia
C & G Radio, 217 S. Tower

Kennewick
Columbia Electr., 406 N. Fruitland

Moses Lake
Mid-State Radio, E. 524 Third

Olympia
C & G Radio, 318 N. Capitol Way

Seattle
Pacific Electr., 1209 First Ave.
Western Electr., 717 Dexter Ave.
Westlake Electr., 509 Westlake

Spokane
Columbia Electr., 3420 E. Ferry
Northwest Electr., E. 730 First Ave.

Tacoma
C & G Radio, 2502 Jefferson
Wible Radio, 2360 S. Fawcett

Wenatchee
Mid-State Radio, 611 N. Wenatchee

Yakima
Lay & Nord, 112 S. 2nd St.

WEST VIRGINIA

Charleston
Mountain Electr., 708 Bigley Ave.

Huntington
Warren Radio, 1226 3rd St.

WISCONSIN

Fond du Lac
Harris Radio, 289 N. Main

Green Bay
Northern Radio, 1585 Main

La Crosse
Lew Bonn, 115 Pearl St.

WYOMING

Casper
Houge Radio, 246 W. First

Cheyenne
Houge Radio, 4012 Central

ALASKA

Anchorage
Alaskan Electr., 833 Gambell
Yukon Radio, Box 406

Fairbanks
Polar Electr., 231 Illinois St.

HAWAII

Honolulu
Precision Radio, 1160 S. King
Radio-TV, 777 Ala-Moana
Radio Whsle, 610 Ward

CANADA

ALBERTA

Calgary
Smalley's Radio, P.O. Box 220

Edmonton
Canadian Electr., 10052 109th St.
Taylor & Pearson, 10215 103rd St.

ONTARIO

Fort Williams
Inter-Comm Supply, 1315 Victoria

Ottawa
Canadian Electr., 836 Somerset St. W.

Toronto
Canadian Electr., 877 Yonge St.
Electro Sonic, 543 Yonge St.
Phono-Vision, 641 Yonge St.

Waterloo
Waterloo Electr., 7 Dupont St. W.

QUEBEC

Montreal
Canadian Electr., 275 Craig St. W.
Payette Radio, 730 St. James. W.

Quebec
Canadian Electr., 110 Ouest Rue St.

BRIT. COLUMB.

New Westminster
Hygrade Radio, 608 Blackford

Vancouver
Hygrade Radio, 971 Richards St.
Taylor & Pearson, 1006 Richards St.

Victoria
Hygrade Radio, 1856 Quadra & Caledonia

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Completely Revise

This replaces and supersedes prev
index supplied in the 1958 edition of

1959–1960

Guide for locating products in your

eem FILE SYSTEM

The **eem** filing system is divided into 51 product sections. These 51 sections cover the electronic industry in its broadest aspects, and coincide with **eem**'s Catalog Section (White Pages). Use this **Index to file and locate specific products within each of these sections.**

TO FILE:

A. PRODUCT DATA FROM "CLIP/FILE"

In the upper right hand corner of each new product description is the **eem** Section number. File the items in the folders corresponding to these numbers.

B. PRODUCT LITERATURE FROM OTHER SOURCES

Merely check the following pages to determine the correct section number. Then, simply file in the appropriate folder.

TO LOCATE:

Any time you wish to refer to data in your file folders, use this Product To Section Index. It rapidly locates the proper folder.

Set up your own personal **eem** filing system, if you haven't already done so. Easy instructions can be found on the inside back cover of **eem**.

ectronic Engineers Master (eem) 1959

PRODUCT-TO-SECTION INDEX FOR eem FILING SYSTEM

The **eem** filing system is divided into 51 product sections. These 51 sections cover the electronic industry in its broadest aspects, and coincide with **eem**'s Catalog Section (White Pages). Use this Index to file and locate specific products within each of these sections.

TO FILE

(a) PRODUCT DATA FROM "CLIP/FILE"

In the upper right hand corner of each new product description is the eem Section number. File the items in the folders corresponding to these numbers.

(b) PRODUCT LITERATURE FROM OTHER SOURCES

Merely check the following pages to determine the correct Section number. Then, simply file in the appropriate folder.

TO LOCATE

Any time you wish to refer to data in your file folders, use this Product-To-Section Index. It rapidly locates the proper folder.

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Tubes, Gas	5700
Tubes, Geiger-Mueller	5700
Tubes, Glow or Discharge	5700
Tubes, Hearing Aid	5700
Tubes, Ignitron	5700
Tubes, Infrared	5700
Tubes, Ionization	5700
Tubes, Klystron	5700
Tubes, Magnetron	5700
Tubes, Microwave	5700
Tubes, Miniature	5700
Tubes, Noise Source	5700
Tubes, Photomultiplier	5700
Tubes, Phototubes & Photocells	5700
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Tubes, Power Amplifier	5700
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Tubes, Rocket	5700
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Tubes, Strobe	5700
Tubes, Subminiature	5700
Tubes, Television Camera Pickup	5700
Tubes, Thyratron	5700
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Tubes, Transducer	5700
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Tubes, Ultraviolet	5700
Tubes, Voltage Reference or Regulating	5700
Tubes, X-Ray	5700
Tubing, Aluminum	2500
Tubing, Asbestos	2500
Tubing, Brass or Copper	2500
Tubing, Ceramic	2500
Tubing, Fabric	2500
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Tubing, Fibre	2500
Tubing, Fused Quartz	2500
Tubing, Glass Fibre Insulation	3100
Tubing, Glass Precision	2500
Tubing, Magnesium	2500
Tubing, Metal Alloy	2500
Tubing, Metal Hose, Flexible	2500
Tubing, Mica	2500
Tubing, Molybdenum	2500
Tubing, Monel	2500
Tubing, Nickel	2500
Tubing, Nylon	2500
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Tubing, Paper	2500
Tubing, Phenolic	2500
Tubing, Plastic	2500
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Tubing, Precious Metal	2500
Tubing, Printed	2500
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Tubing, Titanium	2500
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Tubing, Varnished Cambric Insulation	2500
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Tubing, Waveguide	3400
Tubing, Woven or Knitted Wire	2500
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Tuners, F-M	1900
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Transformers, Power	5600
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Transformers, R-F	5600
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Transformers, Ultrasonic	5600
Transformers, Variable	5600
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Transformers, Voltage Dividing	5600
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Translator, Card, Tape	2000
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Transmitters, Aircraft	1900
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Transmitters, Broadcast, A-M, F-M & TV	1900
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Wire, Fine Wire Specialties	6000
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Wire, Hookup	6000
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Wire, Mesh	6000
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Wire, Monel	6000
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ELECTRONIC ENGINEERS MASTER

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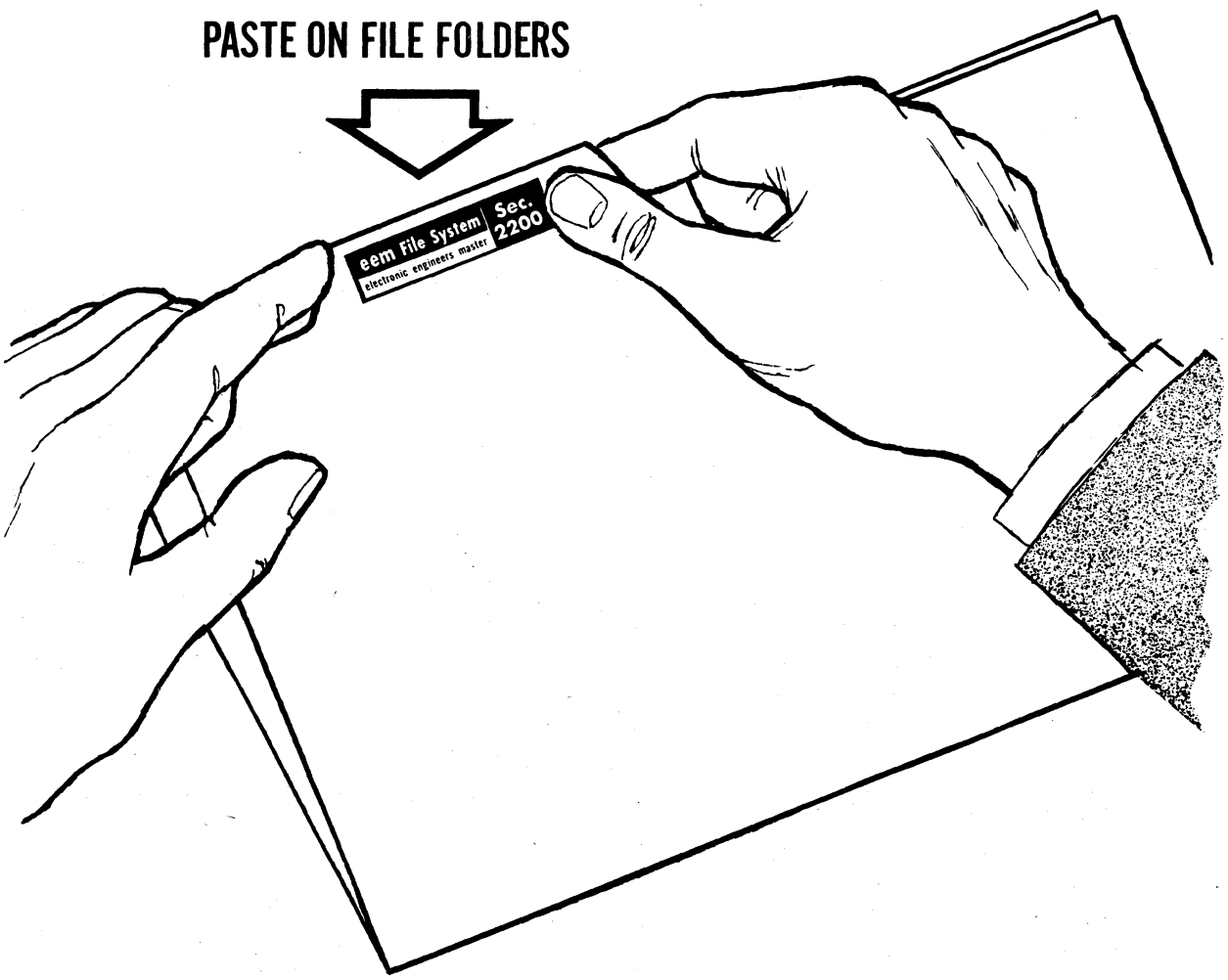

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1100 Amplifiers, General Purpose
1200 Antennas & Accessories
1300 Audio Equipment & Accessories
1400 Cabinets, Chassis, Racks, Boxes, etc.
1500 Capacitors (All Types)
1600 Chemicals (Acids, Coatings, Paints, Varnishes, Lubricants, etc.)
1700 Circuits (Encapsulated, Embedded, Printed, Plug-In)
1800 Coils (Inductors, Toroids) Assemblies, Forms
1900 Communications Equipment (Broadcast, Television, Amateur, Facsimile)
2000 Computers & Associated Equipment
2100 Connectors (Plugs, Jacks, Receptacles, Sockets, Clips)
2200 Controls, Control Components & Systems
2300 Crystals, Equipment & Accessories
2400 Dials, Knobs, Handles, Panel Components
2500 Fabricated Mechanical Parts (Bearings, Cores, Gears, Magnets, etc.)
2600 Fans & Blowers; Air Conditioners; Environmental Chambers
2700 Filters, General Purpose
2800 Hardware (Bolts, Nuts, Screws, Washers, Terminals, Terminal Boards, etc.)
2900 Instruments, Electrical Measuring and Test
3000 Instruments, Graphic Recording
3100 Insulators, Insulating Material and Parts
3150 Manufacturing Sub-Contracting, Custom Fabrication
3200 Materials, Raw (Metals, Plastics, Glass, Rubber, Cloth, etc.)
3300 Medical Electronic Equipment
3400 Microwave, Radar Equipment, Components & Accessories
3500 Motors & Accessories
3600 Nuclear & Radiation Equipment, Components, Accessories
3700 Photoelectric Equipment & Components
3800 Photographic & Optical Equipment, Accessories
3900 Pilot & Signal Lamps, Lights & Accessories
4000 Power Supplies, Converters, Inverters, Batteries, etc.
4100 Production Machinery & Automation Equipment
4200 Publications (Textbooks, Reference Handbooks, etc.)
4300 Recording Equipment (Non-Audio Types)
4400 Rectifiers (Non-Tube Types)
4500 Relays
4600 Research, Development, Engineering, Services, etc.
4700 Resistors (All Types)
4800 Semiconductors (Diodes, Transistors)
4900 Servo Mechanisms & Components
5000 Studio Equipment
5100 Switches; Circuit Breakers, Fuses, Protective Devices
5200 Telemetering Equipment
5300 Thermal Devices, Thermocouples, Thermopiles, Thermostats, etc.
5400 Tools (Hand & Power); Supplies
5500 Transducers & Associated Equipment
5600 Transformers, Chokes, Reactors, etc.
5700 Tubes, Tube Parts, Shields, Inserts, etc.
5800 Ultra-Sonic, Sonic, Sub-Sonic Equipment
5900 Vibrators, Choppers, etc.
6000 Wire, Cable, Harnesses, Accessories

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